
SENATE COMMITTEE ON NATURAL RESOURCES AND WATER

Senator Dave Min, Chair
2023 - 2024 Regular

Bill No: AB 57 **Hearing Date:** June 27, 2023
Author: Kalra
Version: June 20, 2023 Amended
Urgency: No **Fiscal:** Yes
Consultant: Catherine Baxter

Subject: California Pocket Forest Initiative

BACKGROUND AND EXISTING LAW

Existing law:

- 1) Establishes the Department of Forestry and Fire Protection (CalFire) in the California Natural Resources Agency (CNRA) under the control of the director. *Public Resources Code (PRC) §701.*
- 2) Establishes the California Urban Forestry Act of 1978, which:
 - a) Defines “urban forest” as those native or introduced trees and related vegetation in the urban and near-urban areas, including urban watersheds, soils and related habitats, street trees, park trees, residential trees, natural riparian habitats, and trees on other private and public properties.
 - b) Directs CalFire to implement a program in urban forestry for multiple purposes, including to reduce greenhouse gas emissions, mitigate the public health impacts of poor air and water quality, mitigate the urban heat island effect, improve stormwater capture, and address a lack of green space and urban parks.
 - c) Authorizes the CalFire director to make grants to provide assistance of 25 - 90 percent of the costs for urban forestry projects (known as the Urban and Community Forestry Program). Eligible activities and projects under the grant program include:
 - i) Tree planting projects.
 - ii) Demonstration projects, as specified.
 - iii) Urban forest management and improved urban forest maintenance, as specified.
 - iv) Provision of seedling and tree stock.
 - v) Development of urban tree plans, as specified, and urban forest master plans or similar plans designed to provide comprehensive urban forest protection, maintenance, and management.
 - vi) Development of training and educational materials, as specified.
 - vii) Planning and technical assistance for eligible applicants assisting disadvantaged communities. *PRC §§4799.06 et seq.*

Background

- 1) *CalFire's Urban and Community Forestry Program.* This program seeks to optimize the benefits of urban trees and related vegetation through multiple objective projects. CalFire has seven regional urban foresters throughout the state to provide expert urban forestry support to communities, nonprofit groups, and municipal governments to create and maintain sustainable urban forests. These specialists also administer and provide technical support for grants that are offered for activities such as tree planting, municipal tree inventories and management plans, urban forest educational efforts, and innovative urban forestry projects.

This program primarily has been funded with bond funds and the Greenhouse Gas Reduction Fund. It also utilizes federal funds and has occasionally used General Fund money. According to CalFire, local communities have planted more than 80,000 trees through this program since 2015, primarily in disadvantaged communities. The program also works with CalFire's Fire Prevention Program to advocate for fire-safe landscaping for homeowners and communities.

- 2) *Recent urban forestry plans and strategies.* The *2018 California Forest Carbon Plan*, adopted under Governor Brown, proposes to protect and enhance the carbon sequestration potential of urban forests while producing other benefits by protecting and expanding the existing tree canopy. Specifically, the plan establishes a goal to increase urban tree canopy statewide 10 percent above 2018 levels by 2030, prioritizing investments in disadvantaged and low-income communities. The plan also seeks to protect the existing tree canopy through policies and programs targeting ongoing maintenance and utilization of industry best management practices.

The *2021 California's Wildfire and Forest Resilience Action Plan*, prepared by Governor Newsom's Wildfire and Forest Resilience Task Force, establishes similar goals and priorities. Further, the Urban and Community Forestry Program's *2019-2024 Strategic Plan* commits to prioritizing underserved communities with limited tree canopy, championing effective management, and establishing or enhancing key performance measures for the health and management of urban forests, among other goals, objectives, and strategies.

- 3) *Miyawaki method.* Doctor Akira Miyawaki, botanist and professor, invented the method in 1980. From his perspective, contemporary forests in Japan created according to then-prevalent forestry principles were neither the most resilient nor the best suited for conditions in Japan. Leaning on the concept of "potential natural vegetation," or what would naturally occur in an area without human intervention, he developed, tested, and refined a method of ecological engineering known today as the "Miyawaki method" to restore native forests on degraded soils and deforested lands.

The Miyawaki method uses species of trees and plants that would occur naturally in an area, and that, when planted together, create a diverse, multi-layered forest community. First, the project proponent analyzes the site to determine the appropriate native vegetation and the condition of the soil. The project proponent then seeks to improve the soil in order to recover the topsoil to a depth of 20-30 centimeters (approximately 8-12 inches) by mixing it with a compost from locally available organic materials, like fallen leaves. The proponent then selects 50 to 100

local tree and plant species and plants the seedlings very densely – 20,000 to 30,000 per hectare as opposed to 1,000 per hectare in commercial forestry – in a random fashion to try to resemble what would be found in nature.

For a period of two to three years, the site is monitored, watered, and weeded to give the nascent forest a chance to establish itself. During this early period, the plantings compete for space and access to light, water, and nutrients, a battle that encourages rapid growth, potentially 10 times faster than other techniques. After the initial period, the forest is left to grow on its own without interference.

There has been particular focus on planting Miyawaki forests in urban environments as there are significant benefits to tree planting in towns and cities, and this method maximizes the space available. Specifically, the minimum space needed to plant this type of forest is 10ft.x13ft.

PROPOSED LAW

This bill would establish the California Pocket Forest Initiative in CalFire until January 1, 2031. Further, this bill would:

- 1) Authorize CalFire to coordinate implementation of the initiative in conjunction with the California Urban Forestry Act of 1978.
- 2) Direct CalFire to partner with one or more academic institutions to test the applicability and effectiveness of the Miyawaki method to restore degraded lands and reforest urban areas in multiple regions throughout California.
- 3) Authorize CalFire to offer grants to cities, counties, districts, nonprofit organizations, the California Conservation Corps or certified community corps, public universities, public community colleges, and public schools to establish pocket forests on public lands to test and demonstrate the applicability and effectiveness of the Miyawaki method in California.
 - a) Require CalFire to prioritize disadvantaged communities and communities that lack publicly-accessible green space for these demonstration grants.
 - b) Authorize, for public school grantees, the grant to include funding to develop and offer grade-appropriate urban forestry and ecology curriculum.
- 4) Require, on or before January 1, 2030, CalFire to submit a report to the Legislature that evaluates the applicability and effectiveness of the Miyawaki method to restore degraded lands and reforest urban areas in multiple regions throughout California.
 - a) Require the report to assess the costs and benefits of the Miyawaki method, discuss appropriate species for different regions of the state, and make recommendations for any modifications to the method that may be appropriate for its use in California.
 - b) Authorize CalFire to contract with academic institutions to prepare the report, which shall be subject to the peer review process.
- 5) Define terms, including “Miyawaki method” and “pocket forest.”

- 6) Make a series of findings and declarations, including that pocket forests can benefit society in a number of specified ways and that it is in the state's interest to promote the creation of pocket forests.

ARGUMENTS IN SUPPORT

According to the author, "The environmental, societal, and health benefits of natural green spaces are numerous and well-documented. Unfortunately, urban communities often lose out on these benefits. While many install street trees and low-biodiversity parks, they often struggle to facilitate larger, more biodiverse forestry projects. This is especially true for low-income and otherwise disadvantaged communities.

Small, high biodiversity pocket forests overcome these challenges by providing an impactful forestry solution designed specifically for the urban landscape. By establishing the California Pocket Forest Initiative, AB 57 will make grants for pocket forest creation readily available to urban Californians. In turn, it will also serve as a much-needed beacon for the equitable, community-orientated environmentalist movement."

ARGUMENTS IN OPPOSITION

None received.

COMMENTS

Looks familiar? This bill is substantially similar to AB 2114 (Kalra, 2022), which was held on the suspense file in the Senate Appropriations Committee. This Committee passed AB 2114 7-1 on June 6, 2022. The main differences between this bill and AB 2114 are that this bill:

- Authorizes, but does not require, CalFire to coordinate implementation of the initiative in conjunction with the California Urban Forestry Act of 1978.
- Removes the language, "upon appropriation of funds by the Legislature for the purposes of this section" from CalFire's authority to offer demonstration grants under the program.
- Expands the entities eligible for the demonstration grants to include the California Conservation Corps or certified community corps, public universities, and public community colleges.
- Extends all dates by one year.
- Updates findings.

If the bill moves forward, the Senate Appropriations Committee may wish to consider the value of removing or re-adding the "upon appropriation" language back into the bill.

Miyawaki method in California. Research has shown there are many benefits to planting a Miyawaki forest. The forest can reach maturity in as little as 20 to 30 years, instead of over the course of hundreds of years. Further, studies have shown that these forests can attract hundreds of different species of insects, birds, and other animals, making these forests micro-hot spots for biodiversity in urban areas that would otherwise have very little biodiversity. Similar to other urban forests, research also has shown that Miyawaki forests can mitigate extreme heat, reduce air pollution, and act as carbon sinks.

However, the Miyawaki method generally has been tested and applied in countries characterized by cold-temperate and tropical climatic regimes, like the Far East,

Malaysia, and South America, on sites characterized by high precipitation. While the results have been very impressive in these places, allowing rapid restoration of significantly degraded areas, this method has rarely been tested or used in Mediterranean-type climates, like California's, with flashy, highly variable precipitation from year to year, and warm to hot summers.

Staff has not found any academic studies investigating the outcomes and benefits of the Miyawaki method in California, but found one study from 2011 on the effectiveness of this method in Sardinia, Italy, a country with a Mediterranean climate. That study, which conducted assessments two years and 11 years after planting, found promising results, including fairly rapid restoration of areas using the Miyawaki method, particularly with some modifications to the method in response to local conditions. For example, the study used tillage to improve soil water storage over the winter and reduce water stress during the summer.

Staff also found four examples of communities planting Miyawaki forests in California, including:

- *Alameda County.* In 2021, students at three elementary schools in the city of Berkeley planted 3,300 saplings in three super-dense forests on small pockets of their schoolyards.
- *Los Angeles County.* The Hancock Park Garden Club partnered with the Los Angeles Parks Foundation to plant a Miyawaki forest in Griffith Park in summer 2021.
- *Orange County.* Beginning in 2010, the Yokohama Tire Company's Forever Forest initiative planted 3,900 trees in Fullerton on the grounds of what was then their headquarters. The status of this forest today is unclear.
- *San Luis Obispo County.* Chamisal Vineyards planted a Miyawaki forest next to the vineyard's wine grapes in spring 2021, planting 45 species of native oak trees from the area, as well as small and large native shrubs. This forest is 2,000 ft², and has a total of 500 plants.

With the exception of the Orange County example listed above, it is premature to assess the outcomes or benefits of these projects as they were all planted in the last few years. A minimum timeline is likely at least a decade – and ideally longer – to assess how these dense, micro-forests evolve over time. Also, staff could not find any details on the project in Orange County, which, if still active after 10 years, would likely have some useful data and information.

Ultimately, however, without any studies on the applicability of the Miyawaki method in California, it is difficult to assess the value of adding this method to the state's urban forestry toolkit and mandating its use in a new program. This is particularly relevant as parts of the method may be at odds with the needs of California's forested ecosystems. For example, the method requires dense planting of trees, shrubs, and plants. However, overly dense forests in this state have created unhealthy conditions leading to forest health and catastrophic wildfire crises that have been compounded by climate change, drought, and pests.

Further, California's vegetation has evolved to burn at various intervals, depending on the ecosystem. The Miyawaki method requires no management after the first few years.

In a California context, these forests could eventually pose a fire hazard to communities, unless some action was taken to maintain these forests and reduce or manage that risk.

This bill addresses these issues by:

- Directing CalFire to partner with one or more academic institutions to test the applicability and effectiveness of the Miyawaki method in multiple regions throughout California.
- Authorizing CalFire to offer demonstration grants to establish pocket forests to test and demonstrate the applicability and effectiveness of the Miyawaki method in California.
- Requiring CalFire to prepare and submit a peer-reviewed report to the Legislature that evaluates the applicability and effectiveness of the Miyawaki method to restore degraded lands and reforest urban areas in multiple regions throughout California.
- Makes the initiative a pilot to allow for Legislative review after the report has been submitted.

Previous legislation

AB 2114 (Karla) was substantial similar to this bill. *This bill was held in the Senate Appropriations Committee on the suspense file.*

SUPPORT

California Institute for Biodiversity
(sponsor)
A Plus Tree, LLC
A Voice for Choice Advocacy
Acterra: Action for a Healthy Planet
Active San Gabriel Valley
Associated Students of UC San Diego,
Triton Lobby Corps
Bay Area Youth Lobbying Initiative
Breathe California of the Bay Area,
Golden Gate, and Central Coast
California Environmental Voters
California Native Plant Society, Yerba
Buena Chapter
California Urban Forests Council
Californians for Western Wilderness
City of Rancho Cucamonga
Climate Action California
Climate Reality Project, Los Angeles
Chapter
Climate Reality Project, San Fernando
Valley Chapter
County of Santa Clara
Defenders of Wildlife
Democrats of Rossmoor
Elders Climate Action, NorCal Chapter
Elders Climate Action, SoCal Chapter

Forests Forever
Friends of Ballona Wetlands
Golden Gate Audubon Society
Green New Deal at UC San Diego
Green Pocket Forests
Jonas Philanthropies Trees for Climate
Health
Living Classroom
Midpeninsula Regional Open Space
District
One Tree Planted
Overseas Volunteers for a Better India
Resource Renewal Institute
Roseville Urban Forest Foundation
Save the Bay
Sierra Club California
Silicon Valley Youth Climate Action
Small Steps Foundation
Social Compassion in Legislation
Solano County Democratic Central
Committee
Sonoma Biochar Initiative
Sonoma Ecology Center
Southern California Association of
Governments
Sunrise Silicon Valley
Sustainable Claremont
Sustainable Mill Valley

Sustainable Rossmoor
The Watershed Nursery
Trees for Climate Health
Tuolumne River Trust
YMCA of San Francisco

Hundreds of individuals

OPPOSITION
None received

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