NORTHNORF STANDING

10 CLIMATE-SAVING FORESTS THREATENED BY FEDERAL LOGGING



Worth More Standing: 10 Climate-Saving Forests Threatened by Federal Logging

This report was prepared for the <u>Climate Forests coalition</u>, which works to protect mature and old-growth trees and forests from logging across America's public lands. Contributing organizations to the report include Applegate Siskiyou Alliance, Cascadia Wildlands, Center for Biological Diversity, Environment America, Environmental Law and Policy Center, Earthjustice, Klamath Forest Alliance, Klamath Siskiyou Wildlands Center, Oregon Wild, Natural Resources Defense Council, Sierra Club, Southern Environmental Law Center, Standing Trees, The Larch Company, Wild Heritage and Yaak Valley Forest Council.

Cover photo of Willamette National Forest by Andrew Kumler, Cascadia Wildlands volunteer.



EXECUTIVE SUMMARY

nding the logging of mature and old-growth forests and trees on federal public lands can markedly reduce carbon emissions, aid the fight to curb climate change, and protect biodiversity and healthy watersheds. Most older forests and trees in the United States have been chopped down—almost all that remain are on federal lands. These mature and oldgrowth forests hold enormous amounts of carbon, safely stored in trunks, branches and soil. And left to grow, they'll store even more.

Many of these older forests and trees have no enduring protection, and thousands of acres are at imminent risk of being logged. This report features 10 of the worst logging projects in federal forests from California to Vermont, which collectively put nearly 240,000 acres of old, mature trees on the chopping block.

In April President Biden issued an <u>executive order</u> that recognized the role older forests play in combating the climate and biodiversity emergencies. Biden's order directs federal land-management agencies to inventory America's mature and old-growth forests on federal lands and develop policies to conserve them as a cornerstone of U.S. climate policy. But many of these old trees could be gone before that work is completed. The administration urgently needs to provide permanent protection for them.

The greatest immediate threat to mature and old-growth forests and trees on federal lands is logging. This report spotlights federal forest-management practices that are liquidating mature and old-growth forests and trees every day. The 10 examples here are not aberrations but part of a pervasive pattern of federal forest mismanagement that routinely sidesteps science to turn carbon-storing giants into lumber.

Project Name	State	Description	Status
Black Hills National Forest Black Hills Resilient Landscapes Project	Wyoming, South Dakota	180,000 acres, logging most mature trees and any tree more than 9 inches in diameter	Logging began in 2018
Willamette National Forest Flat Country Timber Sale	Oregon	2,000 acres of older forests in the McKenzie River headwaters, including clearcutting 1,000 acres of mature and old growth	Forest Service approval, March 2022
Kootenai National Forest Black Ram Project	Montana	4,000-plus acres, including clearcutting nearly 1,800 acres, logging over 400 acres of mature and old-growth trees	Forest Service approval, June 2022
Chequamegon-Nicolet National Forest Fourmile Vegetation Project	Wisconsin	12,000 acres, including clearcutting 1,000 acres, 2/3 of stands are over 80 years old	Forest Service approval, November 2020
Medford District, Bureau of Land Management Poor Windy Project	Oregon	15,000 acres, including cutting down 4,573 acres of mature and old- growth trees	Logging is under way; legal challenge to USFWS biological opinion pending
Nantahala National Forest Buck Project	North Carolina	800 acres of clearcutting, including 150 acres of trees more than 100 years old and 375 acres of mature trees	Forest Service approval, May 2020; first logging unit sale started, June 2022.
Kaibab National Forest Burnt Corral Vegetation Management Project	Arizona	15,000 old and large, fire-resistant trees across the Kaibab Plateau, including 1,000 acres of clearcutting	Awaiting revised Forest Service proposal

10 Logging Projects Targeting Mature and Old Growth in Federal Forests

Green Mountain National Forest Telephone Gap Integrated Resource Project	Vermont	10,000 acres, 85% of trees likely to be more than 80 years old and 55% older than 100	Public comment period to begin in June 2022
Medford District, Bureau of Land Management Integrated Vegeta tion Management Project	Oregon	20,000 acres of trees up to 36 inches in diameter and more than 150 years old; up to 90 miles of logging roads	Project approved; timber sales not yet scheduled
Klamath National Forest Bear Country Project	California	4,195 acres of commercial logging, including 2,330 acres of mature trees	Awaiting final Forest Service decision

Old forests are our best large-scale, natural, low-cost climate solution. No technology can match these forests for atmospheric carbon removal and storage at this scale. Protecting them also pays outsize dividends in the form of clean water, clean air, wildlife habitat, biodiversity and myriad recreation opportunities. Forests are where we go to recharge and find peace and quiet.

Yet the agencies that oversee these federal lands — the Forest Service, under the Agriculture Department, and Interior Department's Bureau of Land Management — favor timber production to the detriment of those values.

Fortunately, the Biden administration has the authority to permanently end outdated forest-management practices that promote destructive logging. Most of the forests in this report are still standing, so there's still time to ensure that these and future logging projects comply with the best available science and respect the president's executive order.

Logging is the largest threat to old forests, trees

The Forest Service and the BLM often justify logging these old trees with claims of "forest restoration," "hazardous fuels reduction," or "resilience." But the amount and type of logging they propose is often far more than what may be needed, undermining legitimate restoration and resulting in harmful, unnecessary loss of mature and old-growth trees.

More than 95% of our national wood supply comes from non-federal lands¹ and almost all this wood is small-diameter logs. The amount of logging on federal forests is much lower today than in previous decades, but meeting arbitrary timber production targets still drives agency culture and practice.

The agencies also claim revenue from commercial logging is needed to support forest restoration. But it's folly to destroy a forest ecosystem to make money to restore another part of the forest previously harmed by logging and road construction. In drier western forests, the Forest Service claims it needs to dramatically reduce the number of trees to lessen wildfire risk in older stands. For example, that's how the Forest Service justifies logging old ponderosa pines in northern Arizona. Larger, old trees generally are more resistant to fire than smaller, younger trees because of their size and thicker bark² and retain most of their carbon even after a fire.³ There is broad scientific consensus that logging older, large, fire-resistant trees does not mitigate wildfire risk.⁴

Policy recommendation

The Biden administration's Agriculture Department and Interior Department should promulgate strong, enforceable administrative rules protecting mature and old-growth forests and trees on federal lands. These older trees are worth more standing.

The bipartisan \$1.2 trillion <u>infrastructure law</u> significantly increased funding for forest thinning, including commercial logging on 30 million acres of federal lands. A rulemaking is urgently needed to protect mature and old-growth trees in the face of significantly ramped-up logging while allowing for necessary measures to reduce wildfire risk.

A permanent administrative rule for the Forest Service and Bureau of Land Management would protect these carbon-storing giants for the benefit of the climate, nature and future generations.

Here are the 10 worst logging projects on federal lands right now:



BLACK HILLS NATIONAL FOREST, WYOMING AND SOUTH DAKOTA | BLACK HILLS RESILIENT LANDSCAPES PROJECT

WHY THIS FOREST IS SPECIAL • Seen from a distance these pine-covered hills, rising several thousand feet above the surrounding prairie, were named for the Lakota *paha sapa*, which mean "hills that are black." Ponderosa pines dominate most of the forest. Old ponderosas give off a sweet scent, like vanilla or butterscotch. White spruce and aspen grow in the higher, wetter parts of the northern and central hills. The Black Hills National Forest was established in 1897 primarily as a response to wasteful, destructive timber practices. Sadly, those practices continue today.

THE BLACK HILLS RESILIENT LANDSCAPES PROJECT • This <u>project</u> authorized 180,000 acres, or 280 square miles, of "overstory removal." That's the Forest Service phrase for logging most of the mature trees and cutting any tree over 9 inches in diameter.

CARBON STORAGE AND BIODIVERSITY • Ponderosa pine trees, one of the longest-living tree species, can grow to become hundreds of years old and more than 200 feet tall. They develop thick bark and a deep root system that is well adapted to wildfire and drought. As these trees age, they pull carbon from the atmosphere and store it for centuries. Goshawks and ospreys nest in the forests of the Black Hills and bald eagles visit in the winter. Many songbird species are here, including brilliantly colored mountain bluebirds and western tanagers.

WHY THESE TREES SHOULD REMAIN STANDING • The Forest Service claims this project will enable new stands of trees to grow, "contributing to sustained timber yield over time." That rationale ignores the role mature and old trees play in carbon sequestration and storage, along with the scientific consensus on the urgent need to address climate change. This is nothing more than a destructive, commercial timber sale.

THE FUTURE OF MATURE AND OLD-GROWTH TREES IN BLACK HILLS NATIONAL FOREST • Unsustainable overcutting has been going on for the past 15 years, targeting stands of old pine. More recently there have been beetle outbreaks and wildfire, two natural disturbances. Yet the pressure to sustain high levels of logging continues. That's despite the fact that the Forest Service's own scientists <u>concluded</u> that maintaining logging here at current levels "is not a sustainable option." The outdated 2005 Black Hills Forest Plan guides all activities and significantly undermines efforts to address the climate and biodiversity crises. When trees reach maturity at about 80 years old, they are targeted for logging. The forest plan allows only 5% of the forest to survive to become old growth.

PROJECT STATUS • Logging began in 2018. The Forest Service has refused to say how many acres have been logged.

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WILLAMETTE NATIONAL FOREST, OREGON | FLAT COUNTRY TIMBER SALE

WHY THIS FOREST IS SPECIAL • Locals call this part of Oregon's western Cascades "flat country" to describe the part of the Willamette National Forest that extends from Scott Mountain to the upper reaches of the McKenzie River. Moss-covered Douglas firs and western hemlocks grow to more than 200 feet tall and 5 to 6 feet wide. Delicate vine maple and Pacific rhododendron combine in the understory to make these forests as magical as they are important. Almost 20 years ago, the Forest Service largely stopped logging older forests in western Oregon and western Washington following massive public outcry over decades of clearcutting these incomparable cathedral forests. However, 1 million acres of mature and old-growth forests in the Pacific Northwest are not protected from federal logging. The Flat Country project is set to destroy a large swath of these irreplaceable forests.

FLAT COUNTRY TIMBER SALE • This <u>timber sale</u> will aggressively log 2,000 acres of older forests in the McKenzie River headwaters, which provide fresh drinking water to hundreds of thousands of residents in the Willamette Valley. Several types of logging will be used, including clearcutting about 1,000 acres of mature and old-growth Douglas fir and western hemlock stands up to 170 years old.

CARBON AND BIODIVERSITY • The western Cascades produces some of the world's oldest, largest carbon-storing champions. Among tree species, Douglas fir is a marathon runner rather than a sprinter and at 80 years it's just begun to hit its stride. The trees will keep growing for centuries, accumulating massive amounts of captured atmospheric carbon in biomass. Snags and downed logs add significantly to carbon storage because of their slow rate of decay, helping combat climate change and providing critical wildlife habitat. Olallie and Anderson creeks provide critical habitat for endangered bull trout and other aquatic species. The Forest Service admits this project will destroy and degrade habitat essential for threatened northern spotted owls, red tree voles, pileated woodpeckers, martens and goshawks.

WHY THESE TREES SHOULD REMAIN STANDING • The Forest Service claims the Flat Country project is needed to "provide a sustainable supply of timber products" and to "improve stand conditions." Yet private timber lands in Oregon are prolific producers of lumber, making Oregon the top softwood lumber producer in the country. The Forest Service's claim that mature forests are "overstocked" are based on tree density measures developed for managing industrial wood production plantations, which is an inappropriate measure for natural forests. The planning documents said some "legacy" trees will be protected, but clearcutting everything except the largest trees is still a harmful clearcut.

THE FUTURE OF MATURE AND OLD-GROWTH TREES IN WILLAMETTE NATIONAL FOREST • The groundbreaking 1994 Pacific Northwest Forest Plan protected mature and old-growth forests and trees 80 years and older from logging. However, the plan left 1 million acres of late successional forests open to logging. The Flat Country project is an attack on the some of the last remaining mature and old-growth forests in the western Cascades. These trees are at grave risk unless there's a federal policy to permanently protect them.

PROJECT STATUS • The Forest Service issued a final environmental impact statement in March, 2022. Conservation organizations plan to sue if the proposed project proceeds. To date no trees have been sold.

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KOOTENAI NATIONAL FOREST, MONTANA | BLACK RAM PROJECT

WHY THIS FOREST IS SPECIAL • In the farthest corner of Montana in the Kootenai National Forest, straddling the Canadian border, are most of what's left of the Yaak Valley's oldest, diverse forests. The Forest Service has bulldozed thousands of miles of road and logged a vast patchwork of clearcuts surrounding these islands of giant old trees. Ancient larch, among the oldest in the world – 600-800 years and still going strong – preside over a rich diversity of old-growth spruce as well as enormous centuries-old cedar, hemlock and subalpine fir. Nearly every tree species in northwest Montana is found in the Black Ram region of the Yaak Valley, under the shelter of these larch "mother trees."

THE BLACK RAM PROJECT • The proposed 95,000-acre <u>Black Ram project</u> would commercially log nearly 4,000 acres, including clearcutting nearly 1,800 acres and logging over 400 acres of mature and old-growth forest. <u>Click here</u> to see more photos of what is at stake from the Black Ram project.

CARBON STORAGE AND BIODIVERSITY • This area is home to an isolated population of about 25 grizzly bears, North America's most imperiled. The remaining old forests here are refuge for 190 other animal species, including 25% of Montana's species of concern. These include lynx, wolverines, native trout and extremely vulnerable reptiles and amphibians, some of whom live only in the Kootenai National Forest. The carbon loss from these stands is irrecoverable in the short window left to avoid the worst effects of climate change.

WHY THESE TREES SHOULD REMAIN STANDING • The Forest Service claims this logging is needed to create "forest resilience" to withstand drought, insects and wildfires. Their misguided solution is to effectively clearcut the old forest and plant ecologically impoverished tree plantations where these carbon-storing champions and natural springs once stood. Tree plantations are at higher risk of wildfires than natural forests. The Forest Service has admitted, and the Fish and Wildlife Service agreed, that the Black Ram project is likely to harm Yaak Valley grizzlies, bears already threatened by unsustainable logging across the Canadian border. More roads and logging will bring more opportunities for human-bear conflicts, with often deadly consequences for grizzlies. Bear experts in the United States and Canada have raised alarm about the project.

THE FUTURE OF MATURE AND OLD-GROWTH TREES IN KOOTENAI NATIONAL FOREST • Old and mature forests, once blanketing the Yaak Valley, are now just a fraction of the forest. Black Ram is one of five massive logging projects, covering more than 300,000 acres, stacked on top of one another on the Kootenai National Forest's western side on the Three Rivers District. The old carbon-storing champions of Black Ram are slated for the chainsaw at a time when we cannot afford to lose them.

PROJECT STATUS • The Forest Service released its final decision in June 2022, finding the project will have no significant environmental impact. Conservation organizations have filed a lawsuit challenging this project.

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Photo credit: Andy Olsen, Environmental Law & Policy Center

CHEQUAMEGON-NICOLET NATIONAL FOREST, WISCONSIN | FOURMILE VEGETATION PROJECT

WHY THIS FOREST IS SPECIAL • The Chequamegon-Nicolet National Forest covers more than 1.5 million acres of Wisconsin's Northwoods. It's part of the Western Great Lakes forests, a transition area between the boreal forests to the north and the temperate deciduous forests and tallgrass prairie to the south and west. The forest is a mix of white and red pine, paper birch, hemlock, aspen and northern hardwoods, including sugar maple, red maple and American beech. The Western Great Lakes forests are home to moose, black bears, lynx, snowshoe hares, white-tailed deer and woodchucks, as well as bald eagles and endangered gray wolves. Forests, streams, inland lakes, and wilderness areas are all part of this rich, forested landscape.

THE FOURMILE PROJECT • The <u>project</u> would log 12,000 acres east of Eagle River, Wisconsin, including clearcutting 1,000 acres. The Forest Service wants to reduce what they regard as an "overabundance of older age" trees, thereby "regenerating older stands into new young stands." Based on Forest Service data, 53% of the stands to be logged are 80 years and older. The Fourmile logging project was devised to help meet the Trump administration's goal of increasing logging in national forests by 72%.⁵

CARBON AND BIODIVERSITY • Northern Wisconsin forests have been carbon sinks for at least the last two decades. Public lands sequester more carbon, on average, than private lands because they tend to be older and less intensely logged. The Forest Service did not conduct the required analysis of carbon pollution that would result from this logging project and it failed to consider recent climate science. Sensitive species in the area include rusty patched bumblebees, Kirtland's warblers, Canada lynx, Fassett's locoweed, American martens, northern long-eared bats, monarch butterflies, red-shouldered hawks, northern goshawks and wood turtles.

WHY THESE TREES SHOULD REMAIN STANDING • The Forest Service claims this logging project complies with an outdated 2004 forest plan. The Chequamegon-Nicolet National Forest was created to help reforest the landscape after the great "cut over" in the late 1800s and early 1900s. The forest is recovering and, while still relatively young, a portion has reached maturity. Of the 12,000 acres of planned logging, 54% are stands 80 years and older, 33% are 100 years and older. The largest trees to be cut are upland hardwoods, red pine, maple and aspen. Wisconsin <u>scientists</u> warn that logging and roads will disturb maturing forest habitats, harm recreation and disrupt imperiled species.

THE FUTURE OF MATURE AND OLD-GROWTH TREES IN CHEQUAMEGON-NICOLET NATIONAL FOREST • Little old-growth forest remains in Wisconsin and there are few large tracts of mature trees. The Forest Service targeted mature trees in the Fourmile project because they said stands are "terribly skewed towards the older age classes." The forest plan calls for protecting interior hardwood forests, but the project would log these trees, squandering a critical opportunity to protect large blocks of contiguous forests and their carbon stores.

PROJECT STATUS • The Forest Service approved this project in November 2020, with a finding of no significant environmental impact.

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MEDFORD DISTRICT BUREAU OF LAND MANAGEMENT, OREGON | POOR WINDY PROJECT

WHY THIS FOREST IS SPECIAL • The forests in the Poor Windy project, in the Rogue-Umpqua Divide, are a critically important region for wildlife. These Bureau of Land Management forests form a habitat bridge between the Oregon Coast Range and the Cascade Mountains in the Pacific Northwest. They're surrounded by industrial clearcuts and provide the only habitat in the area for several mature and old-growth forest-dependent species. These public forests offer many opportunities for hiking, camping, fishing and nature viewing and are critical for water quality.

THE POOR WINDY PROJECT • The <u>project</u> will log more than 15,000 acres, including 4,573 acres of mature and old-growth trees that are essential nesting, roosting and foraging habitat for the threatened northern spotted owl and many other species. Old forests in the Poor Windy project will be replaced by ecologically and carbon impoverished tree plantations, grown as a timber crop.

CARBON STORAGE AND BIODIVERSITY • Western Oregon's mature and old-growth forests are distinguished by multilayered, overhead tree canopies where towering old trees grow alongside large standing dead trees, called snags, and large downed trees that lie on the forest floor. These complex forests are some of the most carbon rich in the world and protecting them is key to lessening the harms from climate change. The forests slated to be cut at Poor Windy are home to Pacific fishers, black bears, red tree voles, northern spotted owls, and myriad other forest-dwelling species. Protection of these old forests is the only way to maintain healthy streams and rivers, where the iconic Pacific salmon spawn.

WHY THESE TREES SHOULD REMAIN STANDING • The BLM claims logging these mature and old-growth trees is needed to "contribute to timber volume." These mature and old-growth forests are some of the last in the area, surrounded by private industrial plantations. Tree plantations, which are clear cut every 40 to 60 years, hold a fraction of the carbon compared to the BLM's old forests and are at increased risk of fire. Stripping away trees and bulldozing steep hillsides to create logging roads will cause significant erosion and dump sediments into streams. The streams and the fish that depend on them are already compromised by severe sedimentation from more than 320 miles of logging roads. Additionally, studies show significant long-term decreased summer stream flows in areas converted from mature and old-growth Douglas fir forests to plantations.⁶

THE FUTURE OF MATURE AND OLD-GROWTH TREES IN THE ROGUE-UMPQUA DIVIDE • The Western Oregon BLM office often puts logging above wildlife, watersheds, recreation and other forest values. Nearly 1 million acres of mature and old-growth trees are at grave risk of being logged unless the agency stops targeting these trees for industrial logging.

PROJECT STATUS • The BLM has approved this project. Logging of these mature and old-growth forests is happening now. The U.S. Fish and Wildlife Service's biological opinion covering this area is being challenged in court, but the old trees in this region likely won't survive.

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NANTAHALA NATIONAL FOREST, NORTH CAROLINA | BUCK PROJECT, TUSQUITEE RANGER DISTRICT

WHY THIS FOREST IS SPECIAL • Nantahala is a rugged temperate forest of high peaks, deep gorges, waterfalls and flowing rivers in the Appalachian Mountains of North Carolina. These ancient mountains are a global biodiversity hotspot. The forest is home to 10,000 species, including turtles, trout, black bears, elk, river otters, beavers and bald eagles. The largest of North Carolina's four national forests, the Nantahala supports lush oak, pine and hickory forests, northern hardwoods and spruce fir at the highest elevations, all contributing to carbon storage, wildlife and clean water. More than 5 million visitors each year visit the Nantahala and neighboring Pisgah National Forest.

THE BUCK PROJECT • This is one of the <u>largest timber sales</u> in recent history in North Carolina. It will clearcut 800 acres, including 150 acres of trees more than 100 years old and 375 acres of mature carbon-dense rich cove forests, largely found near streams, sheltered steep gorges and ravines. Half of the Buck project's logging would occur in one of the wildest places in North Carolina — the proposed Chunky Gal addition to the Southern Nantahala Wilderness. At more than 7,000 acres, this is the largest potential addition to an existing wilderness in North Carolina, and one of the most remote, ecologically healthy places in Nantahala National Forest.

CARBON STORAGE AND BIODIVERSITY • Like other national forests in the Southeast, the Nantahala is recovering from intensive logging, from the 1880s to the 1930s, that stripped many of these mountains bare. Many stands have now reached 80 to 90 years of age. These older trees store carbon, provide habitat for rare plants and animals, and nourish clean, cold streams and rivers. Left alone, these mature trees would become old-growth forests, exceedingly rare in the East and vital for bears, salamanders, bats, owls and other birds.

WHY THESE TREES SHOULD REMAIN STANDING • The Forest Service claims it must cut healthy, older trees to create new, young forests needed by certain species. But young forests are created by reoccurring natural disturbances and can also be created in areas already degraded by logging. There is no ecological basis for cutting the oldest, healthiest forests, which should be allowed to age so that old growth is recovered. Old-growth trees take 100 years or more to develop, time during which the forest is sequestering and storing carbon and providing unmatched biodiversity. Liquidating our oldest forests to create openings for wildlife will release significant amounts of carbon, and associated road building will risk erosion, landslides and the spread of invasive plants.

THE FUTURE OF MATURE AND OLD-GROWTH TREES IN NANTAHALA NATIONAL FOREST • When the Forest Service approved the revised Nantahala-Pisgah forest plan, it also approved the Buck project and indicated that it would press the accelerator on cutting old and mature trees. The new plan would quadruple logging in the country's most popular and biologically diverse temperate forest and dramatically expand areas that can be logged for timber production. That includes more than 100,000 acres with high conservation values such as existing old-growth forest and state-designated natural heritage areas.

PROJECT STATUS • The Forest Service approved the project in May 2020 with a finding of no significant environmental impact. The first logging unit sale started in June 2022.

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KAIBAB NATIONAL FOREST, ARIZONA | BURNT CORRAL VEGETATION MANAGEMENT PROJECT

WHY THIS FOREST IS SPECIAL • The northern portion of the Kaibab National Forest, above the Grand Canyon's North Rim, includes some of the most extensive tracts of old-growth forest left in the Southwest. This area, known as the Kaibab Plateau, holds most of the Southwest's remaining old ponderosa pines, towering trees that provide essential habitat for the highest density of northern goshawks on the continent. Endemic Kaibab tassel-eared squirrels, mule deer, elks, pronghorn antelopes and black bears also call the Kaibab National Forest home. The iconic 800-mile Arizona National Scenic Trail goes through the forest. The Kaibab Plateau has been proposed as a national monument because of the ecological significance of the high-elevation forests and greater Grand Canyon ecosystem.

THE BURNT CORRAL VEGETATION PROJECT • The Forest Service <u>proposes</u> to log old and large, fire-resistant trees across 15,000 acres of the Kaibab Plateau. The project targets old-growth forest for the highest intensity logging, including clearcutting nearly 1,000 acres and cutting stand density in half. The Forest Service admits that "the loss of old growth and old trees would require decades to centuries to recover."⁷

CARBON STORAGE AND BIODIVERSITY • Although many of the large, old trees on the Kaibab Plateau have been logged, the remaining centuries-old trees store and sequester large amounts of carbon. Old ponderosa pines have greater drought resilience than young stands. The Burnt Corral project would log almost 100 nesting sites for northern goshawks, beautiful raptors that rely on these dense pine tree canopies for their survival. A 2014 <u>federal study</u> of the Kaibab Plateau said logging that reduces the canopy cover from old-growth trees wipes out goshawks' preferred habitat.

WHY THESE TREES SHOULD REMAIN STANDING • The Forest Service claims this project is needed to "improve ecosystem resilience," reduce wildfire risk and restore forest structure. But logging old growth and large trees will not accomplish these objectives. In fact, numerous scientific studies show that old and large trees make forests more fire resilient. Logging old and large trees in Burnt Corral will release carbon into the atmosphere and lose future carbon sequestration potential. This project will also spread invasive, flammable cheatgrass, cause erosion by reopening old logging roads, and encourage dense ladder fuels to grow where the canopy has been reduced. This is exactly what happened under an earlier Forest Service program that drastically reduced high-canopy old-growth forest, resulting in dense undergrowth that now fuels wildfire behavior.

THE FUTURE OF MATURE AND OLD-GROWTH TREES ON THE KAIBAB PLATEAU • Despite ample science showing old, fire-resistant trees are the backbone of dry forest ecosystems, numerous timber sales are under way across the Kaibab Plateau. That includes the Jacob Ryan Project, just north of the Burnt Corral project, that's currently being logged. The Forest Service said just 1% of the trees to be logged in Jacob Ryan would be larger than 16 inches in diameter, but more than a third of the targeted trees were at least that big, including thousands of ponderosas that had stood for more than two centuries.

PROJECT STATUS • The Forest Service released a draft environmental assessment in March 2020, but the project was put on hold due to widespread opposition. A stakeholder group has been formed and the Forest Service is expected to issue a revised proposal in 2022.

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GREEN MOUNTAIN NATIONAL FOREST, VERMONT | TELEPHONE GAP INTEGRATED RESOURCE PROJECT

WHY THIS FOREST IS SPECIAL • The Green Mountain National Forest is the largest block of public lands in Vermont and the state's only national forest. At 400,000 acres, the area features dramatic mountains, enchanting forests and rushing rivers. Outstanding recreation opportunities like the Long Trail, Appalachian National Scenic Trail, cross-country skiing and wildlife viewing draw millions of visitors each year. Many Vermont rivers flow from headwaters within the national forest, providing an abundance of clean water for Lake Champlain and the Connecticut and Hudson rivers. In autumn, there's nowhere more spectacular to see the display of fall foliage as the sugar maples, beech and birch are ablaze with reds, oranges and yellows.

TELEPHONE GAP INTEGRATED RESOURCE PROJECT • The Forest Service is <u>considering</u> logging more than 10,000 acres, with 85% of those trees likely to be mature, more than 80 years old, and 55% older than 100 years.

CARBON AND BIODIVERSITY • The Green Mountain National Forest is a significant carbon sink, with carbon stocks increasing 48% between 1990 and 2013. The forest is recovering from overcutting and land clearing for agriculture in the late 1800s and early 1900s. With most trees now reaching 80 years and older, as well as less logging, the forest is rapidly accumulating carbon and could store two to four times more carbon if allowed to grow old.⁸ The Green Mountains harbor an incredible diversity of common and imperiled plants and animals. The forest contains the largest roadless areas in Vermont, including a 16,000-acre roadless area likely to be logged as a part of the Telephone Gap project. One of Vermont's two remaining pine marten populations is found here, as well as threatened northern long-eared bats, which are being considered for endangered species status. The martens and bats rely on old forests for their survival.

WHY THESE TREES SHOULD REMAIN STANDING • The Forest Service claims this logging proposal is needed to create early successional habitat and produce timber. Early successional habitat in the Green Mountains is created naturally by wind, ice, beavers and, rarely, fire. Old forests with large trees, abundant dead and downed wood, and natural canopy gaps create diverse habitat for Vermont's native species, reduce the risk of downstream flooding, improve water quality, and sequester and store significant amounts of carbon. The Forest Service should target younger trees if it wants to increase early-successional habitat.

PROJECT STATUS • The sale is in the early planning stages. The public comment process is set to begin in summer 2022. The Forest Service anticipates project implementation will take four years and begin in spring 2023.

THE FUTURE OF MATURE AND OLD-GROWTH TREES IN GREEN MOUNTAIN NATIONAL FOREST • The 2006 Green Mountain forest plan calls for a significant reduction in northern hardwood trees up to or possibly exceeding 250 years old, setting back the clock on this forest's recovery from intensive logging in the 1800s. Logging in the Green Mountain National Forest has increased considerably, in the last seven years, 40,000 acres of logging was approved, or 10% of the entire national forest, targeting a considerable number of mature and old trees.

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MEDFORD DISTRICT, BUREAU OF LAND MANAGEMENT, OREGON | INTEGRATED VEGETATION MANAGEMENT PROJECT

WHY THIS FOREST IS SPECIAL • This densely forested area of southern Oregon is part of a 24-million-acre landscape within the range of threatened northern spotted owls and other imperiled species that rely on late successional forests. The Cascade Mountain Range holds some of the most spectacular temperate mature and old-growth forests in the United States. Though heavily logged, hundreds of thousands of acres of towering trees remain alongside rushing rivers cut deep into mountains, supporting wild salmon and steelhead runs. The BLM Medford District includes the Oregon portions of Southern Cascades and Klamath Mountains ecosystems. The Klamath Mountains have been called the Galapagos of North America because of their exceptional biodiversity and are considered by the International Union for the Conservation of Nature and the World Wildlife Fund to be of global botanical significance.

INTEGRATED VEGETATION MANAGEMENT FOR RESILIENT LANDS PROJECT • The <u>800,000-acre project area</u> covers the entire BLM Medford District, except the protected Cascade-Siskiyou National Monument. The BLM wants to commercially log up to 20,000 acres of trees up to 36 inches in diameter and more than 150 years old. About 17,000 acres are within late-successional reserves established to protect habitat for the northern spotted owl and other species dependent on mature and old-growth forests for their survival and recovery. It also plans to build up to 90 miles of new logging roads.

CARBON AND BIODIVERSITY • The BLM claims carbon emissions from logging these very large, old trees would be replenished over time and can't be pinned to any specific location. In fact, scientists can readily identify sources of greenhouse gas emissions, including from logging, and have shown that the climate crisis is the cumulative result of numerous individual actions, including projects like this one. Commercial thinning operations have been shown to remove more carbon than wildfire and create multidecade carbon deficits in forests where moderate to heavy thinning takes place. ^o The project area includes habitat for several threatened species whose survival and recovery depend on old forests, including northern spotted owls, Humboldt martens, marbled murrelets and wild coho salmon.

WHY THESE TREES SHOULD REMAIN STANDING • The project will clearcut up to 20% of mature forest stands, reducing the canopy provided by large old trees to just 30% and eliminating or reducing owl habitat. The BLM claims the project will make these stands more resilient, but removing large canopy trees would be more likely to increase fire risk by creating hotter, drier, windier conditions and encouraging the growth of shrubs, primary fuels that allow fires to spread.

THE FUTURE OF MATURE AND OLD-GROWTH TREES IN THE MEDFORD DISTRICT • The current management plan for the Medford District BLM calls for increasing northern spotted owl habitat through habitat "restoration," "resilience" and reducing fire risks. Yet the BLM targets old stands with large tree removal and canopy reduction. The Medford District BLM contains some of the last old forests in these watersheds. These forests are threatened by both current BLM logging practices and this project.

PROJECT STATUS • The BLM approved the project in March 2022 with a finding of no significant environmental impact. The Penn Butte and Late Mungers timber sales have not yet been scheduled.

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KLAMATH NATIONAL FOREST, CALIFORNIA | BEAR COUNTRY PROJECT

WHY THIS FOREST IS SPECIAL • The Salmon River watershed is one of the most intact, remote ecosystems in the Klamath-Siskiyou ecoregion and harbors one of the most spectacular Wild and Scenic rivers in the country. It also contains important anadromous fish habitat, the only remaining spring Chinook runs and the last completely wild salmon and steelhead runs in the Klamath River watershed. The area proposed for logging is extremely remote, highly biodiverse, and an important wildlife connectivity corridor between the Trinity Alps and Russian wilderness areas.

BEAR COUNTRY PROJECT • The <u>Bear Country Project</u> proposes to log old forests along the North and South Fork Salmon rivers in Northern California. The project includes 4,195 acres of commercial logging, including 3,704 acres in natural unlogged stands and 2,330 acres of mature trees, many between 24 and 40-plus inches in diameter. The logging project would reduce the tree canopy cover to as low as 30%. Only 610 acres of plantations, representing the area's worst fire risks, will be thinned.

CARBON AND BIODIVERSITY • The Bear Country Project targets old forests at nearly four times the rate of plantation stands, disproportionately harming carbon storage and future sequestration capacity. Animals such as the threatened northern spotted owls, pileated woodpeckers, American martens and Pacific fishers are dependent on these old forest habitats for nesting, roosting and denning. The project would remove 235 acres of nesting, roosting and foraging habitat for northern spotted owls and 701 acres of dispersal habitat for young fledgling owls. Deer, elk, black bears, Del Norte salamanders and ringtail cats live here. These old forests have been identified as important connectivity habitats.

WHY THESE TREES SHOULD REMAIN STANDING • The Forest Service claims the Bear Country Project will promote forest health and resilience, reduce wildfire risk and promote forest and habitat diversity. But the level and location of the proposed logging conflicts with these claims and in many cases would have the opposite effect. The project will degrade and remove the very forest conditions the Forest Service claims it wants to protect. These older forests, including large snags, downed wood and living trees, will take centuries to recover. Removing large trees and reducing canopy opens the forest to more sunlight, hot, dry winds, and higher temperatures, which may increase wildfire risk.¹⁰

THE FUTURE OF MATURE AND OLD-GROWTH TREES IN THE KLAMATH NATIONAL FOREST • The Klamath National Forest contains some of the most intact and isolated forest habitats remaining on the West Coast and is often targeted for industrial logging by federal land managers. In the last few years agency timber planners have proposed three major timber sales in some of the last occupied northern spotted owl habitat in the Klamath Mountains. If the Bear Country and South Fork timber sales move forward, low elevation old-growth forest outside protected wilderness areas would be logged. Old trees in the Klamath National Forest will remain threatened until federal policies are enacted that permanently protect them.

PROJECT STATUS • The Forest Service has released an environmental assessment and implemented a comment period. It has not yet published a decision.

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ENDNOTES

¹ The Contribution of Federal Logs to the Nation's Wood Consumption. The Larch Company. January 2021. <u>https://static1.squarespace.com/static/573a143a746fb9ea3f1376e5/t/6058bc1668cbb360610cb4a9/1616428055018/</u> FederalTimberSupplyLarch.pdf

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³ Stenzel, Jeffrey E., Kristina J. Bartowitz, Melannie D. Hartman, James A. Lutz, Crystal A. Kolden, Alistair M. S. Smith, Beverly E. Law, et al. "Fixing a snag in carbon emissions estimates from wildfires." *Global change biology* (2019): n. pag. <u>https://doi.org/10.1111/gcb.14716</u>. Law, Beverly E. and Richard H. Waring. "Carbon implications of current and future effects of drought, fire and management on Pacific Northwest forests." *Forest Ecology and Management* 355 (2015): 4-14. <u>https://doi.org/10.1016/j.foreco.2014.11.023</u>. Campbell, John L., Daniel C. Donato, David L. Azuma and Beverly E. Law. "Pyrogenic carbon emission from a large wildfire in Oregon, United States." *Journal of Geophysical Research* 112 (2007): n. pag. <u>https://doi.org/10.1029/2007JG000451</u>.

⁴ Bartowitz, Kristina et al., Forest carbon emission sources are not equal: putting fire, harvest, and fossil fuel emissions in context, Frontiers in Forests and Global Change 5: 867112 (2022), <u>https://doi.org/10.3389/ffgc.2022.867112</u>. Law, Beverly E. et al., Creating strategic reserves to protect forest carbon and reduce biodiversity losses in the United States, Land 11: 721 (2022), <u>https://doi.org/10.3390/land11050721</u>

⁵ <u>USDA Strategic Plan FY 2018 – 2022, p 51</u>

⁶ Perry, T.D., Jones, J.A. (2016). Summer streamflow deficits from regenerating Douglas-fir forest in the Pacific Northwest, USA. <u>https://doi.org/10.1002/eco.1790</u>, Crampe, E.A., Segura, C., Jones, J.A. (2021). Fifty years of runoff response to conversion of old-growth forest to planted forest in the J.J. Andrews Forest, Oregon, USA. Hydrological Processes <u>https://doi.org/10.1002/hyp.14168</u>

⁷ Rim Country DEIS, Vol. 1, at 228.

⁸ Keeton et al, Late-Successional Biomass Development in Northern Hardwood-Conifer Forests of the Northeastern United States, Forest Science (2011) <u>https://www.researchgate.net/publication/233579700_Late_Successional_Biomass_</u> <u>Development_in_Northern_Hardwood-Conifer_Forests_of_the_Northeastern_United_States</u>

⁹ Law et. al, (2018) Land use strategies to mitigate climate change in carbon dense temperate forests. <u>https://doi.org/10.1073/pnas.1720064115</u>

¹⁰ van Wagtendonk, J.W. 1996. Use of a deterministic fire growth model to test fuel treatments.Pp. 1155-1165 in: Sierra Nevada Ecosystem Project, Final Report to Congress, Volume II: Assessments and Scientific Basis for Management Options. Centers for Water and Wildland Resources, University of California, Davis, CA. Weatherspoon, C.P. 1996. Fire-silviculture relationships. Pp. 1167-1176 in: Sierra Nevada Ecosystem Project, Final Report to Congress, Volume II: Assessments and Scientific Basis for Management Options. Centers for Water and Wildland Resources, University of California, Davis, CA. Weatherspoon, C.P. 1996. Fire-silviculture relationships. Pp. 1167-1176 in: Sierra Nevada Ecosystem Project, Final Report to Congress, Volume II: Assessments and Scientific Basis for Management Options. Centers for Water and Wildland Resources, University of California, Davis, CA. Rambom, T.R. and M.P. North. 2009. Canopy microclimate response to pattern and density of thinning in a Sierra Nevada forest. Forest Ecol Management 257(2): 435-442. doi:10.1016/j.foreco.2008. 09.029. Davis, K.T., S.Z. Dobrowski, Z.A. Holden, P.E.Higuera and J.T. Abatzoglou. 2019. Microclimatic buffering in forests of the future: The role of local water balance. Ecography 42: 1-11.

