

**New Initiative:
An Urgent Quest for Discovery**



Our Mission: Save the Redwoods
League protects and restores redwood
forests and connects people with their
peace and beauty so these wonders of
the natural world flourish.

FEATURES

- 04 Protection:**
An Urgent Quest for Discovery
- 09 Community:**
**Continuing a Tradition of
Transformation**
- 10 Conservation:**
**High-Priority Projects Need
Your Support**
- 12 Research:**
**Expanding Knowledge of Redwood
Ecosystems**
- 13 5 Ways You Can Help Save Redwoods**
- 14 Onto the Trail**

Cover image: Melting snow blankets the Congress Trail in Sequoia National Park, providing some of the thousands of gallons of water giant sequoias require daily to thrive. See page 4 to learn about a Save the Redwoods League initiative to help these giants survive rapid climate change. Photo: Matthew Lee High, Flickr Creative Commons

Left image: A giant sequoia adds a towering column of red to a wintry landscape in Sequoia National Park.



Dear Save the Redwoods League Friends,

For millennia, redwoods have adapted to changing climates, surviving ice ages and times of warming alike. Once dominant across the northern hemisphere, today these ancient beings are confined to small fragments of their former range, protected in fragile parks and reserves.

Since 1918, our members have protected these giants from the saw. Now we must help them survive an unprecedented time of rapid climate change. In return, redwoods help us by storing great quantities of carbon dioxide, thereby helping to reduce the effects of global warming.

To better understand redwoods' ability to store carbon, and to protect them for current and future generations, we are launching the Redwoods and Climate Change Initiative. Philanthropist Ken Fisher is generously matching gifts made to this project. You may read about this pioneering Initiative on page 4, and meet Ken on page 9.

Meanwhile, thanks to our members, we continue to protect redwood forestland and connecting landscapes. Learn about our latest successes on pages 10 and 11.

On another front, we have launched an additional effort to protect redwoods in California State Parks. Please voice your support of the measure slated for the November ballot to create a stable, adequate fund for the chronically underfunded parks—visit [SaveTheRedwoods.org/voice](https://www.savetheredwoods.org/voice), or call (818) 760-2121. You may support this effort even if you live outside of California.

As they have in the past, the redwoods face challenges, but none that we cannot help them meet with your support.

A handwritten signature in brown ink, reading "Ruskin K. Hartley". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Ruskin K. Hartley Executive Director



Protection

An Urgent Quest for Discovery

A new Save the Redwoods League Initiative will help us understand how we can protect redwoods from rapid climate change and how these giants can help protect us.



The enigmatic redwoods have captured the curiosity of four elite scientists, driving some to study them for decades on their own or as intermittent collaborators. Now, these scientists are working together to continue the 92 years of work by Save the Redwoods League to protect these great trees. But this time, the scientists and the League are racing to reduce a new threat to redwoods unlike any in the trees' millions of years of existence—rapid, human-induced climate change.

The convergence of unprecedented rates of global warming with other disturbances paints an

unsettling picture for the future of the redwood forest. New, comprehensive, integrated research is needed to find solutions to climate change-related threats such as shifts in rainfall, snow and fog; higher temperatures; air pollution; the frequency and intensity of fire; plant and animal migration; and the introduction of invasive species.

“Although much discussion has occurred about policies regarding climate change, little research on redwoods and climate change actually exists,” said Todd Dawson, PhD, one of the Initiative’s scientists. Dawson is

Professor Stephen C. Sillett, PhD, studies the redwood canopy. He is among four scientists researching in the League’s Initiative to help redwoods survive rapid climate change.

Professor and Director of the Center for Stable Isotope Biogeochemistry at the University of California, Berkeley.

“The environmental changes these trees are facing are outside their realm of experience,” Dawson said. “We simply must accelerate the rate of learning so we can give these giant trees the best chance of survival.”

To meet the pressing need for research on how redwoods can survive sweeping

environmental changes, the League and redwoods scientists from UC Berkeley and Humboldt State University have launched the multiyear Redwoods and Climate Change Initiative. The team's goal is to create a comprehensive climate adaptation strategy for the

Initiative scientist and UC Berkeley colleague. The two—with collaborators Steve Sillett and George Koch—studied the inner workings of three giant sequoias near Kings Canyon National Park, where rising temperatures are melting the snow pack earlier in the

and the public. “We’ve got to get the word out—to help keep these forests alive for our grandchildren and great-grandchildren. That’s what this is all about.”

A Comprehensive Study

The key to the success of the Redwoods and Climate Change Initiative lies in its fully integrated and comprehensive nature, utilizing field-based research of redwood plots combined with greenhouse experiments on young redwoods. During the first three years, Initiative team members will install and monitor 13 research plots that span the ranges of the coast redwood and giant sequoia.

In each plot, tree and forest structure will be mapped, and growth patterns and physiological responses to environmental changes will be studied, along with leaf and wood traits that influence redwoods’ response to their environment. During these landscape studies, the scientists will monitor

“This team of scientists is truly the world-class group that can deliver the data that will not only change forest climate research in Pacific North America, but throughout the globe.”

— Jerry Franklin, Co-Chair, Redwoods and Climate Change Initiative

redwoods. Their findings will help focus League efforts on where to protect and restore redwood forestland according to climate change forecasts.

Dawson has already completed six studies at least partly funded by the League, exploring everything from how redwoods absorb and store carbon, to his 2008–9 project with Anthony Ambrose, PhD, another

year, leaving less water for vegetation in the summer.

Like other Initiative scientists, Dawson’s connection to the redwoods is personal. His family took him to see the redwoods as a child. Dawson was dazzled, even then: “When you are little, you look up and you just can’t believe how big those trees are.” Now he’s scaling the same heights to find answers for science, policymakers

Get Involved

We can create a world where our children and theirs can walk among giant redwoods. Ken Fisher, Co-Chair of the Redwoods and Climate Change Initiative, made a generous offer to match every gift made to this project, for a total of \$500,000 (see Fisher’s profile on page 9). Double the impact of your gift to this project by donating today. Call (888) 836-0005, or visit SaveTheRedwoods.org/climate_change to learn more and donate through our secure Web site. Be sure to tell a friend!



Photo: Julie Martin



Scientists of the League's Redwoods and Climate Change Initiative, from left: Steve Sillett, Anthony Ambrose, Todd Dawson and Bob Van Pelt.

the heights of the tallest living coast redwoods (350 feet and higher), because treetops may be most responsive to environmental change.

Another Initiative scientist is Professor Stephen C. Sillett, PhD, the Kenneth L. Fisher Chair in Redwood Forest Ecology and a founding member of the new Institute for Redwood Ecology at Humboldt State University (HSU). The recipient of five previous League research grants, Sillett, with his students, changed the way science looked at redwood forests when they began climbing the trees and discovering crowns supporting a rich community of life.

These tree crowns have long held Sillett's attention. At age 19, the athletic Sillett climbed 300 feet to the top of his first redwood in Prairie Creek Redwoods State Park. His desire to determine how redwoods function over millennia fuels his interest in these massive organisms.

As part of the Initiative, Sillett aims to better understand how fast redwood trees grow, approach maximum size and achieve the high degree of structural complexity that promotes biological diversity in the forest canopy. More research is needed to quantify redwoods' ability to produce massive quantities of decay-resistant wood and to assess the species' potential to mitigate climate

change. Ultimately, research findings will help improve management of redwood forests to sequester carbon and sustainably provide wood products, wildlife habitat, clean water and forests for people to enjoy. The Initiative will help us understand how we can protect redwoods from climate change and how they can help protect us. Sillett's HSU colleague, Adjunct Professor Robert Van Pelt, PhD, also is focusing his work on the Initiative.

"I'm very excited about the new Institute for Redwood Ecology and the Redwoods and Climate Change Initiative," Van Pelt said. "My work with Professor Sillett began in the mid-1990s, when we realized



Photo: Peter Buranzon

From top: Giacomo Renzullo and Jim C. Spickler assist with Initiative research in Big Basin Redwoods State Park.

we had a common interest in how structural complexity develops in old trees and forests. Since then, we have expanded our research to include many other collaborators and have made great strides in understanding above-ground, whole-tree growth and physiology.”

Van Pelt authored four books on giant trees and old-growth forests, along with a multiyear study on old-growth forests in the state of Washington that dramatically changed the conservation of forests at the state level.

Seeing Climate Change Possibilities

The Initiative also integrates the work of scientist Healy Hamilton, PhD, Director of the Center for Biodiversity Research at the California Academy of Sciences. Field-based data from the Initiative will help inform her climate-change models predicting where redwoods will grow in “optimistic” and “pessimistic” climate-change scenarios.

“We know that species are already responding to the relatively small amount of climate change

we’ve experienced so far,” Hamilton said, “so there is no doubt that species are on the move. The question is, ‘... where will they be in 50 or 100 years, and how can we help them adapt?’”

Possible ways the Initiative findings could help redwoods adapt include informing a strategy to protect cooler habitats so the trees will have a place to grow if their current range becomes too warm. The findings also will help guide economic incentives for sustainable logging practices. One such practice is saving larger trees because they store the most carbon. Another expected solution is more sophisticated water and buffer management in the forecasted redwood range, in partnership with redwood landowners.

These insights promise to provide an approach and proven techniques that can be used to save other forested areas worldwide so that future generations can experience the wonder of giant trees. 🌲

The California Academy of Sciences contributed to this article.

Initiative Partners: University of California, Berkeley; Humboldt State University; California Academy of Sciences; Kruse Imaging; National Park Service; California State Parks; US Forest Service

Community

Continuing a Tradition of Transformation

As philanthropist and big tree enthusiast Ken Fisher sees it, Save the Redwoods League has a history of initiating transformation, a process that's a priority in his life. That is why he has helped to continue this League tradition in big ways. Most recently, Fisher generously offered to match—up to \$500,000—every gift made to the new Redwoods and Climate Change Initiative.

Fisher, founder of Fisher Investments, is Co-Chair of the Initiative's Task Force and an expert on 19th-century logging. He said the League has been a pioneer since its establishment in 1918.

"There would be many fewer giant trees if it weren't for the League," Fisher said. "The League was there at the right time before there was a voice for protecting any of these trees in a massive way."

This history of saving the redwoods from the insatiable



Photo: Peter Buranzon

Philanthropist Ken Fisher is Co-Chair of the Redwoods and Climate Change Initiative Task Force. Read more about this Initiative on page 4.

demand for their lumber drew Fisher to the League.

"I attempt in life to engage as much as possible in transformational activities—activities that fundamentally change something so things are never quite the same as they were before that activity," he explained.

The Redwoods and Climate Change Initiative will be a turning point for redwood science and for forests throughout the world, Fisher said, because it will provide

much-needed research on how the trees can survive sweeping environmental changes.

"There is a direct relationship between the depth of our understanding of climate change's past, present and predicted effect on these trees, and our ability to create future solutions for their survival."

— Ken Fisher

Connect with the League Online

Check out our new free redwoods education materials for grades K–12 at Education.SaveTheRedwoods.org/kit. Plan your trip to the redwoods using our new interactive map at SaveTheRedwoods.org/maps. Share your redwoods memories and opinions at Forum.SaveTheRedwoods.org. Join us on Facebook, Twitter, YouTube, and Flickr: Visit SaveTheRedwoods.org/community.

Conservation

Protected, Thanks to Our Members

1 HUMBOLDT REDWOODS STATE PARK — 51 ACRES

Save the Redwoods League acquired two parcels valued at \$805,000 and transferred them to the park. Five of the 51 acres buffer an old-growth redwood forest and increase protection for the Eel River watershed. The other 46 acres buffer the park's Bolling Grove, an old-growth redwood stand that the League protected in 1921. Initial protection of Bolling Grove led to the park's establishment.

2 MONTGOMERY WOODS STATE NATURAL RESERVE — 201 ACRES

The League donated \$960,000 to the Bureau of Land Management (BLM) for the purchase of parcels along the South Fork of the Big River. These parcels protect the watershed and buffer the old-growth redwood forest in Montgomery Woods State Natural Reserve. The BLM will manage the land in cooperation with California State Parks.

3 LAKE SONOMA — 40 ACRES

The League acquired this \$145,000 acreage adjacent to Lake Sonoma Recreation Area, which is managed by the US Army Corps of Engineers. This parcel contains an older redwood forest stand, some of which is estimated to be 200 years old. We are working to donate the property to the Corps for addition to the Recreation Area.

4 LOS PADRES — 80 ACRES

The League acquired this \$2.2 million Big Sur coast property featuring old-growth redwood forest, stunning ocean views and abundant wildlife in a remote canyon surrounded by Los Padres National Forest. To return the land to a natural state, we paid for restoration, including the removal of cabins. The property will be transferred to the National Forest this year.

5 JENNER HEADLANDS — 5,630 ACRES

Working with the Sonoma Land Trust, we helped protect this spectacular tract along the Sonoma Coast, which includes redwood forest and rare coastal prairies.

High-Priority Projects Need Your Support

Help Us Save These Redwood Forestlands

Save the Redwoods League is working to purchase these parcels of redwood forestland in urgent need of protection according to our science-based Master Plan. We need your help — we cannot save these redwoods without your support.

Please visit our secure donation page, SaveTheRedwoods.org/RedwoodLandFund, or send your gift in the attached envelope.

6 STEWARTS POINT — 871 ACRES

Why It's a Priority to Save

Rich with redwood, Bishop pine and Douglas-fir forests, this property features abundant wildlife, stunning coastal bluffs and salmon habitat. Our partner, Pacific Forest Trust (PFT), is to restore some of the property and manage other portions as a working forest. The League is under contract to acquire the property in July 2010 for eventual transfer to PFT.

7 FOREST OF NISENE MARKS STATE PARK — 0.5 ACRE

Why It's a Priority to Save

This \$300,000 inholding is one of the last privately owned areas surrounded by Forest of Nisene Marks State Park, home to second-growth redwoods regenerating the area that was clear cut from 1883 to 1923. The park is popular among equestrians, bicyclists and hikers.



Research

Expanding Knowledge of Redwood Ecosystems

Photo: Marie Antoine



Researchers inspect a fire cavity in a giant sequoia.

Save the Redwoods League plans to award by March 2010 the following research grants totaling more than \$92,000. These grants advance general understanding of redwoods, their environments and their related communities of organisms. This research will help determine what the trees need to thrive and how damaged forests may be restored. Thanks to our members, the League's research grants program has provided these annual grants to a variety of scientists since 1997.

- Clonal Patterns and Resource Sharing in Coast Redwoods, Kevin L. O'Hara, University of California, Berkeley
- Determining Shade Tolerance in a Rare, Redwood-Associated Manzanita (Part 2), V. Thomas Parker, San Francisco State University
- Investigation of Foliar Fungal Endophytes of Sequoia Sempervirens, Todd Dawson, University of California, Berkeley
- Limits to Understory Plant Survival at the Southern End of the Redwood Forest Ecosystem, Jarmila Pittermann, University of California, Santa Cruz
- Patterns of Giant Sequoia Regeneration in Groves Exposed to Wildfire and Selective Thinning in the Southern Sierra Nevada, Marc D. Meyer, USDA
- Forest Service, Pacific Southwest Region
- Performance and Morphology of Sequoiadendron Genotypes Outside Their Range: A Proxy for Climate Change, John-Pascal Berrill, Humboldt State University Sponsored Programs Foundation
- Redwood Forests, Fire and Sudden Oak Death: Impacts of a Non-Native Pathogen on Fire Ecology, Scott Stephens, University of California, Berkeley
- Relative Species Abundance of Small Mammal Communities in Old Growth Coastal Redwood Forests, Gregory A. Giusti, University of California Cooperative Extension of Lake County

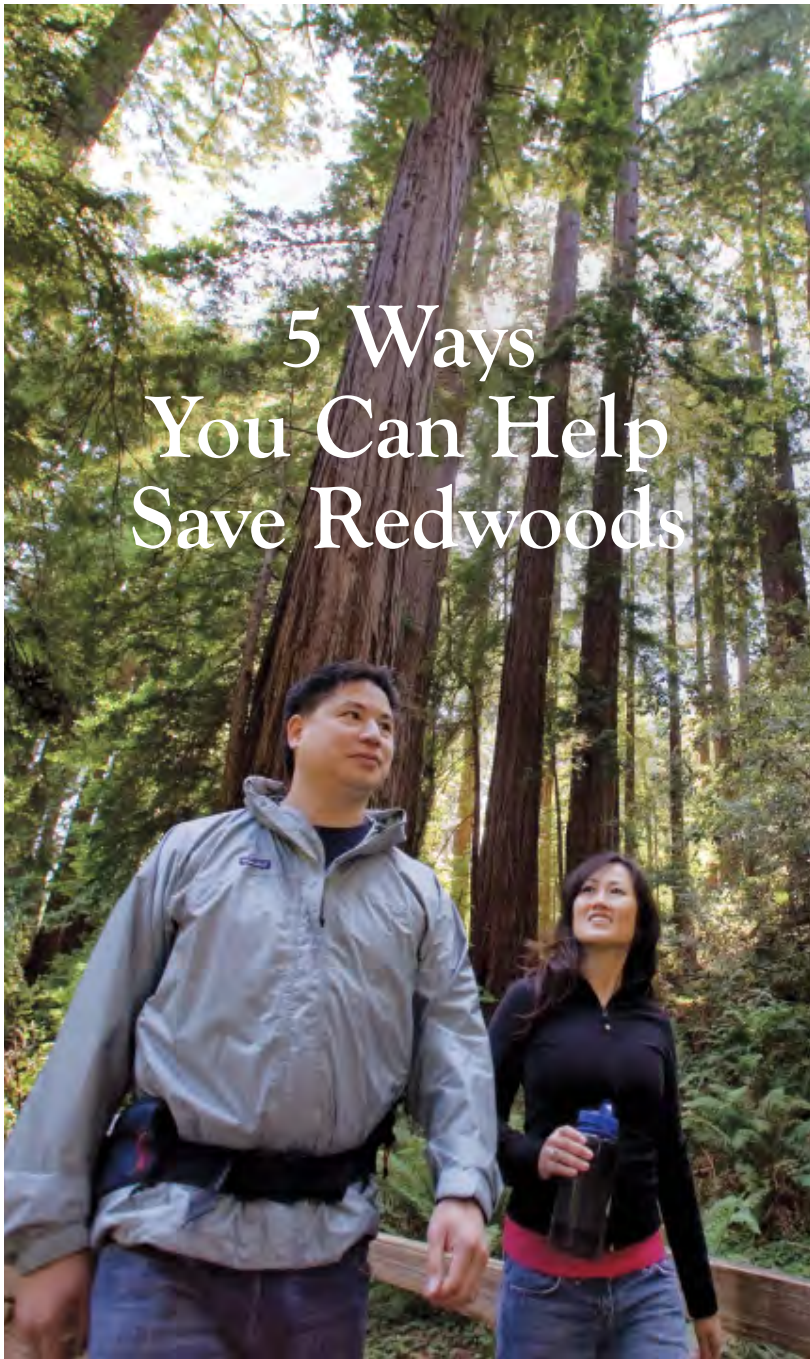


Photo: Paolo Vescia

5 Ways You Can Help Save Redwoods

DONATE

to Save the Redwoods League.

PLAN

an estate gift for Save the Redwoods League.

TALK

to your friends about the League's work.

VISIT

the redwood forest with friends and family.

SUPPORT

the new plan to save California State Parks.

**To learn more, visit
SaveTheRedwoods.org/help,
or call us at
(888) 836-0005.**

Help the Redwoods, Get a Tax Break

You and the redwoods can benefit from a charitable gift annuity — you receive income that has some tax advantages, and the redwoods receive the principal balance upon your passing. Contact Sharon Rabichow at (888) 836-0005 or srabichow@SaveTheRedwoods.org.

Support Redwoods with Your Will, Retirement Account or Life Insurance Policy

It's easy to leave assets in your will or trust to support the redwoods. Did you know there are even easier ways to accomplish this through your retirement account or life insurance policy? Contact Sharon Rabichow at (888) 836-0005 or srabichow@SaveTheRedwoods.org for information on how to name the League as a beneficiary or contingent beneficiary.



Onto the Trail

Stout Grove, Jedediah Smith Redwoods State Park

“My favorite redwoods memory is of connecting with Jed Smith’s ancient redwoods by playing the kithara (an ancient harp) among them.”

—Francis, member since 2005



Photo: Byron Hetrick



Save The Redwoods

L E A G U E®

114 Sansome St Suite 1200
San Francisco CA 94104
SaveTheRedwoods.org

NONPROFIT ORG.
U.S. POSTAGE
PAID
SAVE THE
REDWOODS LEAGUE

NAME
ADDRESS
CITY, STATE ZIP+4



Mixed Sources
Product group from well-managed
forests, controlled sources and
recycled wood or fiber
www.fsc.org Cert no. SC-COC-001047
© 1996 Forest Stewardship Council

Printed on paper containing 30 percent post-consumer recycled fiber. Paper also is certified by the Forest Stewardship Council, which promotes environmentally appropriate, socially beneficial and economically viable management of the world's forests.



New Redwoods Art Contest for Kids

Visit SaveTheRedwoods.org/ArtContest after March 18, 2010, for information!