



Save The Redwoods
LEAGUE

SAVE THE GIANT SEQUOIAS: Emergency Actions for 2022-23

For more than 100 years, state and federal policies have been to extinguish almost every Sierra Nevada fire as soon as it ignites; fire suppression and historic land management practices have resulted in unnaturally high numbers of trees in giant sequoia groves. Combined with longer fire seasons driven by drought and climate change, the dense forests create a tinderbox in our groves.

■ COVER: A prescribed fire is conducted in Yosemite National Park's Mariposa Grove to reduce the buildup of vegetation that could fuel severe wildfires. Prescribed fires are one of the priority methods for reducing fuels to save giant sequoias.

Photo by Kristen Shive, National Park Service



Photo by Linnea Hardlund

Wildfire at Black Mountain Grove in Giant Sequoia National Monument has killed 50 mature giant sequoias. To reach into the trees crowns, fire likely took advantage of unnaturally high fuel loads resulting from decades of fire suppression. Unlike its coast redwood cousins that can resprout from living roots, when a 2,000-year-old giant sequoia dies, it is gone forever

SEVERE WILDFIRE HAS KILLED 20% OF GIANT SEQUOIAS, WORLD'S LARGEST TREE SPECIES

An unprecedented challenge

An estimated 20% of all the mature giant sequoias in the world have been lost since 2015, when wildfire magnitude and severity sharply increased in California's Sierra Nevada. Many of these trees were more than 1,000-3,000 years old. As wildfires in the West have reached unparalleled severity, they pose an existential threat to giant sequoias, some of our most iconic national treasures. Having thrived through countless fires over millennia, thousands of these trees have perished in today's climate-driven fires. Thankfully, elected officials and policymakers can protect the remaining giant sequoias with immediate policy and legislative action. Save the Redwoods League, our partners, and other giant sequoia land managers must treat 2,000 acres in the most at-risk groves before the 2023 fire season.

Tinderbox in the groves

Incredibly large and majestically tall, the breathtaking giant sequoias grow naturally only within a narrow range in the Sierra Nevada extending from Placer County Big Trees Grove in the north to Deer Creek Grove in the south. These groves have a rightful place alongside our country's greatest natural wonders such as the Grand Canyon and Yellowstone National Park.

Today, most ancient giant sequoias live in Giant Sequoia National Monument and Sequoia & Kings Canyon National Parks, with nearly 80% of the naturally occurring sequoia range in these two parks. Almost all the roughly 78 naturally occurring groves are managed by 10 state, federal, and county agencies and the Tule River Tribe. Most recently, Save the Redwoods League secured the protection of the Alder Creek and Red Hill properties, the largest remaining private giant sequoia forests.

Between natural fires and Indigenous cultural fires across millennia, giant sequoias evolved to thrive with low- to moderate-intensity fires occurring every 8-15 years. The protective bark of a mature tree can be up to 2 feet thick, and fire helps their cones open and release seeds, fostering reproduction. However, for over 100 years, state and federal policies have been to extinguish almost every Sierra Nevada fire as soon as it ignites; this suppression and historic land management practices have combined to create unnaturally high densities of understory and midstory trees in giant sequoia groves.

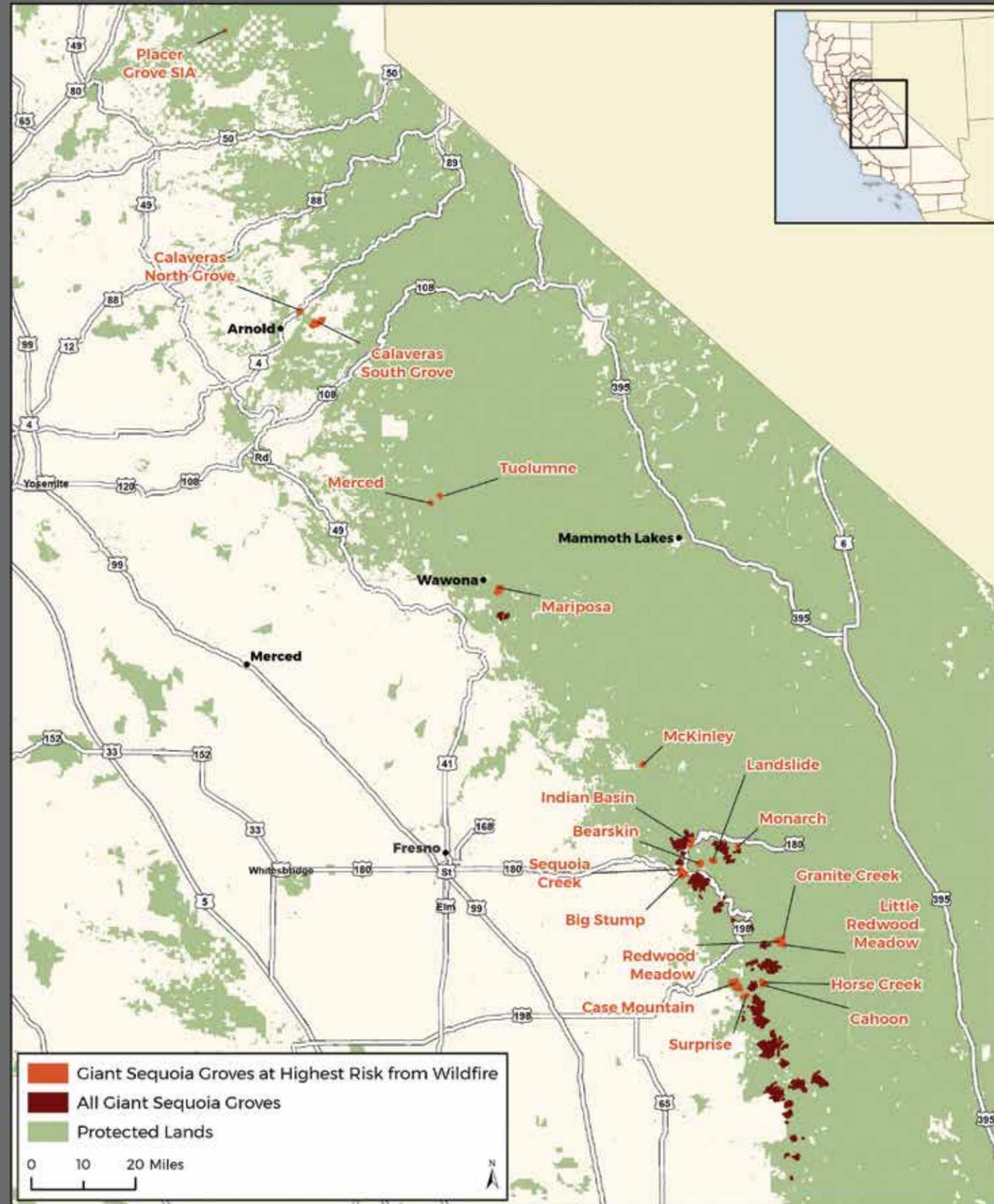
Old-growth giant sequoias need our help if they are to survive.

Combined with the drier conditions and longer fire seasons associated with drought and climate change, the result is a tinderbox in our groves. Severe fire entering these dense groves burns up through the younger trees and into the canopies of mature sequoias, killing them. Unlike its coast redwood cousins that can resprout from living roots, when a 2,000-year-old giant sequoia dies, it is gone forever.

In 2020, the Castle fire killed 10-14% of all mature giant sequoias. The following year, the KNP Complex fire and Windy Fire killed another 3-5% of these magnificent trees. That's an estimated total of 19% of all giant sequoias killed in only 14 months.

Scientists and park officials predict more catastrophic fires in the years ahead. Old-growth giant sequoias need our help if they are to survive. Organizations that steward giant sequoias must proactively manage all giant sequoia groves at a landscape level, but for the next few years they must focus efforts on the groves at greatest risk.

GIANT SEQUOIA GROVES AT HIGHEST RISK FROM WILDFIRE



These groves have not burned from wildfire since 2015 so are expected to have the highest fuel loads and therefore need priority treatment.

Map produced by Save the Redwoods League May 2022 using ESRI software

The most at-risk giant sequoia groves that urgently need treatment before the 2023 fire season, according to an initial League analysis of groves that haven't burned since 2015. Ongoing research will likely change this map slightly. All the groves will need treatment in the next five years.

GOAL: TREAT 2,000 ACRES IN THE MOST AT-RISK GROVES BEFORE THE 2023 WILDFIRE SEASON

Saving the sequoias

The priority now must be to reduce the unnatural buildup of vegetation in the groves using the following methods:

- Removal by hand crews or using machinery, with subsequent safe burning of vegetation piles.
- Prescribed burning—carefully planned and executed fires managed by experts.

State and federal agencies, as well as tribes, have conducted this type of management for years, but not nearly at the necessary scale. Where it has been used, it has worked spectacularly.

As fire ravaged other sequoia groves in 2021, the beloved Giant Forest in Sequoia National Park and Trail of 100 Giants in Giant Sequoia National Monument survived with little damage to the trees because of fuels management and prescribed burning.

Funding

It is estimated that fighting wildfire costs more than 30 times as much as preventative land care and prescribed burning. The estimated cost to fight the 2020 SQF Complex (Shotgun and Castle) fire is \$144 million alone.

These are the funding steps needed to save giant sequoias:

1. Appropriate \$500 million over five years to treat at least 60,000 acres of the most vulnerable giant sequoia groves and provide treated buffer zones around them.
2. Allocate funds from the Federal Infrastructure Investment and Jobs Act for reducing wildfire risk in the wildland-urban interface and for ecosystem restoration targeting grove treatments in appropriate areas.
3. Allocate funding toward reforestation of fire-damaged groves to avoid type conversion to shrubland.

4. Support the California Blueprint, which proposes \$2.7 billion over several years to bolster “critical wildfire resilience programs to increase the pace and scale of forest health activities and decrease fire risk,” and target some of this funding specifically for giant sequoia grove resilience treatments.

All hands on deck

As a society, we simply cannot allow the loss of 5-15% of giant sequoias every year. At that rate, the natural range of these spectacular giants will be gone in our lifetime. This emergency calls for a united response.

To prevent the loss of the world's spectacular remaining giant sequoias, we urge giant sequoia land managers, elected officials, and policymakers to take action on funding, personnel, policy changes, and fuels reduction now.



Crews reduce fuels at a property next to Calaveras Big Trees State Park.

Personnel and resources

Treating so many groves in such a short time will require a huge number of personnel and a high degree of coordination. Crews must be ready to deploy when those conditions are favorable. Lining up these resources requires the following:

1. Living wages for the federal workforce.
2. Full time, year-round federal fire and restoration crews. Build a pipeline of employees and train this workforce.
3. Funding to develop and support the tribal workforce.
4. Support for nonprofits and private entities to engage in forest restoration efforts.

A future for the giant sequoias

The protection of California’s giant sequoias is at the heart of the American conservation movement. During the Civil War, President Abraham Lincoln signed The Yosemite Valley Grant Act, transferring federal lands in Yosemite Valley and nearby Mariposa Big Tree Grove to the State of California, “upon the express condition that the premises shall be held for public use, resort, and recreation, and shall be inalienable for all time.”

Amidst the challenges of his time, Lincoln took action to secure the giant sequoias for future generations. That same opportunity is in the hands of giant sequoia land managers, elected officials, and policymakers right now.

Policy and permitting

To save the giant sequoias, a consensus on policies and permitting is needed among giant sequoia land management agencies. Agreement is also needed on the following actions for useful application of permitting processes to ensure that work can be completed in time:

- Expedite projects by supporting designation of an Emergency Action as defined in the federal Infrastructure and Jobs Act that allows USDA Forest Service projects to move quickly by expediting environmental review under the National Environmental Policy Act (NEPA) and other statutes. Employ Categorical Exclusion designations (for compliance with NEPA) and programmatic Biological Assessments (for Endangered Species Act compliance), where appropriate for groves on federal lands to speed up administrative approvals.
- Return stewardship roles to tribes, which have managed land for thousands of years.
- Promote Prescribed Burn Associations, which help private landowners obtain skilled crews to conduct burning on their lands. Enhance the flexibility for existing contractors to conduct prescribed burn activities.
- Approve wider burn windows and more flexibility from the California Air Resources Board and local air districts so that more prescribed burns are allowed when conditions are safe.



Photo by Aflo Co. Ltd./Alamy Stock Photo

Yosemite National Park and its Mariposa Grove of Giant Sequoias were protected for future generations by President Abraham Lincoln during the Civil War. Today, giant sequoia land managers, elected officials, and policymakers have the chance to protect the world’s remaining giant sequoias in their native range.



Photo by Anthony Castañeros

A crew conducts prescribed burning in 2019 to reduce fuels next to Calaveras Big Trees State Park. Treating the most vulnerable giant sequoia groves before the 2023 wildfire season will require a huge number of personnel.

The survival of old-growth giant sequoias depends on help from giant sequoia land managers, elected officials, and policymakers now.

Save the Redwoods League

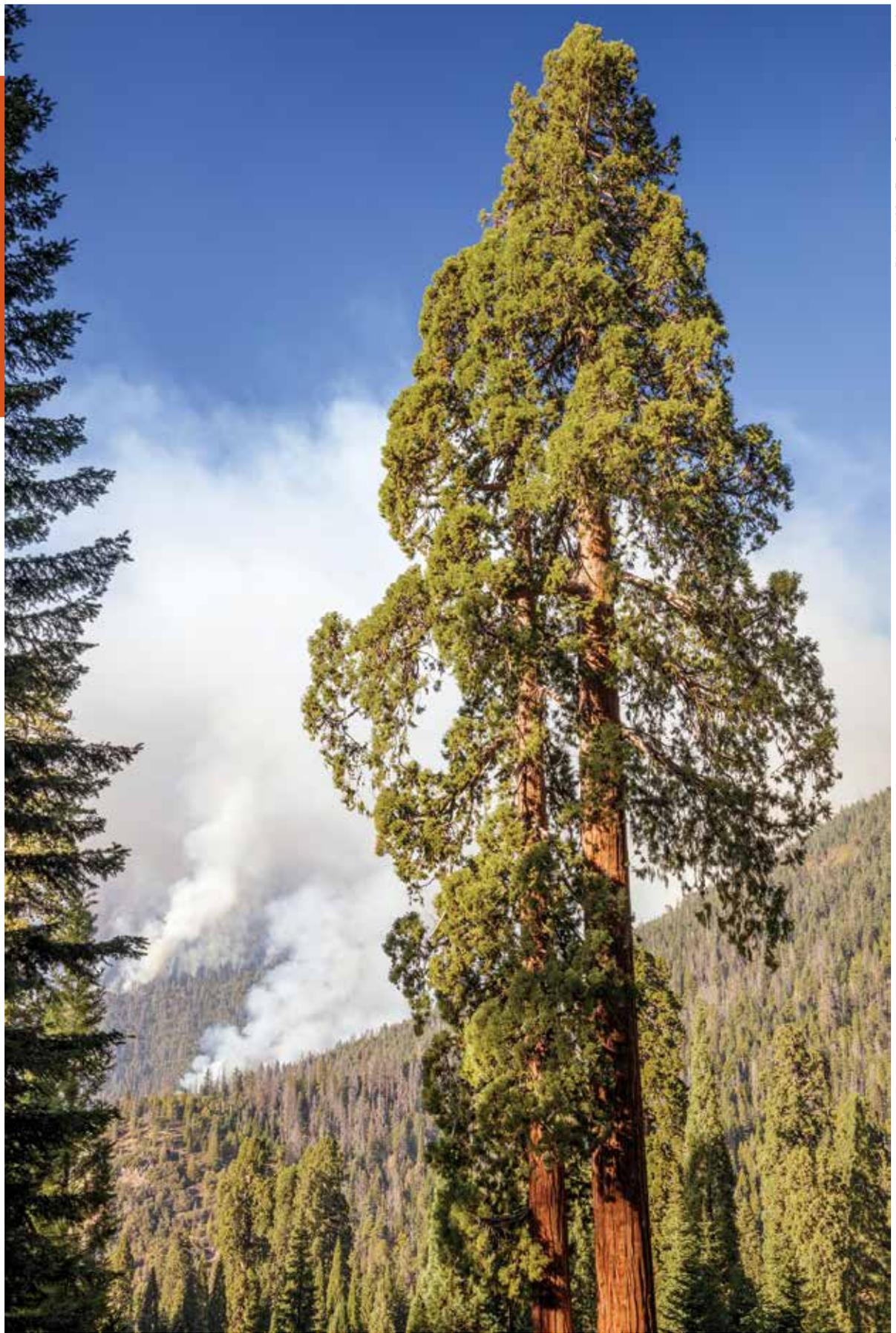
Save the Redwoods League is one of the nation's longest-running conservation organizations, and it has been protecting and restoring redwood forests since 1918. The League has connected generations of visitors with the beauty and serenity of the redwood forests. The nonprofit's 29,000 members have enabled the organization to protect more than 216,000 acres of irreplaceable forests in 66 state, national, and local parks and reserves. For information, please visit [SaveTheRedwoods.org](https://www.savetheredwoods.org).



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Giant sequoias face down a 2020 wildfire in California's Sierra Nevada. Since 2015, severe wildfire in these mountains has killed 20% of all the world's mature giant sequoias.