

Laura Kukkonen

2024

Fights for the Wilderness

Master's Project advisor: Reed Abelson

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President Joe Biden's administration issued an order to protect the remaining old-growth forests. However, environmentalists are still fighting the U.S. Forest Service to stop logging projects threatening old forests around the country.

We couldn't see him through the lush forest, but Zack Porter's voice carried over to us.

“Grandma maple!”

Porter had found it—the grand old tree in this tiny patch of old forest. His colleague Mark Nelson, with an 18-month-old rescue Schnoodle, Scout, a mix of a Schnauzer and a Poodle, walked with me over rocky and uneven terrain, brushing past bushes and branches towards Porter's voice.

The maple tree was enormous. Porter stretched his arms around the tree, but they didn't even span half its circumference. We had no way of knowing the tree's exact age, but Porter estimated it to be at least 300 to 400 years old. A forest with trees this old would be called old-growth, suggesting that the forest has stood undisturbed for a long period.

“This forest has never been logged,” Porter said. “And we don't know why. It's a mystery.”

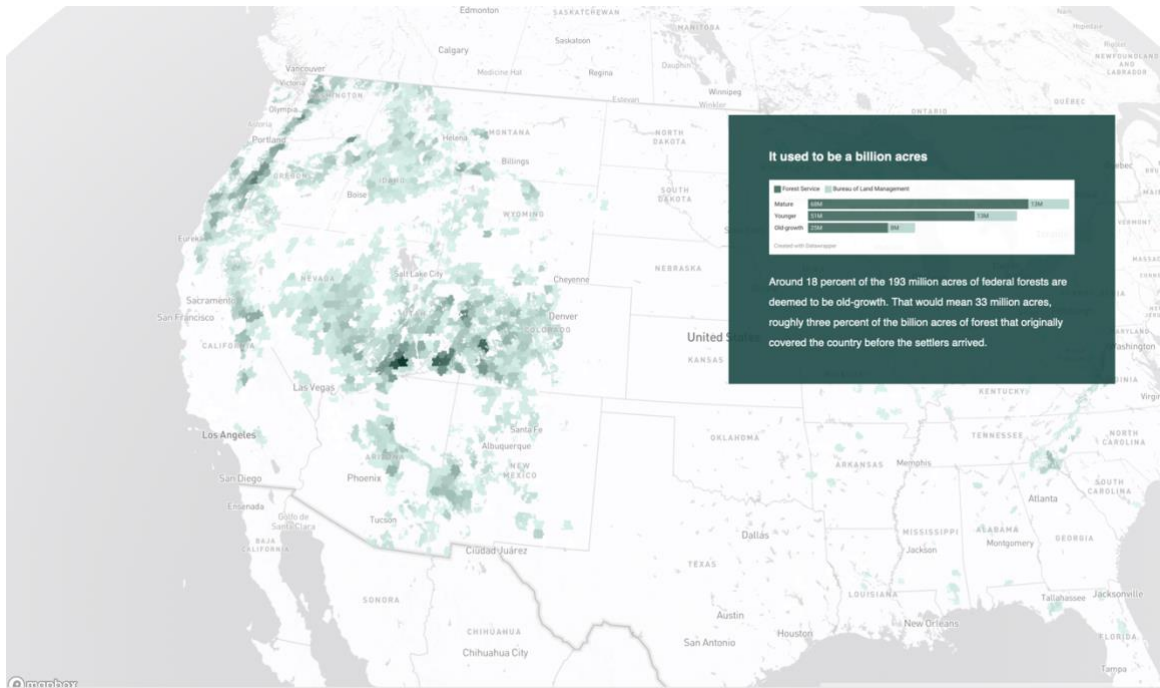
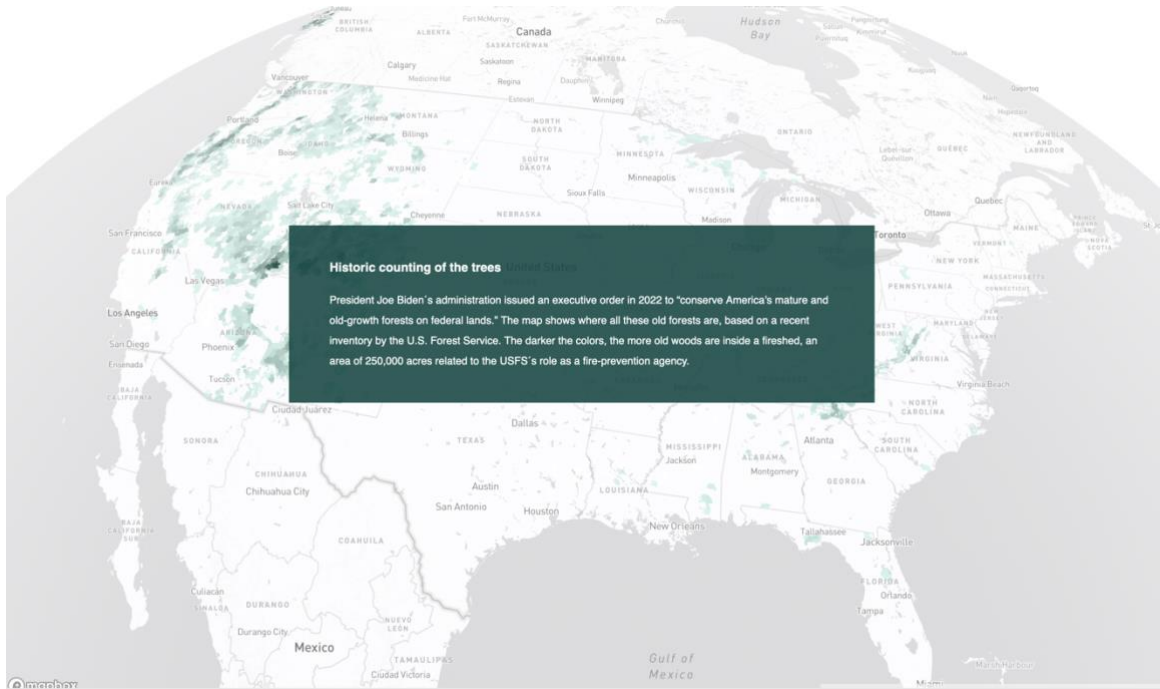
Most of the woods in Green Mountain National Forest in southwestern Vermont have been logged at some point since settlers arrived in the 17th century. This patch of land, located north of North Pond, a small natural lake with an abandoned beaver dam, seemed

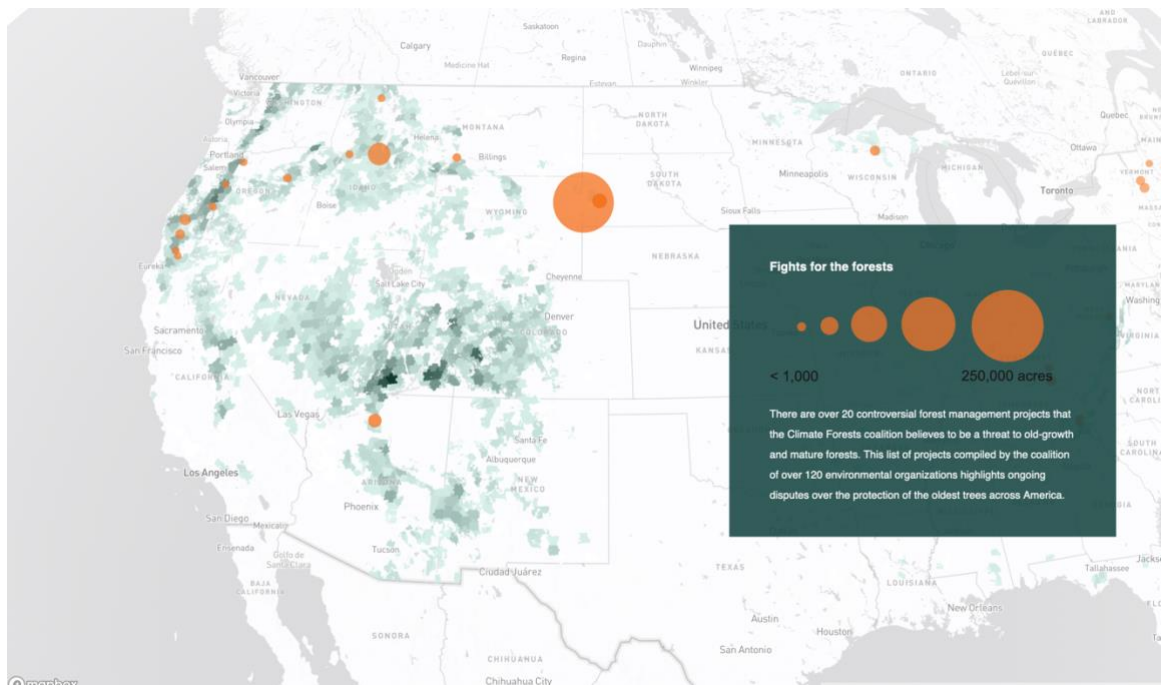
to have been spared. Perhaps the early settlers were deterred by the rocky and rugged terrain, or they viewed this forest from the other side of the pond and deemed the view too beautiful to lose for timber. Any idea would be pure speculation.

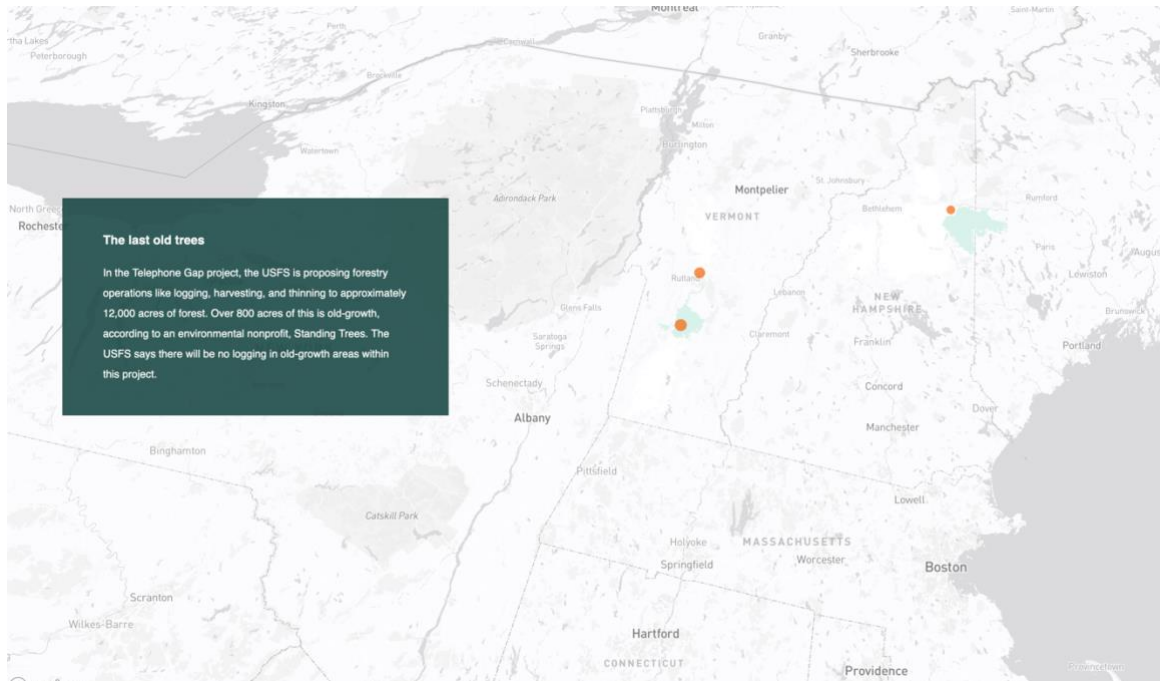
Porter and Nelson work with Standing Trees as Executive Director and Board President, respectively, advocating for protecting the oldest forests in New England—the few that are left. They are both co-founders of the nonprofit and have worked with environmental groups in the past. Porter started his career as a wilderness ranger at the U.S. Forest Service and has worked in several environmental organizations, such as the wilderness conservation group Wild Montana. Nelson pivoted to environmental protection after retiring from JPMorgan Chase in 2013, following a career in finance. Before Standing Trees, he was the chair of the executive committee for Sierra Club’s Vermont chapter.

Woods like this are rare, as little remains of the original forests that stood before European colonization. By some estimates, forests covered around one billion acres of land before the settlers arrived in the country. According to a recent inventory by the U.S. Forest Service (USFS) with regional definitions for old-growth, federally managed old-growth forests would represent only three percent of the original forested area. Even though the old-growth forests in the USFS inventory are old, many have experienced logging at some point in the past few centuries. There are still some small patches of primary forests—woods that have never been logged—particularly in Alaska.

Map: <https://lauramiina.github.io/oldgrowth/>







Grandma maple is still safe, but a small hike away are trees estimated well over 100 years old that might fall for timber as part of a USFS logging project, the Telephone Gap. It's one of the USFS's management projects that includes logging, thinning, and harvesting forests. These projects usually take years to implement, during which time the USFS invites public comment.

The Telephone Gap is just one of the logging projects administered by the USFS opposed by environmental groups arguing that the projects threaten the nation's oldest forests and violate the executive order given by President Joe Biden's administration in 2022 to "conserve America's mature and old-growth forests on federal lands." The agency denies old forest is at risk in the project.

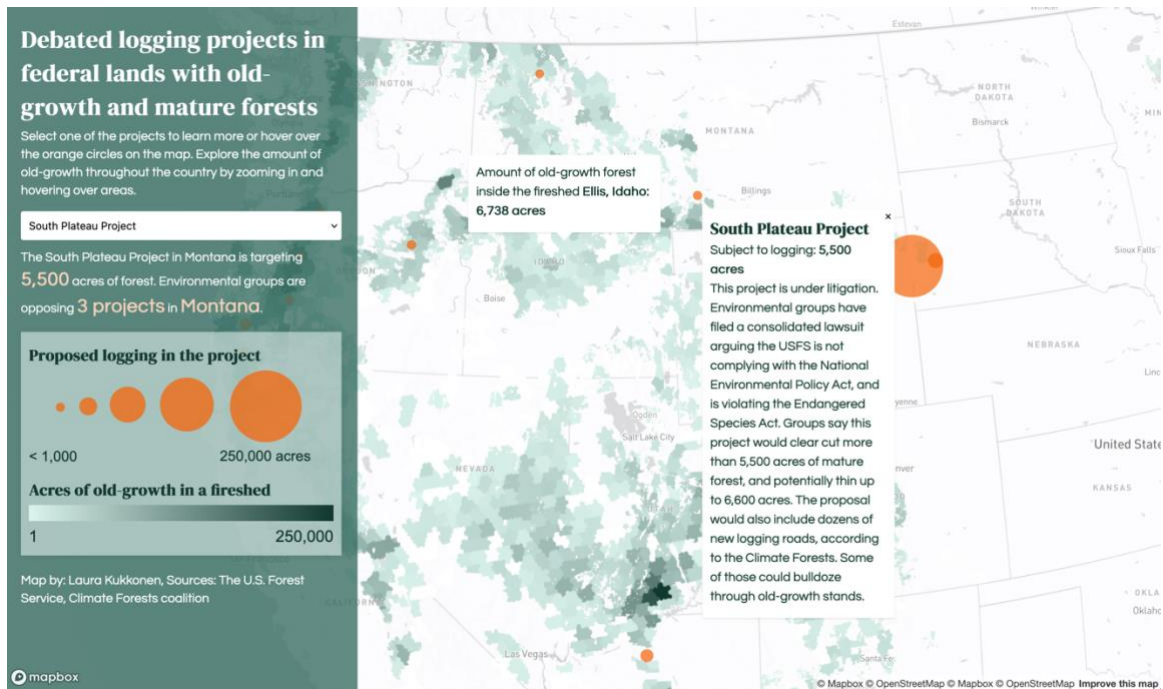
Environmentalists, scientists, and the current administration agree that the remaining oldest forests should be protected. Old woods offer biodiversity and work as carbon

sinks. They are also unique habitats for wildlife and fish. For humans, they offer places of recreation and beauty. The Biden administration, the USFS, and environmentalists and scientists have accepted this.

Environmental groups, like Standing Trees, advocate protecting old-growth forests by opposing logging. Despite the executive order from President Biden, numerous USFS logging projects, such as the Telephone Gap, still have old trees on the chopping block. Conservationists are urging the Biden administration to put more pressure on the USFS to halt these projects. Although the agency has started a review process for projects with old growth and halted some of them, critics argue the review process lacks transparency and fear that the president's order may ultimately go to waste.

As the Forest Service began implementing Biden's executive order, the agency started to draft a paper called the Old-Growth Amendment, which directs the ways the conservation work of the forests would be implemented in practice. There were great expectations from environmentalists. Still, a draft version of the amendment has drawn criticism from both environmentalists and the timber industry, claiming the conservationists aim to create a system that makes any logging impossible. The agency didn't comment on the criticism.

Explore the controversial logging projects and the old-growth forests around the country in detail with an interactive map: <https://lauramiina.github.io/oldgrowth-project-search/>



One might think that there could be a simple explanation for an old-growth forest, such as a forest that has never been logged or woods where trees are mostly over 150 years old.

But it has not been at all that simple.

The executive order required the agencies managing the federal forests to come up with a definition for old-growth and mature forests. The most recent inventory report published in May 2024 has different definitions for these forests for different parts of the country.

There are 10 Forest Service regions ranging from the Northern Region to the Alaska Region.

The usual criteria for an old-growth forest are related to tree age and the density of large trees. For example, in the Eastern Region—which Vermont and the Green Mountain National Forest are a part of—a forest defined as old-growth has to have trees at least 100

to 160 years old, and there must be at least 5 to 20 large trees per acre with diameters of 12 to 20 inches at breast height.

There are some 33 million acres of old-growth forest left in the country, around 18 percent of all the 180 million acres of forests managed by the USFS and the Bureau of Land Management (BLM), which manages different kinds of lands and minerals in the country. Mature forests represent another 44 percent of this, 80 million acres. In all, there are around 820 million acres of woodlands and forests in the country, according to the USFS.

The Forest Service acknowledges that these old forests have many attributes that ought to be protected. They are habitats for wildlife, help to keep waters clean, and act as recreational areas, not to mention the biological diversity and carbon sequestration they offer.

“Although often perceived to be tall trees with a large diameter such as the giant, and now rare, redwoods on the west coast, mature and old-growth forests come in all shapes and sizes and can often be abundant. These special forests also reflect diverse tribal, social, and cultural values,” the Forest Service’s Climate Risk Viewer said.

Environmental groups welcomed the president’s old-growth executive order in 2022, seeing it as a significant step towards protecting the nation’s ancient forests. As part of the executive order, the federal land management agencies started to assess threats to these older forests and create an inventory of the remaining mature and old-growth forests on federal lands.

In the Green Mountain National Forest, Scout padded along the trail. Hiking is one of Scout's favorite activities, and what would be better than walking among the tree branches offering shade from the hot June sun with no sounds of civilization?

We arrived on the verge of a forest with many types and sizes of trees. It was compartment 145, stan 13, one of the areas that could face logging. According to a USFS document, some trees had reached 165 years of age. This area would fill the new requirements of old-growth by the USFS.

One of the issues between the environmentalists and the agency happens to revolve around the complications of defining old-growth.

The USFS Forest Plan currently used for this area dates back to 2006. It has its own definition of old-growth, and no forests in the project area fulfill this old definition. Forest Service District Ranger for the Green Mountain National Forest Christopher Mattrick said that under current directions, they have to use the old Forest Plan to identify old-growth in the area.

Environmentalists argue that the old Forest Plan doesn't recognize areas that would meet the old-growth criteria in place after the executive order.

According to the recent nationwide inventory, there is very little—1,845 acres in total—old-growth forest in Vermont. A Forest Service document published on the Telephone Gap project website states that there are over 800 acres of old-growth in the project area, with harvest for over 690 acres.

The Forest Service has not started any logging within the Telephone Gap project, which is to reach a final decision this fall. Mark Nelson said that if they are not happy with the final decision, Standing Trees will start a litigation process.

There's a lot of life inside the northern hardwood forest with rich soil and luxurious, productive growth of plants and trees.

"It's a good place to be a tree," Porter said.

In addition to being home to an abundance of flora, Mark Nelson told me the Green Mountain National Park hosts a variety of animal species, like foxes, bears, and eagles. As the track steepened, we were silent for a while to catch our breath. There were no sounds of traffic or airplanes. One could hear a solemn woodpecker pecking on a tree nearby. Zack Porter recognized a Wood Thrush signing.

"They like these interior forests," he said.

We arrived at a viewpoint where we could see some of the Telephone Gap project area. The hills of the National Forest across the Chittenden Reservoir were covered with trees. The northern-long eared bat, an endangered species, lives on top of those hills, said Porter. There will be a protective zone left for them in the project area, said Porter, but in his opinion it is not wide enough.

Wildfires are one of the biggest threats to mature and old-growth forests, especially in the future, according to USFS's analysis. There isn't a scientific consensus on whether logging or harvesting is a good way to reduce wildfires in old forests. Dominick

Dellasala, chief scientist at Wild Heritage, said that logged, younger forests are more prone to fires than old and mature forests, which he sees as fire refugia, locations more resilient to wildfires.

“[The agency] has to be more surgical about the fire risk reduction by closing roads, which are a big source of unwanted ignitions, by going after the plantations that have the highest risk of fire and reducing the risk there. And by stopping and clear-cut logging practices because that just sets up the forest for a future burning,” Dellasala said.

Dellasala said that forests are key in fighting climate change. The older and bigger the trees grow, the more they trap carbon. But that carbon is released into the atmosphere if the forests burn.

“We need to cut our emissions across all sectors, and forestry is part of that,” he said.

Environmentalists have been opposing the Forest Service’s logging plans for decades now. Now, they are worried that the agency is going forward with some opposed logging even when the administration urges them to conserve these particular forests.

“It really is important that they make every effort to stop old-growth logging that's taking place right now, and we don't get the impression that they are doing that,” Lauren Anderson, Climate Forests Program Manager for Oregon Wild, said.

Climate Forests, a coalition of over 120 environmental organizations, is tracking controversial forestry projects. The groups oppose 24 projects but say there could be some areas where inappropriate logging is happening that don't have active

environmental organizations to follow up. Many of these projects started during Donald Trump's presidency, but at least five projects began in 2022.

Former Forest Service Deputy Chief Jim Furnish, a well-known critic of the agency, said the USFS seems to be pushing back against the president's executive order by continuing the controversial logging projects. He said the USFS could have halted or stopped these projects at least for the duration of the assessment and until the executive order is written into law.

"They did none of these things. All the activities out on the field have continued, many of which are affecting mature and old-growth forests from Vermont to West Virginia, Kentucky, Montana, South Dakota, and Oregon. All across the country," Furnish said.

Furnish said that the Forest Service has a long history of having relationships with local loggers and mills, even in areas that do not produce huge amounts of timber, like the Green Mountain National Forest.

"It means a lot to them, and they want to continue that," Furnish said.

"In the early days, most of what we know as National Forests today would have been characterized as mature and old-growth forests. They were virtually natural, unmanaged landscapes," Furnish said.

The timber industry and logging in federal forests expanded particularly during the housing boom after the Second World War.

“In my early years with the Forest Service, I was a timber guy. I was very much responsible for cutting a lot of timber. And then I slowly changed over time,” Furnish said.

Now, he has been fighting for more sustainable forest management for several decades. Furnish retired largely because of politics. He started as a Deputy Chief during President Bill Clinton’s term in 1999 and retired in 2002, not long after George W. Bush’s tenure started.

Old-growth protections have been mostly opposed by Republicans, and Furnish is certain that if Donald Trump is in charge, the next administration will not push forward with protective policies.

Local fights are happening all over the country.

A federal judge rejected the Black Ram project in Montana’s Kootenai National Forest in 2023, saying the agency made errors in evaluating the project’s impacts on grizzly bear habitats and climate. The USFS is appealing this decision.

“The Forest Service is racing to clearcut the very old-growth forests they mapped and inventoried, to liquidate them before they can be protected,” said Rick Bass, Executive Director of Yaak Valley Forest Council, a local nonprofit in Montana involved in the legal case against the agency.

“The Forest Service is working directly against the [President’s] executive order. It’s extraordinary,” he added.

A timber industry lobbyist group, Federal Forest Resource Coalition, hopes the Black Ram project will continue.

“I have mills out there that really would like to see that project go forward,” said the group's lead, Bill Imbergamo.

The project started in 2017 and was first approved in 2022. It involves logging more than 95,000 acres of forest, some old-growth, including 600 to 800-year-old larch trees.

Dellasala was involved in the proceedings as an expert. He visited the site and made a legal declaration about how the agency's carbon calculations were inadequate.

Why are there still logging projects in areas with old-growth forests?

Both Dellasala and Jim Furnish believe the reason has to do with the changing politics around the USFS and its long history with the timber industry.

“The agency has been in this lifelong tug of war that follows whatever the political winds are blowing from Washington D.C.” Dellasala said.

During Trump's era, forest protection wasn't seen as important as it is now in President Biden's administration. Furnish thinks the Forest Service tends to log, which seems to be their way out of the fire issue, too.

“The way forward in dealing with the fire crisis is to thin as much of this forest as possible to get the fuel loadings down,” Jim Furnish said about what he calls “the Forest Service dogma”.

It is clear that the Forest Service doesn't want to appear to be logging old-growth forests. The agency has established new processes to review possibly problematic logging projects. All projects that propose logging in areas with old-growth need to be submitted for review and approval by the National Forest System Deputy Chief.

Some of the forestry projects listed on our maps have gone for review. Climate Forests' Lauren Anderson said that the review process is not open, so there is little information available publicly about which projects have been submitted for review and what changes have been made. The Forest Service declined to make Deputy Chief Chris French available for an interview.

The amendment the USFS is writing is hoped to go into effect in January 2025, before the next administration begins. In accordance with the process, the agency published a draft environmental impact statement (DEIS), which is going through a comment period ending September 20. Conservationists had high hopes for the amendment, but the draft has gathered criticism. For example, it does not include a ban on logging.

Zack Porter said he was disappointed in the draft and believed that if the final amendment is based on it, the situation will remain as is.

The draft also faced criticism from the timber industry. Bill Imbergamo stated. The timber industry is worried the amendment would create a "presumption against management," according to Bill Imbergamo, meaning it would be easier to stop logging projects in general.

On the way back from the hike in the hills of the Green Mountain National Forest, we stopped by to grab some ice cream at a local kiosk with a minigolf course. Scout also gets

a puppy-sized serving with a dog biscuit. We spent many hours in the woods marveling at nature and exhausting our bodies. The conversation turns worrisome.

Nelson and Porter are still hopeful that the Telephone Gap project will change and that the final old-growth amendment will take the environmentalists' concerns seriously. The draft amendment is open for comments, and the USFS should reach a final decision on the Telephone Gap project in the fall.

“The Biden administration needs to put pressure on the Forest Service, or this whole exercise will be a joke. We need real policy changes,” Porter said.

Methodology

Building interactive maps of old forests and logging projects

For this project, we built interactive maps to visualize the amount and location of old-growth forests in the U.S. and show where controversial logging projects are located. You can find the complete datasets, data analysis and code for building the maps on GitHub: <https://github.com/LauraMiina/oldgrowth-project-search>. The scrolly-telling map was made separately with a Mapbox template, and you can see that code in a separate GitHub repository: <https://github.com/LauraMiina/oldgrowth>.

Data Inquiry

The U.S. Forest Service (USFS) conducted a vast inventory and risk assessment of the old-growth and mature forests in the country. We used a Python tool, `esri2gpd`, to scrape the USFS data from their ArcGIS environment:

https://apps.fs.usda.gov/fsgisx02/rest/services/wo_nfs_gstc/WO_OSC_GapAnalysis_OldGrowthAndMatureForests/MapServer/29.

The Python tool and instructions can be found here:

<https://github.com/PhilaController/esri2gpd>.

The inventory doesn't provide the exact locations of the old trees, but it shows the number of old-growth forest acres inside 250,000-acre areas called firesheds. These units, related to the USFS's role as the nation's largest fire-prevention agency, are used only as mapping units in this context.

The logging project data is from the Climate Forests, which provided us with a Google Doc with the data. We created a spreadsheet of the document so that it would be workable with code and could be uploaded to Mapbox. The project locations are approximations based on the USFS's descriptions of the project areas.

Most of the data analysis was done visually using QGIS and Mapbox to show the locations and amounts of old-growth forest and also the acres threatened by the logging projects.

Building the maps

We created a scrolly-telling map using Mapbox's template and instructions. You can find the template here: <https://labs.mapbox.com/education/impact-tools/interactive-storytelling/>. Basically, you can upload your own location data to Mapbox and create visualizations, and just call the map layers with code.

In addition, we built a map with a search bar for exploring both datasets in their entirety using HTML, JavaScript, and CSS. This map uses the same Mapbox map as the scrolly.

Postscript

My story “Fights for the Wilderness” is about the debate around how the U.S. should protect its oldest forests and about controversial logging projects that are going on in several parts of the country. From the beginning of the Data Journalism program, I knew I wanted to make journalism about the environment. I started to look for story ideas about climate, water, and forests many months before beginning to work on the Master’s Project.

In the spring of 2024, I came across a map produced by the United States Forest Service (USFS) about the oldest forests in the nation. Before I started the Data Journalism program, I had thought about building some maps for my big project, so this was very exciting. The map looked technical and had a lot of information. I quickly realized that this was part of a vast effort to officially inventory and analyze the federally managed old-growth forests for the first time in history.

As I started to learn more about the process and the efforts behind this inventory, I learned that there are debates about the issue. Through clip searches and talking to people like scientists and environmental advocates, I found out that controversial logging projects are going on at the same time as the president’s administration is going forward with efforts to protect the oldest forests in the country. That was my story.

I started my Data Journalism Master’s Project from a topic and found potential data for it. I tried to start talking to people as early as I could because I knew that a national story about forest policy would require a lot of effort from me to understand fully. At the same time, I was working on acquiring the data and other information through interviews.

From the beginning, I also knew I needed a case for my story. I traveled to Vermont to meet environmentalists and see the old forests. At the start, I was also looking at other logging projects around the country, but together with my advisor, we settled on Vermont.

The data components of my story are Mapbox maps about the USFS's inventory data combined with information about debated logging projects around the country. I needed to use a piece of code to acquire the map data from the Forest Service ArcGIS environment. After that, I could work with the geojson file to create layers in the Mapbox map. I got the data about the logging projects from the Climate Forests coalition, which gave me access to a living Google Doc document. I created a spreadsheet of the information, edited it, and converted it to a geojson.

Working with location data, creating the scrollytelling map, and coding the explorer map took a lot of my time. Piece by piece, with the help of our professors, mapping guru Larry Buchanan, and all-around champion Jonathan Soma, it came together. Throughout this project, I learned so much about location data, Mapbox, and JavaScript.

I sincerely appreciate the whole Journalism School for this opportunity to learn more in a year than I've ever had. Huge thanks go out to my knowledgeable and patient advisor, Reed Abelson, for her irreplaceable guidance. This project wouldn't have been possible without my family and friends. I want to mention my dear classmate Carla Mandiola, who has kept me sane throughout the whole program, from the very first coding session to the last moments of the project. Last but not least, I'm grateful for all the support, ideas, and inspiration from my muse in life, Antti Ojala.

Source list:

Lauren Anderson, Climate Forests Program Manager at Oregon Wild

Scott Barndt, Adaptive Management Project Manager, EO 14072 Mature and Old-Growth Forests, Forest Service

Rick Bass, Executive Director of Yaak Valley Forest Council

Dominick Dellasala, Chief Scientist, Wild Heritage, Project of Earth Island Institute

Andrew Gray, Research Ecologist and FIA analyst, Forest Service, Pacific Northwest Research Station

Bill Imbergamo, Executive Director of the Federal Forest Resource Coalition, national non-profit representing purchasers of Federal timber

Aaron Kamoske, PhD, Ecological Analyst, Adaptive Management, Monitoring, & Analysis, Forest Service

Joan Maloof, author and activist, and the founder of the Old-Growth Forest Network

Christopher Mattrick, District Ranger, Forest Service, Rochester and Middlebury Ranger Districts, Green Mountain and Finger Lakes National Forests

Mark Nelson, Board President, Standing Trees

Zack Porter, Executive Director, Standing Trees