January 14, 2021

Sandra Watts, Regional Forester
Southwestern Region, US Forest Service
333 Broadway SE
Albuquerque, NM 87102

Re: Forest Service Must Immediately Stop Logging Old Trees and Address Cumulative Logging Impacts on Old Growth on the North Kaibab Ranger District

Dear Mrs. Watts,

The dry conifer forests around the North Rim of the Grand Canyon are a national treasure, recognized since President Teddy Roosevelt established the Grand Canyon Game Preserve there in 1906. These forests are home to the highest density of northern goshawks on the continent. There is more old growth and old forests left here than in any other place in the Southwest outside of a few select wilderness areas.

Despite the tremendously important values that the North Kaibab Ranger District (RD) encompasses, the Forest Service is mismanaging this incredible ecosystem by continuing to commercially log old forests and old trees, defying the best available science on how to restore forests and most effectively reintroduce beneficial fire. To protect this critical and diminishing forest resource, we urgently request the Forest Service to stop logging old trees and to halt all these projects until the agency addresses both the overlapping and cumulative nature of the projects and the impacts of the Mangum Fire. We request to meet with you promptly to address and correct this situation.

We specifically call your attention to several important examples of the North Kaibab RD’s mismanagement:

(1) the logging of old growth and old trees as part of the Jacob Ryan project;

(2) the proposed continued logging of old trees and old growth forests in the Burnt Corral project;

(3) lack of recognition of the carbon storage value of large and old trees; and

(4) the RD’s failure to address the cumulative effects of six ongoing or planned projects, including those likely to involve the removal of large and old trees.

1) The Jacob Ryan Project Is Destroying Large and Old Trees on the Kaibab RD

We are greatly concerned by the North Kaibab RD’s ongoing implementation of the Jacob Ryan project. The Kaibab National Forest asserted that the project, approved in 2012, would “focus on thinning smaller trees,” and would improve forest health by reducing the risk of insect
epidemics, tree disease and the risk of crown fires in the project area.1 The project decision included 724 acres of patch cuts, and was projected to result in a loss of more than 100 acres of old-growth forest.2 Our observations in the field suggest that the true impact of old tree logging is far greater than that disclosed in the project’s NEPA documents.

A field visit by the Center in early December 2020 to the Jacob Ryan project area revealed that contractors are removing some of the largest trees in visited stands – some 30 inches in diameter or greater that are likely three centuries old.3 The removal of individual large and old trees is creating significant ecological effects. Wherever we have visited in the Jacob Ryan project area, stumps of old and very large trees can be found. In some areas, patch cuts appear to have been centered on areas with high densities of old trees, leaving dense patches of young ladder fuels uncut. The project’s NEPA documents failed to account for the loss of old trees, as key components of old growth structure, across the majority of the project’s treated areas.

This approach to forest “management” contradicts not only the project’s stated purpose of focusing on smaller trees, but what decades of research have shown is necessary to restore and protect ponderosa pine forests in northern Arizona: the protection of large and old trees and the reduction of dense, young stands that are likely to feed severe wildfires. The approach at Jacob Ryan embodies the failed, commercially driven management of the past, one that has increased fire risk, and that has been essentially abandoned on every other forest in the Southwest Region.

The Forest Service has been whittling away at old trees on the North Kaibab RD for too long. For decades, the North Kaibab RD has used patch cuts, clear cuts, shelterwood treatments, overstory removal, and selection cutting to capitalize on the uniquely high density of old and large trees on the Kaibab Plateau. This is a “death by a thousand cuts” situation, cynically justified by claiming that cutting old trees and leaving the small ones reduces the threat of fire. Significant tracts of old forest have been lost to large fires like the Warm Fire and Mangum Fire, and the continued logging of the largest remaining trees in these forests is unacceptable.

We therefore request that the Forest Service promptly halt logging approved via the Jacob Ryan project until the project can be revised to comply with universally accepted forest restoration principles, focusing treatments on the protection of large and old trees and removal of small and young trees.

2) The Burnt Corral Project Will Continue the Logging of Old Trees and Old Growth Forests

Stakeholders in the Burnt Corral Project collaborative group have expressed great concern for the project’s potential impacts on old trees and old growth forest structure. The Kaibab Forest Health Focus, a guidance document developed collaboratively with Kaibab National Forest staff, states that “Ponderosa pine forest restoration in northern Arizona should be designed to retain and restore old-growth trees”4 and that “many stakeholders agree that there are, in general, too

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1 Kaibab NF, Decision Notice/FONSI, Jacob Ryan Vegetation Management Project (Jan. 2020) at 1, 4.
2 Kaibab NF, Decision Notice/FONSI, Jacob Ryan Vegetation Management Project (Jan. 2020) at 5, 8.
3 See attached document titled “December 2020 Site Report: Jacob Ryan Vegetation Management Project."
few large mature trees across most of Arizona's ponderosa pine forests, and that it is almost always appropriate to thin smaller diameter trees.”

Despite this, the Forest Service’s Burnt Corral proposal contains loopholes to tree retention guidelines, opening the door to logging significant numbers of old and large trees. While the Burnt Corral project EA states that “old growth, as defined in the forest plan vegetation management guidelines would be retained,” the EA lists exceptions to these guidelines that render the general protection guideline virtually meaningless. The most problematic exception states that old trees may be cut in

Large contiguous areas that have not been impacted by timber harvest, where fire exclusion has created forest structure conditions that are distinctly outside of the natural range of variability for the Kaibab Plateau, and where current predicted fire behavior suggests high risk of unnaturally severe wildfire and/or other degradation or desired characteristics.

Breaking this exception apart, we see first that the Forest Service will allow the logging of old trees in “large contiguous areas that have not been impacted by timber harvest.” This equates to approving old tree cutting in remote areas that have escaped more than a century and a half of logging. These areas are so extremely rare that they should be identified and set aside as relict stands to be managed for the old growth components. Instead, the Burnt Corral Project would target these stands for the highest intensity logging treatments in the treatment strata identified for “new patch cuts,” also known as small clearcuts.

The second problem with this exception is that the Forest Service would approve old tree cutting in these relict stands “where fire exclusion has created forest structure conditions that are distinctly outside of the natural range of variability for the Kaibab Plateau.” But old trees by their very nature established prior to the onset of fire suppression policies. Any increase in forest density that occurred following fire suppression is almost entirely increases in young trees, not old trees. This justification also reflects the North Kaibab RD’s refusal to recognize the wealth of scientific papers published from Kaibab Plateau reference sites that universally show that these forests naturally occurred at higher densities than forests elsewhere in the Southwest.

For example, Fulé et al (2002) found basal area ranges on the North Kaibab were four times higher than the 20 to 80 ft²/acre density that the Burnt Corral proposed action proposes to achieve. By not designing Burnt Corral treatments to reflect the density ranges reported in Fulé and other locally specific sources, the Forest Service is turning a blind eye to the best available science, violating both the law and common sense.

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5 Kaibab Forest Health Focus at 47.
6 See May 26, 2020 Burnt Corral Draft EA comment letter from the Center for Biological Diversity to the Kaibab National Forest.
7 Burnt Corral Draft EA at 71.
8 Burnt Corral Draft EA at 71.
The third problem with this exception is the justification that old trees may be cut “where current predicted fire behavior suggests high risk of unnaturally severe wildfire and/or other degradation or desired characteristics.” However, the North Kaibab RD used antiquated data in the modelling of fire behavior, including stand exam data collected 35 years ago for stands that have since been logged or burned, meaning modelled forest conditions are nothing like actual conditions on the ground. Further, this simplified fire analysis fails to tease out the influence of small and young trees, brush, and ladder fuels on fire behavior and severity. That the North Kaibab RD concludes that old trees should be cut if high severity fire could happen contradicts reams of scientific papers that have concluded that uncharacteristically severe fires are driven not by large and old trees, but by small trees and accumulations of ground fuels.

The result of this single exception – and there are a number of others – is that old and large trees are safe nowhere in the Burnt Corral Project, an outcome that defies settled science, the demands of ecological integrity, and Forest Service policy elsewhere across the Southwest.

3) The North Kaibab Logging Program Fails to Recognize the Carbon Storage Value of Large and Old Trees

To avoid the most extreme impacts of climate change, it is not enough to move beyond carbon fuel consumption, we must also substantially increase forest protection in order to pull large quantities of CO2 out of the atmosphere. This process is known as carbon sequestration. The targeting of large and old trees by the Jacob Ryan Project and the proposed Burnt Corral Project, combined with the proposed large-scale Mangum Fire Salvage Project, ignores and undercuts the role these trees play in sequestering and storing huge amounts of carbon.

Scientific studies have long concluded that old trees and old growth forest structure play an outsized role in carbon sequestration and storage. Old growth forests contain huge quantities of carbon accumulated over centuries. Large trees, which are usually the oldest trees, contain most of the carbon in dry conifer stands, and their retention in tree thinning operations helps offset carbon losses that result from wildfires. Old growth ponderosa pine stands have been shown to assimilate more carbon and have greater drought resilience than young stands, and old trees continue to sequester carbon at rates far greater than young, fast-growing trees. Drought resilience in old ponderosa pines is likely attributed to slow growth rates which is common among the old trees we have aged on the Kaibab Plateau.

The United States Mid-Century Strategy for Deep Decarbonization, released in 2016 by the Obama White House, states that “federal lands provide an important opportunity to quickly

sequester carbon at scale while programs to support carbon sequestration on private lands are gaining momentum.” Leading climate scientists have called for protection of old forests for their carbon storing potential.\textsuperscript{16} Forest Service scientists have explicitly recognized the key role large trees play in carbon storage:

We suggest modifying current treatments to focus on reducing surface fuels, actively thinning the majority of small trees, and removing only fire-sensitive species in the merchantable, intermediate size class. These changes would retain most of the current carbon-pool levels, reduce prescribed burn and potential future wildfire emissions, and favor stand development of large, fire-resistant trees that can better stabilize carbon stocks.\textsuperscript{17}

In the Jacob Ryan, Burnt Corral, and Mangum Fire Salvage projects, the Forest Service presents a false choice, claiming that in the absence of cutting old trees the forest would eventually be lost to stand replacing wildfire, resulting in massive carbon losses. This conflicts with the best available science supporting the need to reduce density of small trees and surface fuels in order to decrease fire severity\textsuperscript{18} and fails to acknowledge that old tree retention and carbon sequestration are complimentary with fire risk mitigation.

4) The Forest Service Refuses to Recognize the Cumulative Effects of Multiple Logging Projects on Old Trees and Old Growth

We are also gravely concerned that the North Kaibab RD’s piecemeal approach to management violates not only science-based forest restoration but the National Environmental Policy Act. The agency is reviewing or implementing no fewer than six separate logging projects at the same time, most of which overlap each other and all of which are in close proximity, with little consideration of the cumulative effects of the actions altogether, and with seemingly contradictory responses to the change in conditions over a significant swath of the RD wrought by the 2020 Mangum Fire. These six projects include: the Kaibab Plateau Ecological Restoration Project (KPERP); the Burnt Corral Vegetation Management Project; the Mangum Fire Emergency Actions and Rehabilitation Project; a long-term post-fire management project for the Mangum Fire area currently in development (which we expect to include vast salvage logging); the Plateau Facilities Fire Protection Project; and the Jacob Ryan Vegetation Management Project.

KPERP, approved in November 2020, proposes 319,000 acres of prescribed fire supported by approximately 122,000 acres of noncommercial mechanical treatments across the half-million-acre project area to be implemented over a 20-year period. In July, the Mangum Fire burned through 72,000 acres – or roughly one-fifth – of the KPERP project area where treatments were proposed. Despite this significant change to the area’s resources in the weeks following issuance of the proposed decision, the Forest Service concluded the new information required no re-


\textsuperscript{17} North et al. (2009) at 1385.

appraisal of or change to the KPERP other than resulting in the project treating fewer acres.\textsuperscript{19} Further, the District Ranger argued that because the project was based on little on-the-ground data to begin with, the project could be changed on the fly without public input or further analysis after a decision was made.\textsuperscript{20}

While the District Ranger argued \textit{no change was necessary} to the KPERP project to address the significantly changed conditions due to the fire, he subsequently proposed \textit{two new projects within the KPERP project area}: the Mangum Fire Emergency Actions and Rehabilitation Project, and a so-far-unnamed long-term post-fire management project for 69,000 acres of the Mangum Fire area. The Forest Service intends to approve the Emergency project via a categorical exclusion, meaning the agency will not consider alternatives or the potential for any cumulative effects of the Emergency project together with those of KPERP within whose boundary the Emergency project will occur. The Mangum Fire Emergency project is claimed to involve a number of actions to stabilize soils and prevent debris flows, although those actions were not explained in the scoping letter. The project appears at face value to focus on salvage logging, which is outside the scope of the categorical exclusion upon which the RD intends to rely, on up to 3,000 acres, ostensibly to protect roads, fences, and trails.

The contours of the long-term post-fire management project, separate from the emergency response, have not yet been set, but that project will presumably be far more ambitious (or damaging) than the Emergency project or KPERP because the Forest Service proposes to analyze the proposal in an “EA or EIS.”\textsuperscript{21}

The proposal of these two fire-response projects contradicts the District Ranger’s contention that the Mangum Fire did not constitute significant new information requiring a new look at the KPERP, and raises significant questions about how the agency’s fire response will interact with the just-approved KPERP. It is also unclear whether, despite NEPA’s commands to disclose cumulative effects and to address new information, the Forest Service will ever address these issues unless forced to.

Further, the Forest Service’s analysis of the KPERP ignored or downplayed the potential for cumulative effects of that project and another one that will occur on lands almost completely surrounded by the KPERP project area: the Burnt Corral project. Burnt Corral appears as a “doughnut hole” within the southwestern portion of the KPREP boundary. Due to the fact that the two projects are directly adjacent to each other, and that the ecosystems are overlapping, the Center repeatedly urged the Kaibab National Forest to fold the Burnt Corral landscape into the KPERP. The Kaibab NF refused. The Forest Service issued a draft EA for the Burnt Corral Project while the agency was preparing the final EA for KPERP, so the two were being considered at the same time; the Forest Service intends to implement them on a similar timeframe. A proposed decision on Burnt Corral could come any day.

\textsuperscript{19} See KPERP Decision Notice (2020) at 1
\textsuperscript{20} See id. at 11 (complaining that “[i]t would take years or even decades to collect … [site-specific] information for the entire project area” as NEPA requires).
\textsuperscript{21} Kaibab NF, Scoping for Mangum Fire Emergency Actions and Rehabilitation Project (Nov. 25, 2020) at 7. Note that the Forest Service prepared an EA, not an EIS, on the 518,000-acre KPERP.
The Forest Service has admitted that Burnt Corral and KPERP are interrelated; the agency identifies the Burnt Corral Project “as the first phase of the larger, landscape-level restoration approach (similar to treatment as proposed in the [KPERP]) based on a collaborative, science-based assessment of forest composition and predicted fire behavior data.” This statement fails to admit that the Burnt Corral Project will continue to log old trees, violating collaborative stakeholder recommendations.

The Burnt Corral Project will have numerous adverse impacts, including loss of old trees and old growth structure, spread of cheatgrass, erosion associated with opening closed roads which have revegetated, disruption of northern goshawk nest sites, and indirect effects such as encouraging dense ladder fuels to grow into patch cuts and areas where canopy closure is reduced. Together, then, the Burnt Corral Project and KPERP will, at a minimum in the short term, degrade habitat for Mexican spotted owl and for the northern goshawk. Although the Burnt Corral Project will occur effectively inside the KPERP area, Burnt Corral rates only a handful of passing references in the KPERP EA, and almost none of those references addressed the potential synergistic impacts of the two projects together.

Conclusion

The North Kaibab RD is thus pushing ahead with multiple commercial and non-commercial logging projects that are currently, or are proposing to, log significant numbers of old and large trees, with overlapping impacts across a single landscape, with little if any consideration of cumulative effects, and in some cases without considering the significant impacts of a major fire. The Southwest Region should immediately stop logging old trees and old growth forests on the North Kaibab RD, terminate plans for future logging of such trees, and halt all these projects until the agency addresses both the overlapping and cumulative nature of these projects and the impacts of the Mangum Fire.

Thank you for your attention to this important matter. We request a meeting with you by phone or videoconference to discuss these issues at your earliest convenience.

Sincerely,

Todd Schulke, Senior Staff
center for Biological Diversity
tschulke@biologicaldiversity.org

Cc: Elaine Kohrman, Deputy Regional Forester
    Heather Provencio, Supervisor, Kaibab National Forest
    Robin Silver, Senior Staff, Center for Biological Diversity
    Randi Spivak, Public Lands Program Director, Center for Biological Diversity
    Ted Zukoski, Senior Attorney, Center for Biological Diversity
    Joe Trudeau, Southwest Conservation Advocate, Center for Biological Diversity

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22 Kaibab NF, Burnt Corral Preliminary EA (Mar. 2020) at 3.
January 14, 2021

**December 2020 Site Report: Jacob Ryan Vegetation Management Project**  
Kaibab National Forest, Arizona

On December 7 and 8, 2020, Center for Biological Diversity field staff visited the 26,000-acre Jacob Ryan Vegetation Management Project on Arizona’s Kaibab Plateau to determine if the Kaibab National Forest was logging old trees and destroying old growth forests. The photos in this site report document hundreds, if not thousands, of trees between 150 and 300 years old, some almost three feet in diameter, being logged and trucked off to a sawmill in nearby Fredonia.

**Key Findings:**

- We explored dozens of “patch cuts” in areas logged over the past several years in a series of timber sales implemented under the Jacob Ryan Project. In all of them, the vast majority of stumps were of trees larger than two feet in diameter and between 150 and 225 years old.

- We documented heavy equipment loading freshly cut old growth trees onto a logging truck headed for a nearby sawmill.

- Numerous groups of old trees were thinned through, reducing the number of old growth trees by half or more in these areas. Dense groups of old trees are essential nesting habitat for the rare northern goshawk.

- In areas marked for logging but not yet cut, old trees were frequently marked with blue paint, indicating they’re to be cut, while dense patches of small, fire-prone trees were to remain.

The following pages in this site report provide photo documentation of these actions happening right now on the North Kaibab Ranger District.

See a video highlighting some of our findings here:  
https://www.biologicaldiversity.org/resourcespace/?c=1268&k=132c7279bd

For more information: Joe Trudeau, (928) 800-2472, jtrudeau@biologicaldiversity.org
Loading old trees onto a trailer on Forest Road 482. The log being lifted here is approximately 28” diameter, and almost certainly well over 200 years old. The entire log deck beyond is composed of old growth trees. When this photo was taken, a sawyer was felling more old trees in the forest nearby.

Location: N 36°43'40", W 112°12'4"
Elevation: 7,740 ft
Time Created: 12/8/20, 8:00 AM MST
A Kanab-based logging truck loaded with old growth logs, headed for the sawmill in Fredonia from the landing area on Forest Road 482.

Location: N 36°43'40", W 112°12'4"
Elevation: 7,740 ft
Time Created: 12/8/20, 8:05 AM MST
A 33.8” diameter tree off Forest Road 482 marked for cutting. We aged this tree at ~300-years-old using an increment borer. This ancient tree, which has probably now been felled, provided important wildlife habitat, with numerous cavities, dead branches, and gnarled branching structure. Old growth trees throughout the stand are marked for cutting, identified with yellow arrows. These trees perfectly fit the Forest Plans definition of old trees, as such they should be retained.

Location: N 36°43'31", W 112°12'3"
Elevation: 7,740 ft
Time Created: 12/8/20, 8:20 AM MST
An old tree marked for cutting off Forest Road 482 measuring 26.4” diameter – a very large tree for Arizona. To the left are two more old and large trees marked for cutting (identified with yellow arrows).

Location: N 36°43’32.69", W 112°12’3.83"
Elevation: 7,740 ft
Time Created: 12/8/20, 8:39 AM MST
Looking west from the 26.4” tree in the previous photo, numerous old trees (yellow arrows) are marked for cutting. Based off more than 100 aged trees on our Kaibab Plateau study plots, these trees are between 175 and 250 years old.

Location: N 36°43'32.69", W 112°12'3.83"
Elevation: 7,740 ft
Time Created: 12/8/20, 8:45 AM MST
Looking northeast from the 26.4” tree in a previous photo, numerous old trees (yellow arrows) are marked for cutting, while dense small trees are left mostly unmarked.

Location: N 36°43'32.69", W 112°12'3.83"
Elevation: 7,740 ft
Time Created: 12/8/20, 8:50 AM MST
A Kanab-based logging truck loaded with old growth logs. The loggers confirmed that the logs are headed for the sawmill in Fredonia.

Location: N 36°43'28", W 112°12'1"
Elevation: 7,740 ft
Time Created: 12/8/20, 9:00 AM MST
A 1.5-acre patch cut on Forest Road 247 with more than 100 stumps greater than 24” and between 150-225 years old. We commonly observed patch cuts located on areas with high densities of old and large trees. These trees were so large that they had to be felled with a chainsaw, as they were too large for the loggers feller-buncher.

Location: N 36°44'11", W 112°12'42"
Elevation: 7,740 ft
Time Created: 12/8/20, 8:39 AM MST
Another section of a patch cut on Forest Road 247 with over 100 stumps greater than 24” and between 150-225 years old.

Location: N 36°44'11", W 112°12'42"
Elevation: 7,740 ft
Time Created: 12/8/20, 8:39 AM MST
A patch cut in cutting unit 7 of the Wild Buck Timber Sale off Forest Road 282MF. More than 20 stumps of trees between 24 and 30” diameter, and over 165 years old, were tallied. A yellow Nalgene water bottle is placed on a stump for scale. According to the FACTS database, this stand had been managed for old growth prior to the Jacob Ryan Project.

Location: 36.68247, -112.25227
Elevation: 7,987.5 ft
Time Created: 12/7/20, 10:38:52 AM MST
A patch cut in cutting unit 7 of the Wild Buck Timber Sale off Forest Road 282MF. More than 20 stumps of trees between 24 and 30” diameter, and over 165 years old, were tallied. According to the FACTS database, this stand had been managed for old growth prior to the Jacob Ryan Project.
A patch cut in cutting unit 7 of the Wild Buck Timber Sale off Forest Road 282MF. More than 50 stumps of trees between 24 and 30” diameter, and over 165 years old, were tallied. A yellow Nalgene water bottle is placed on a stump for scale.

Location: 36.68000, -112.24769
Elevation: 8,025.0 ft
Time Created: 12/7/20, 10:18:21 AM MST
A patch cut in cutting unit 8 of the Wild Buck Timber Sale off Forest Road 152. More than 15 stumps of trees between 24 and 30” diameter, and over 165 years old, were tallied.

Location: 36.68485, -112.23538
Elevation: 8,141.7 ft
Time Created: 12/7/20, 9:47:23 AM MST
This patch of old growth off Forest Road 152 in cutting unit 9 of the Wild Buck Timber Sale was cut in half, with more than 30 old tree stumps tallied.

Location: 36.67629, -112.23625
Elevation: 8,092.9 ft
Time Created: 12/7/20, 11:55:05 AM MST
On an earlier trip to the Jacob Ryan Project we photographed a 30” diameter stump off Forest Road 152 in cutting unit 9 of the Wild Buck Timber Sale. A ring count concluded the tree was over 200 years old.

Location: N 36° 41’ 50.46”, W 112° 14’ 5”
Elevation: 7,854.0 ft
Time Created: 7/2/2017, 1:53 PM MST