

THE
CONSERVATION FUND

2022
ANNUAL
REVIEW

**NORTH COAST FOREST
CONSERVATION
INITIATIVE**

Caspar Index

Named after our North Coast hometown, this is a customized index with important forest health and economic indicators we measure and track. Past North Coast annual reviews are available at: www.conservationfund.org/projects/north-coast-forest-conservation-initiative/north-coast-reference-documents.

	2020	2021	2022
Water Quality			
Big River Forest lowest summer stream temperature (mean weekly average temperature)	59 (Lower Two Log Creek)	58 (Lower Two Log Creek)	57 (Upper Two Log Creek)
Big River Forest highest summer stream temperature (mean weekly average temperature)	69 (Mainstream Big River at eastern property line)	68 (Mainstream Big River at eastern property line)	68 (Mainstream Big River at eastern property line)
Forest Economics			
Estimated local economic contribution (employment, contractors, purchases)	\$3.5 million	\$3.3 million	\$4.3 million
Volume of logs removed (gross board feet)	3,758,790	3,280,490	5,004,970
Number of log truckloads to mill	620	670	1,095
Verified forest carbon offsets	359,253	349,623	Verification in progress
Miles driven by an average passenger car* that are equal to above forest carbon offsets	891,739,794	867,836,155	Verification in progress
Community Outreach			
Number of participants in the Pedestrian and Equestrian Stewardship Access Program on Salmon Creek, Big River	10	15	10
Public tours	0 (postponed due to COVID-19)	2	3
Northern Spotted Owl Conservation			
Northern spotted owl activity centers	29	29	29
Northern spotted owls successfully fledged	1 - Garcia	1 - Garcia 1 - Big River 1 - Salmon Creek	2 - Garcia 1 - Salmon Creek
Forest acres set aside for northern spotted owl habitat	2,900	2,900	2,900
Coho Salmon and Steelhead Trout Conservation			
Approximate cubic yards of sediment saved through road improvement projects	6,072	2,086	295
California Department of Fish and Wildlife salmonid spawner survey reaches sampled	6	6	5
Numbers of logs added to streams to improve salmonid habitat	0	0	102 in Buckeye Creek

*The EPA's Greenhouse Gas Equivalencies Calculator, used to convert the verified metric tons of carbon dioxide equivalent to number of miles driven by an average car, can be found at www.epa.gov/energy/greenhouse-gas-equivalencies-calculator.

PROJECT BACKGROUND

At The Conservation Fund, we know that well-managed forests can be both economically viable and ecologically sustainable. On California's North Coast, we continue to refine and demonstrate our pioneering approach to forest conservation, including environmental restoration, sustainable timber harvests, sale of carbon offsets and support of the local timber economy.

Since 2004, with the help of our public and private partners, we have protected more than 120,000 acres of forestland as part of our North Coast Forest Conservation Initiative. Of these protected forests, we own and manage more than 74,000 acres in Mendocino and Sonoma counties. Our goal is to prove that large, understocked tracts of coastal forest can be returned to ecological and economic viability through patient, adaptive management by a nonprofit organization, in partnership with private and public entities and community stakeholders.

We invite you to learn more about the major accomplishments, challenges and activities of our program in 2022. Our success depends on the strong support of a diverse set of partners — donors, neighbors, local businesses, government agencies and conservation groups. None of this would be possible without you. Thank you for your interest and continued support.

HABITAT RESTORATION



Left: ©Chris McCafferty
Right: ©Comg

HIGH PRIORITY STRATEGIES for salmon habitat restoration are focused both instream and across our more than 500 miles of road infrastructure to reduce the amount of sediment that ends up in the waterways. Road maintenance is critical for reducing road born sediment and maintaining access for other restoration projects, as well as botanical and northern spotted owl surveys.

Through the timber harvest plan process, we upgraded 11.5 miles of road in the forests, with 295 cubic yards of sediment savings. Erosion control and prevention work (storm-proofing) applied on a watershed scale is the first and perhaps most important step when restoring watersheds and their anadromous fish populations where sediment is a limiting factor to fisheries production.

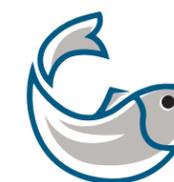


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In 2022, we implemented the **Buckeye Creek Instream Habitat Enhancement Project**, installing 37 unique structures containing 102 pieces of large woody debris. The total project reach was 1.23 miles. For this project, we identified instream structure locations where large wood could be placed in configurations that have the highest and greatest benefit to salmonid habitat. Nearly all project structures are intended to collect and retain naturally occurring instream wood as it moves downstream, thereby creating more complex woody accumulations that provide refuge for both juvenile and adult salmonids. This project utilized the 'Accelerated Recruitment' methodology, a cost-effective approach that has shown to be successful in improving fish habitat throughout numerous coastal Mendocino and Sonoma county streams.

Trout Unlimited received funding for Phase I of the Big River Salmonid Rearing Habitat and Large Wood Enhancement Project on The Conservation Fund's Big River Forest. The goal of the project is to restore salmonid habitat complexity in a 3-mile reach of the mainstem of Big River, by installing moderate to large-scale engineered log jam structures. These structures will be used to create habitat diversity and complexity for coho salmon, steelhead trout and Chinook salmon to improve both summer and winter rearing conditions. Phase I will identify areas where habitat is lacking and design the engineered log jams. Phase II will include the implementation of the engineered log jams.

Another important element of habitat restoration is the enrichment planting of seedlings. In 2022, we planted 600 redwood seedlings on 6 acres in the Garcia River Forest. These seedlings were specifically cultivated for high elevation sites and were planted following a timber harvest to provide a new age-class of trees within the forest, creating a complex multi-age and diverse stand structure for the long-term health of the forest.



FOUR FACTS about the Coho Salmon (*Oncorhynchus kisutch*)

Commonly called silver salmon, coho have dark metallic blue or greenish backs with silver sides and a light belly.

Adult coho salmon usually weigh 8-12 pounds and are 24-30 inches long.

Coho salmon are found throughout the North Pacific Ocean and in most coastal streams and rivers from Alaska to central California.

Coho salmon are anadromous — they hatch in freshwater streams, spend a year in streams and rivers, then migrate out to an ocean saltwater environment to feed and grow.

TIMBER HARVESTS



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THE TOTAL VOLUME OF sustainably harvested trees in 2021 was 3,280,490 gross board feet from Big River and Garcia River Forests. This is slightly below our Allowable Annual Cut (the annual amount of timber that can be harvested on a sustainable basis within a defined forest area), as determined in our management plans and Sustained Yield Plan. All redwood and Douglas fir logs were harvested by local logging companies and sold to sawmills in Mendocino and Sonoma counties. Our forest conservation would not be possible without a healthy forest industry. We thank the local sawmills, logging contractors and resource professionals who help make our program and the forests successful.



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DID YOU KNOW?

A recent report from the U.S. Bureau of Labor Statistics found that foresters believe they have the happiest and most meaningful work of any major industry.

Source: U.S. Bureau of Labor Statistics' American Time Use Survey

FOREST CERTIFICATION



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AS THEY HAVE EVERY FALL since 2007, third-party verifiers completed a field audit of the North Coast Forest Conservation Initiative to the Forest Stewardship Council® (FSC®-C001535) and Sustainable Forestry Initiative® (SFI®) standards. This project and our other working forests throughout the country were in overall conformance with the standards in 2022, receiving no corrective action requests. These are two of the most strict and comprehensive standards for forest management. We actively participate in the California SFI Implementation Committee and welcome comments and questions regarding our forest certification.

Full audit reports are available on our website: www.conservationfund.org/projects/north-coast-forest-conservation-initiative/north-coast-reference-documents



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DID YOU KNOW?

Fog-drip from the canopy is an important source of moisture during times of low rainfall and may be a key factor for certain trees to persist through the summer drought.

Source: onearth.org

CLIMATE ACTION



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FOREST CONSERVATION IS A critical tool in the fight against climate change, and redwood forests store more carbon per acre than any other forest type. Before we purchased the North Coast forests, they were at risk of conversion or continued over harvesting. Our goal has always been to sustainably manage and restore the forests. The emergence of a market for carbon credits stimulated by California's 2006 Global Warming Solutions Act allowed us to purchase additional lands, reduce harvest levels and accelerate the pace of watershed restoration. Our North Coast forest carbon projects comply with California Air Resources Board (CARB) forest offset protocols and are verified to ensure that the carbon offsets are real, verifiable, additional, enforceable and permanent.



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DID YOU KNOW?
In the United States alone, forests remove 10% to 15% of our annual greenhouse gas emissions.

Source: iucn.org

PUBLIC ACCESS PROGRAM



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THE CONSERVATION FUND provides pedestrian and bicycle access in the Big River and Salmon Creek Forests, and equestrian access in the Salmon Creek Forest. These programs were launched in 2007 to provide outdoor recreation, cultivate stewardship and increase surveillance on the forests. Participants sign a permit to hike or ride for free on logging roads in the forests. In Big River Forest, we provide local community members access to cut firewood for home use. Since 2012, we have allowed limited permit-based hunting in the Garcia River Forest to local residents.

In addition, multiple tours of all our forests to review timber harvests and restoration projects are offered throughout the year. We are currently evaluating the potential for providing expanded public access to Buckeye Forest. Please contact hnewberger@conservationfund.org to sign up for any of these public access opportunities.



DID YOU KNOW?
The Japanese concept of shinrin-yoku, or forest bathing, has been shown to provide both psychological and physiological health benefits.

Source: nih.gov

Spotlight

How can we measure forests' photo synthesis?

Future efforts to 'firmly establish California's forest as a more resilient and reliable long-term carbon sink' (California Forest Carbon Plan 2018) rely on objective and accessible quantifications of carbon sequestration and storage across the state. Forest health and growth depends on each tree's ability to photosynthesize — the process by which plants use sunlight to synthesize nutrients from carbon dioxide and water. A healthy forest grows faster (having a higher photosynthetic rate) than an unhealthy one, which may be combating insects, disease or drought. Higher growth rates lead to more carbon being stored long-term within the trees, effectively removing harmful carbon emissions from the atmosphere and helping to mitigate climate change.

The CARbon Dynamics Investigator for California (CARDI-C) project has established a diverse research team, including University of California, Davis; the NASA Jet Propulsion Laboratory; forest conservation non-profits like The Conservation Fund; and tribal communities like the Yurok Tribe. Two members of the CARDI-C team — Lily Klinek, Ph.D. student in Ecology at UC Davis, and Jessie Au, postdoctoral scholar at the UC Davis Department of Plant Sciences — have been conducting field measurements of redwood photosynthesis at Big River Forest and Garcia River Forest. Coastal redwood forests are the most productive ecosystems in California, storing the highest amount of carbon per unit area.

Every two weeks, they go into the field and use computers and portable lab equipment to measure redwood photosynthesis at the leaf level, along with environmental conditions such as temperature and humidity. They will combine these field measurements with computer-based, large-scale models and satellite remote sensing data to help answer essential questions about the California carbon cycle, including where, when, and to what extent forests in California will remove and store carbon from the atmosphere in the future.

In particular, the measurements in the redwoods will help assess and calibrate remote sensing estimates of carbon sequestration in redwood forests. In addition, the CARDI-C project will investigate the environmental drivers in carbon uptake using information on weather conditions to predict how the carbon cycle of California's forests will change in the future. When completed, the model outputs and forest carbon maps will be made publicly available through an open-source web platform, enabling land managers to evaluate current management strategies and understand how forest carbon storage might change in the future.



WELCOME

We welcome Forester Jonathan (JJ) Brunner to the North Coast team! JJ worked with consulting forestry company Blencowe Watershed Management for six years, gaining applicable experience including drafting timber harvest documents, cruising timber, supervising logging jobs and performing northern spotted owl surveys.

Acknowledgments

PROJECT PARTNERS & FINANCIAL SUPPORTERS

- | | | | |
|--|--|---|--|
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<i>Security</i> |
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The Conservation Fund's North Coast Staff

- | | | | |
|---|------------------------------------|--|---------------------------------------|
| Jonathan Brunner
Forester | Scott Kelly
Timberland Manager | Joaquin Quintana
Registered Professional Forester | Blake Tallman
Forester |
| Lauren Fety
Forest and Climate Project Manager | Holly Newberger
Program Manager | Evan Smith
Senior Vice President, Conservation Ventures | JaCodie Thompson
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| Lynsey Kelly
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Please see our website for more information on the North Coast Forest Conservation Initiative: [conservationfund.org](https://www.conservationfund.org).

Detailed monitoring reports are also available by topic from our office in Caspar, CA:

Attention: **Holly Newberger, North Coast Program Manager**

14951A Caspar Road | Caspar, CA 95420

707-962-0712 | hnewberger@conservationfund.org

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