

THE FOREST RESILIENCE BOND

ANNUAL IMPACT REPORT 2019



CONTENTS

- 01 Letter from the Management Team
- 03 Introduction & Forest Resilience Bond Overview
- 05 Impact Measurement & Management
- 09 2019 Impact: The Yuba Project
- 13 The Development Team
- 15 Our Partners
- 21 Looking Ahead
- 23 Acknowledgements

To Our Blue Forest Community

This is not the letter we expected to write. As the new decade began, we reflected on our journey as an entrepreneurial start-up with enthusiasm: we were proud of what we had accomplished and filled with hope for the future. But more recently, we've all started looking ahead to a future shaped by COVID-19. While we don't know how this virus will unfold across our country and globe, we do know we remain committed to the health and well-being of our team, our partners, and our community. We also want to assure our partners, funders, stakeholders, and investors that we remain committed to and capable of continuing our mission of "financial innovation for sustainable solutions" and continuing to develop the pipeline of FRB projects. And with those commitments, we will move forward together.

While there is more uncertainty in the world around us, our foundation is firm: we formalized Blue Forest's Mission, Vision, and Values in 2019. The process of defining these core ideas was less one of invention, and more one of archeology - an unearthing of the principles that already form the ethos of our culture. Our values -- **Respect. Include. Collaborate. Innovate. Empower. Grow.** -- are woven throughout this report, and will continue to define our actions through this crisis and the years to come.

2019 was a year of momentum-building. We saw the National Forest Foundation complete the first field season of restoration work in the Yuba FRB pilot project on the Tahoe National Forest. Despite a weather-shortened work season, the local ground crews completed more work than initially planned. New institutional investors expressed interest for future larger FRB investment opportunities. The U.S. Department of Agriculture, Forest Service is thrilled to see the FRB finance critical priorities on the Tahoe National Forest and is actively promoting the FRB to regional and forest-level staff throughout the Western U.S. New funders displayed their vote of confidence in Blue Forest with every dollar granted, which has already allowed us to add staff capacity in 2020 to build upon that momentum with the more than a dozen national forests that have entered our FRB project pipeline. None of this would have been possible without you - our partners and supporters. This first FRB Impact Report is as much a report for and about you, our partners, as it is about Blue Forest. It encapsulates what we have collectively achieved through our work together in 2019 and paints a vision of where we're going - at a responsible 6 feet of social distancing - and we hope it makes you proud.

In the midst of Blue Forest's organizational accomplishments, we are saddened by the state of forests globally; in 2019, over 250,000 acres of our home state of California burned, while wildfires destroyed over 46 million acres of habitat and communities in Australia. Though wildfire is part of a




natural cycle and can be ecologically beneficial, the massive scale of wildfires we increasingly see is neither natural nor inevitable. **The multilayered tragedy of these wildfires highlights the importance of proactively reducing wildfire risk instead of waiting until it's too late.** In addition to reducing wildfire risk, forest restoration work is critical for the ecological functioning of our watersheds, the reliability of our infrastructure, and the health of our communities. Knowing the risks if we as a society fail, and recognizing the importance of scaling wildfire risk reduction solutions, we have and continue to plan thoughtfully for 2020 and beyond. In 2020 we will continue bringing future FRB projects together and unveiling a number of new partnerships - all in an effort to support ecosystem and community resilience. Through all this, we are confident that our mission to drive financial innovation for sustainable solutions will continue to be important for the years and decades ahead.

Sincerely,

The Blue Forest Team,


Zach Knight
Chief Executive Officer


Nick Wobbrock, P.E.
Chief Operating Officer


Phil Saksa
Chief Scientist

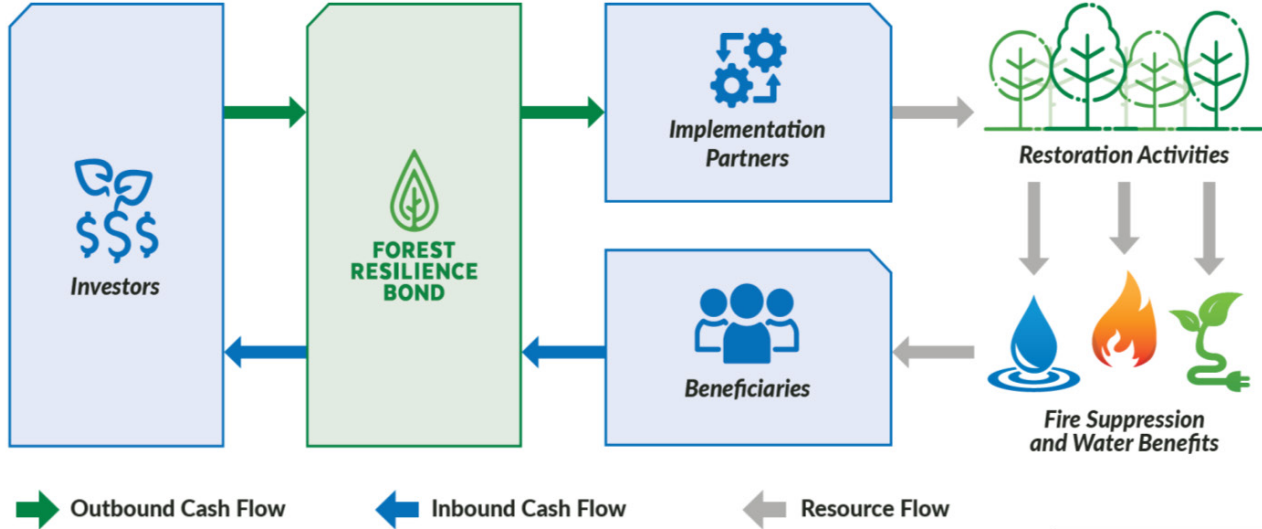
About the 2019 Impact Report

The Forest Resilience Bond 2019 Impact Report for Blue Forest Conservation tracks the environmental, economic, and social impacts in the local ecosystems and communities where the Forest Resilience Bond (FRB) project was implemented during the reporting year. Our measurement and reporting align with the Sustainable Development Goals, which outline how to achieve a better, brighter, more sustainable future for people and the planet.

About the Forest Resilience Bond

The Forest Resilience Bond (FRB) seeks to overcome the funding gap for forest restoration, not through increases in public or philanthropic sources, but by allowing private capital to play a role in supporting public land management. With billions of private capital earmarked for conservation finance opportunities but undeployed due to a lack of investable projects, conservation-focused investors have not had an opportunity to support these projects often due to lack of viability in project cash flows, risk-return profile of the investments, and lack of manager experience.

The FRB is taking the critical steps of bridging the gap between investors and environmental interventions by developing the measurement techniques, innovative contracting schemes, and financial structures that will allow private capital to fund land management, all while ensuring that public land remains public. These management activities have far-reaching benefits beyond mitigating wildfire risk; forest restoration activities can also enhance water supply, increase the reliability of hydropower systems, and protect recreation facilities.



“What we are doing to the forests of the world is but a mirror reflection of what we are doing to ourselves and to one another.”

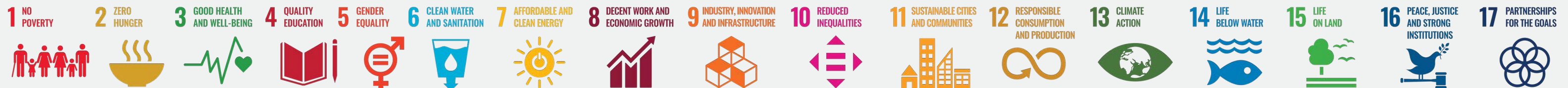
- CHRIS MASER,
Forest Primeval: The Natural History of an Ancient Forest



Measuring Impact

Impact Measurement & Management is the process of first identifying our organization’s desired impacts and then monitoring our progress towards achieving those goals while continually revising our approach to best manage our impact. This is an iterative process; we expect to improve and expand our impact over time. Blue Forest largely defines our impact through Project Outcomes – the environmental, economic, and social effects of project activities in the local ecosystems and communities in which FRB projects are implemented. In order to best highlight the broad, multi-layered impacts of the FRB, we have chosen to align our Project Outcomes impact reporting with the Sustainable Development Goals (SDGs).

The **Sustainable Development Goals** are 17 goals that outline how to achieve a better, brighter, more sustainable future for people and the planet. Announced by the United Nations in 2015 as part of their 2030 Agenda for Sustainable Development, these goals represent a call to action for all countries to end poverty and improve human well-being while tackling climate change and preserving our planet. The 17 goals are therefore an international agenda, by which individual countries can compare their progress and individual organizations can track their contributions towards these universal efforts.





Impact Alignment

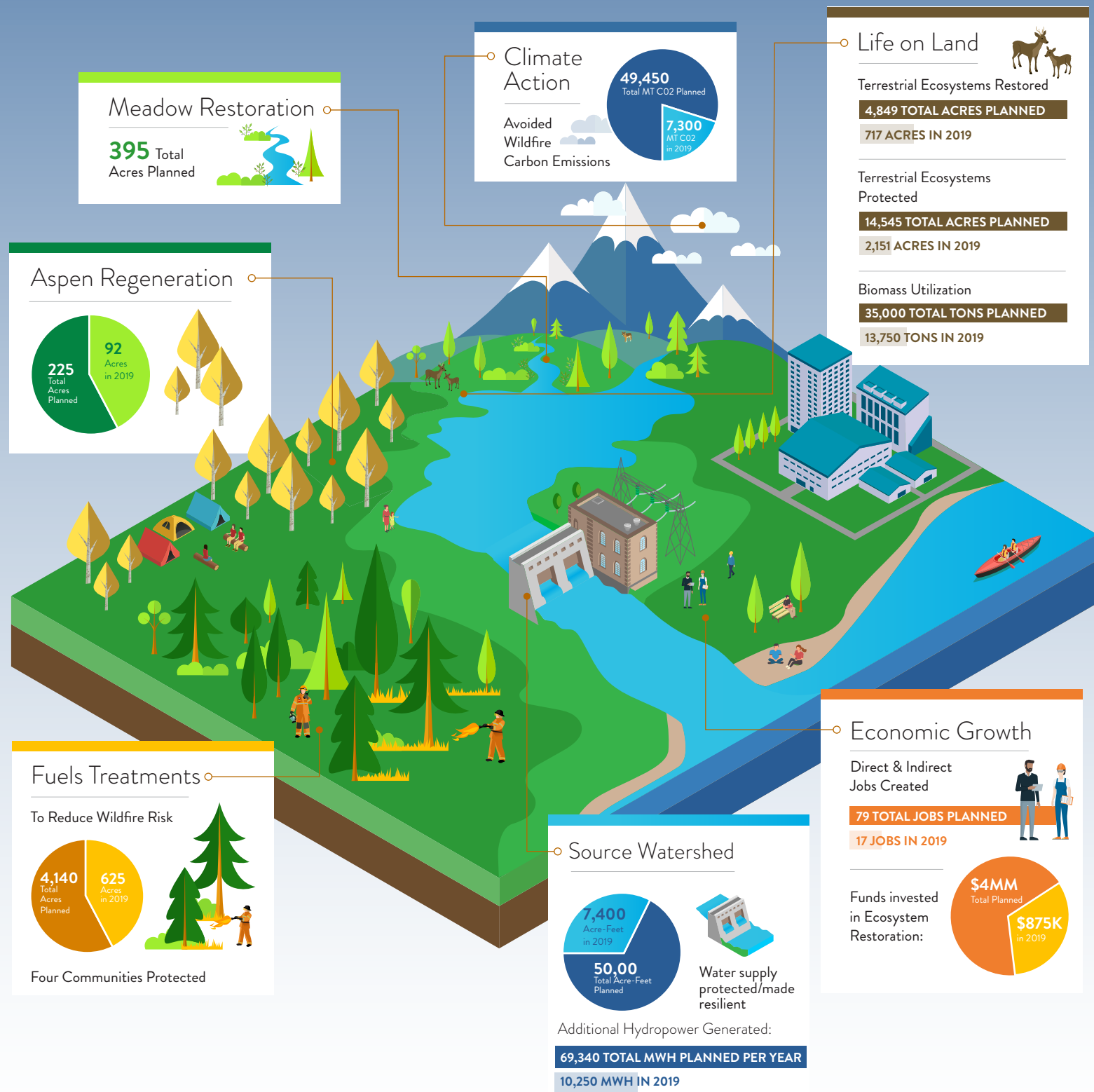
The seven SDG targets indicated below are those relevant to the Forest Resilience Bond, and indicate the ways by which the FRB contributes to social, economic, and environmental goals. By using the SDG framework, we align the impact of the FRB with the impact of those working around the world for a more sustainable future.

- 06 CLEAN WATER & SANITATION**
 - » Protecting water infrastructure and water quality from catastrophic wildfire
 - » Securing additional water supply through forest restoration
- 07 AFFORDABLE & CLEAN ENERGY**
 - » Generating renewable energy from biomass utilization
 - » Augmenting existing hydropower in the watershed
- 08 DECENT WORK & ECONOMIC GROWTH**
 - » Investing funds in ecosystem restoration
 - » Creating jobs in rural communities
- 11 SUSTAINABLE CITIES & COMMUNITIES**
 - » Protecting people & infrastructure by reducing the risk of high severity wildfires
- 13 CLIMATE ACTION**
 - » Stabilizing forest carbon stocks by reducing wildfire risk
 - » Enhancing the carbon sequestration capacity of meadows and restored forests
- 15 LIFE ON LAND**
 - » Restoring forest ecosystems to a more natural density and condition
 - » Protecting sensitive or endangered species
 - » Promoting biodiversity through fortifying and restoring high priority ecosystems
- 17 PARTNERSHIPS FOR THE GOALS**
 - » Partnering with organizations who share our vision to achieve these goals

2019 Project Impact Update

The National Forest Foundation manages implementation of Yuba Project activities, which yield a host of environmental, social and economic benefits. Forest restoration activities, planned by Tahoe National Forest, were initiated in 2019 and are expected to be completed by 2022.

\$875,000 of \$4M Funds Invested In Ecosystem Restoration



Yuba Impact Summary

Blue Forest launched the first FRB pilot project in the Tahoe National Forest's Yuba River Ranger District in November 2018. The \$4 million Yuba FRB finances over 7,000 acres of treatment, including aspen regeneration, prescribed fire implementation, fuels reduction, meadow restoration, and invasive species removal. These activities will protect 15,000 acres of forest from catastrophic wildfire and provide other co-benefits to the ecosystem and local communities.



The **\$4 million** Yuba FRB finances over 7,000 acres of treatment.



7,000+ acres of treatment including aspen regeneration, prescribed fire implementation, fuels reduction, meadow restoration, and invasive species removal.



Protecting **15,000 acres of forest** from catastrophic wildfire and providing other benefits for the ecosystem.

Yuba Project Outcomes

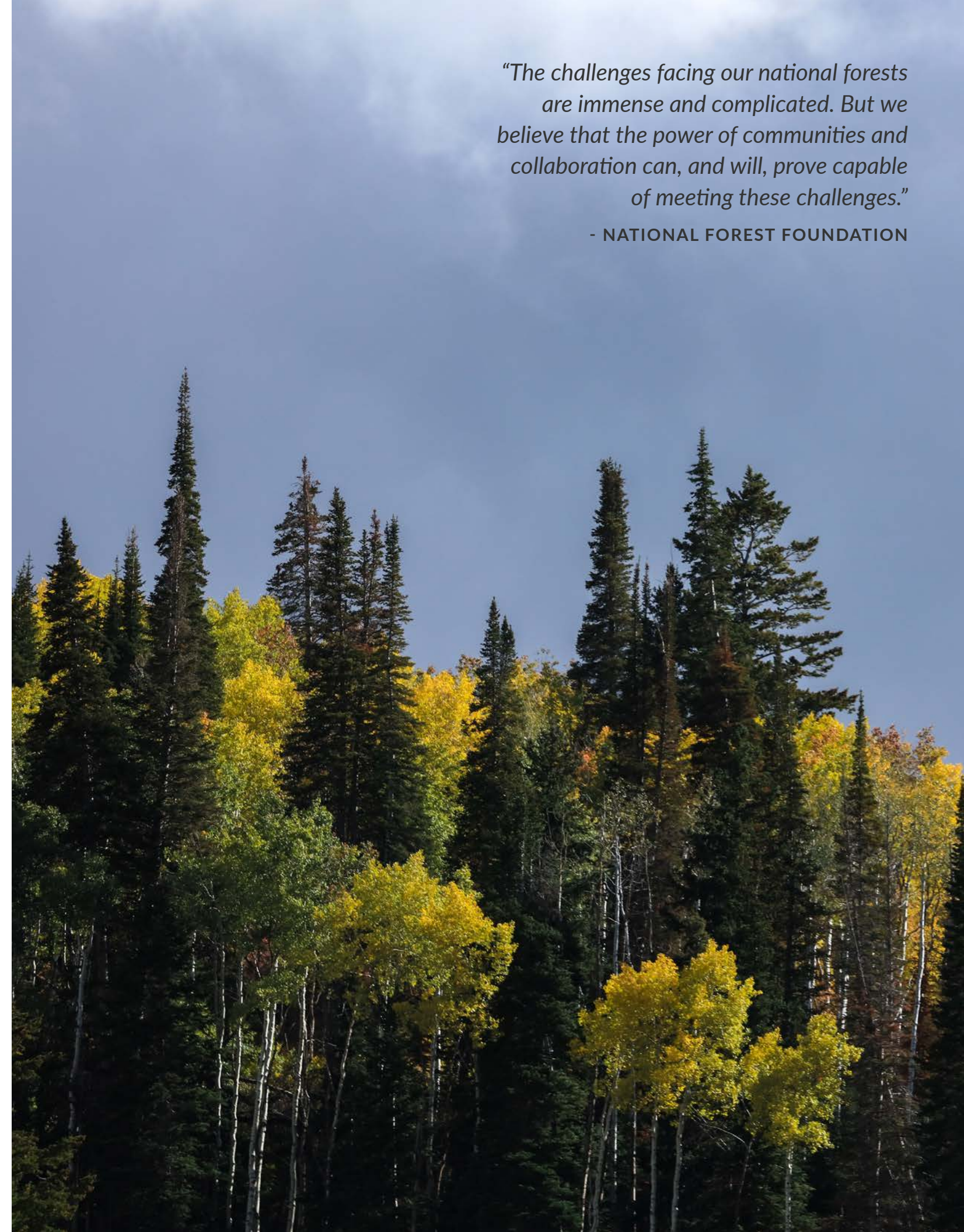
The chart below notes the Project Outcomes achieved under the seven relevant Sustainable Development Goals. These Project Outcomes have a project-wide “Planned Total” that will be achieved upon completion of full FRB activities as well as 2019 metrics that detail progress made over the 2019 work season.

Yuba Impact 2019				
SDG Target	Project Outcome	Unit	Planned Total	2019 Progress
6	Clean Water & Sanitation			
	Water supply protected/made resilient	Acre-feet	50,000	7,400
7	Affordable & Clean Energy			
	Renewable Energy Generated by Biomass Utilization	MWh	15,750	-
	Hydropower Generated	MWh	69,340	10,250
8	Decent Work & Economic Growth			
	Direct & Indirect Jobs Created	#	79	17
	Total Funds Invested in Ecosystem Restoration	\$	\$4,000,000	\$875,000
11	Sustainable Cities & Communities			
	Communities Involved in Resilience Bonds	#	4	4
	Road Work	Miles	5	4
13	Climate Action			
	Thinning to Reduce Wildfire Risk	Acres	1,630	625
	Prescribed Fire to Reduce Wildfire Risk	Acres	2,510	-
	Avoided Wildfire Carbon Emissions	MT CO2e	49,450	7,300
15	Life on Land			
	Terrestrial Ecosystems Restored	Acres	4,849	717
	Terrestrial Ecosystems Protected	Acres	14,545	2,151
	Biomass Utilization	Tons	35,000	13,750
	Aspen Regeneration	Acres	225	92
	Meadow Restoration	Acres	395	-
	Invasive Plant Treatments	Acres	89	-
17	Partnerships for the Goals			
	Formal Blue Forest FRB Partners	#	18	18

*The Planned Total metrics included in this report only represent the work to be completed by the National Forest Foundation (NFF). For this reason, some of the Planned Total acreage numbers will not exactly match the numbers in the Environmental Assessment signed in June of 2018, as Sierra County will be implementing a portion of this project with the support of a grant from the Sierra Nevada Conservancy. To learn more about the methodology used in this report, please email connect@blueforest.org.

“The challenges facing our national forests are immense and complicated. But we believe that the power of communities and collaboration can, and will, prove capable of meeting these challenges.”

- NATIONAL FOREST FOUNDATION





The FRB Development Team

The development team is responsible for fostering collaboration among the many stakeholders and bringing the FRB to market.



Blue Forest Conservation

Blue Forest Conservation (BFC) is a mission-driven non-profit project development firm focused solely on leading the FRB development process. With expertise in hydrology, finance, philanthropy, engineering, forestry, and government, the BFC team coordinates with partners to manage all aspects of FRB development.



Forest Service

The Forest Service is a government agency within the U.S. Department of Agriculture with a mission to “sustain the health, diversity, and productivity of the Nation’s forests and grasslands to meet the needs of present and future generations.” The agency manages 193 million acres of national forests and grasslands across the country, and is a key partner with Blue Forest in developing and implementing FRB projects.



World Resources Institute

The World Resources Institute (WRI) is a global non-profit research organization that seeks to create equity and prosperity through sustainable natural resources management. WRI brings a diverse set of decision-making tools to the FRB that will help support engagement and adoption of the FRB among stakeholders.



Our Partners

RESEARCH PARTNERS

Researchers and academics are crucial to the quantification and valuation of forest restoration benefits over the life of the FRB. Partners include the **Sierra Nevada Research Institute** at the University of California Merced and the Natural Capital Project and Water in the West at Stanford University.



PRO BONO LEGAL PARTNERS

A core element of the FRB is contracting with beneficiaries and other stakeholders. The development team is fortunate to receive pro bono legal support from Orrick, Herrington & Sutcliffe LLP and Brownstein Hyatt Farber Schreck, LLP.



YUBA PROJECT INVESTORS

Our first FRB would not have been possible without the generous and trusting organizations who took an investment risk on a new manager and an innovative structure. Project investors are CSAA Insurance Group, Calvert Impact Capital, the Rockefeller Foundation, and the Gordon and Betty Moore Foundation.



BLUE FOREST FUNDERS

The development of the FRB relies on the generous support of a number of public and private funders including the Rockefeller Foundation, the Gordon and Betty Moore Foundation, Spring Point Partners, ClimateWorks Foundation, J.M. Kaplan Fund, the Weyerhaeuser Family Foundation, and the Bella Vista Foundation. Additional support has been provided by the USDA-NRCS Conservation Innovation Grant program, the USDA Small Business Innovation Research program, and the Healthy Watershed Consortium Grant Program, a partnership that includes the U.S. Environmental Protection Agency, the USDA Natural Resources Conservation Service, and the U.S. Endowment for Forestry and Communities.



YUBA PROJECT PARTNERS

Our first FRB would not have been possible without the generous and brave organizations who took a risk to support and fund this innovative idea. Project partners included Sierra Nevada Conservancy, **Tahoe National Forest**, the California Climate Investment Program, the **Yuba Water Agency**, the **National Forest Foundation**, and the US Endowment for Forestry and Communities.





Yuba Partners Share Their Success

The Yuba Project illustrates the broader impacts of the Forest Resilience Bond (FRB) model, and as Blue Forest and our partners are increasingly realizing, the FRB adds value in a host of other ways. It enhances financial flexibility, forges new and stronger partnerships, reduces the administrative burden of project management for stakeholders, shifts risk away from public agencies and utilities, and incorporates monitoring of ecosystem benefits into project implementation.

Continue reading to meet all Forest Resilience Bond partner organizations and get an insight into the specific ways the FRB benefits their organization.



SIERRA NEVADA RESEARCH INSTITUTE Based at UC - Merced, Roger Bales, Director of the Sierra Nevada Research Institute, expressed his enthusiasm around the practical ways SNRI research is being used in critical ways for the FRB: ***“We are encouraged to see our research around climate resilience, ecosystem services, and water supply security in Sierra Nevada forests being applied to motivate stakeholder investment in watershed health through the Forest Resilience Bond.”***



TAHOE NATIONAL FOREST The Tahoe National Forest spans 850,000 acres of forestland in Northern California’s Sierra Nevada mountains. District Ranger Lon Henderson speaks of the value the FRB brings to the forest: ***“Typically a large project such as Yuba would take an excess of ten years to implement, if it was ever fully implemented. Instead, largely due to Blue Forest Conservation and the Resilience Bond, we have full implementation within three years of NEPA signature! This means a healthier, more resilient forest has been achieved before insects, disease, or wildfire negated our planning and before our communities have been adversely impacted.”***



THE NATIONAL FOREST FOUNDATION The National Forest Foundation is the congressionally chartered non-profit partner of the forest service. Bri Tiffany highlights the cash-flow benefits that the FRB brings to the National Forest Foundation (NFF) the Yuba Project implementation partner and their contractors. ***“The Forest Resilience Bond is a unique financial instrument that has accelerated the pace and scale of forest restoration work in the collaborative Yuba Project. The FRB allows nonprofit organizations like the NFF to have funds on hand, so contractors can immediately be paid for the work they complete.”*** Without the FRB, contractors might have to wait 6+ months to be paid from a state reimbursable grant program.



YUBA WATER AGENCY The Yuba Water Agency, based in Marysville, CA, provides water to eight irrigation districts, serves as a flood control agency, and operates a 400MW hydropower facility supported by a 1,000,000 acre foot reservoir. Willie Whittlesey, YWA General Manager, explains their rationale for supporting the FRB: ***“First, we very likely want to use (the FRB) for a larger project in our watershed – the Yuba Project is 15,000 acres and we want to see something that’s over 200,000 acres - so we want to prove the concept for our watershed. Additionally, we want to be leaders in the Sierra Nevada and show other water agencies that... the Forest Resilience Bond works so they can replicate what we’re doing.”***

Looking Ahead

Beyond the Yuba Project: Paving the Way for Projects at Scale

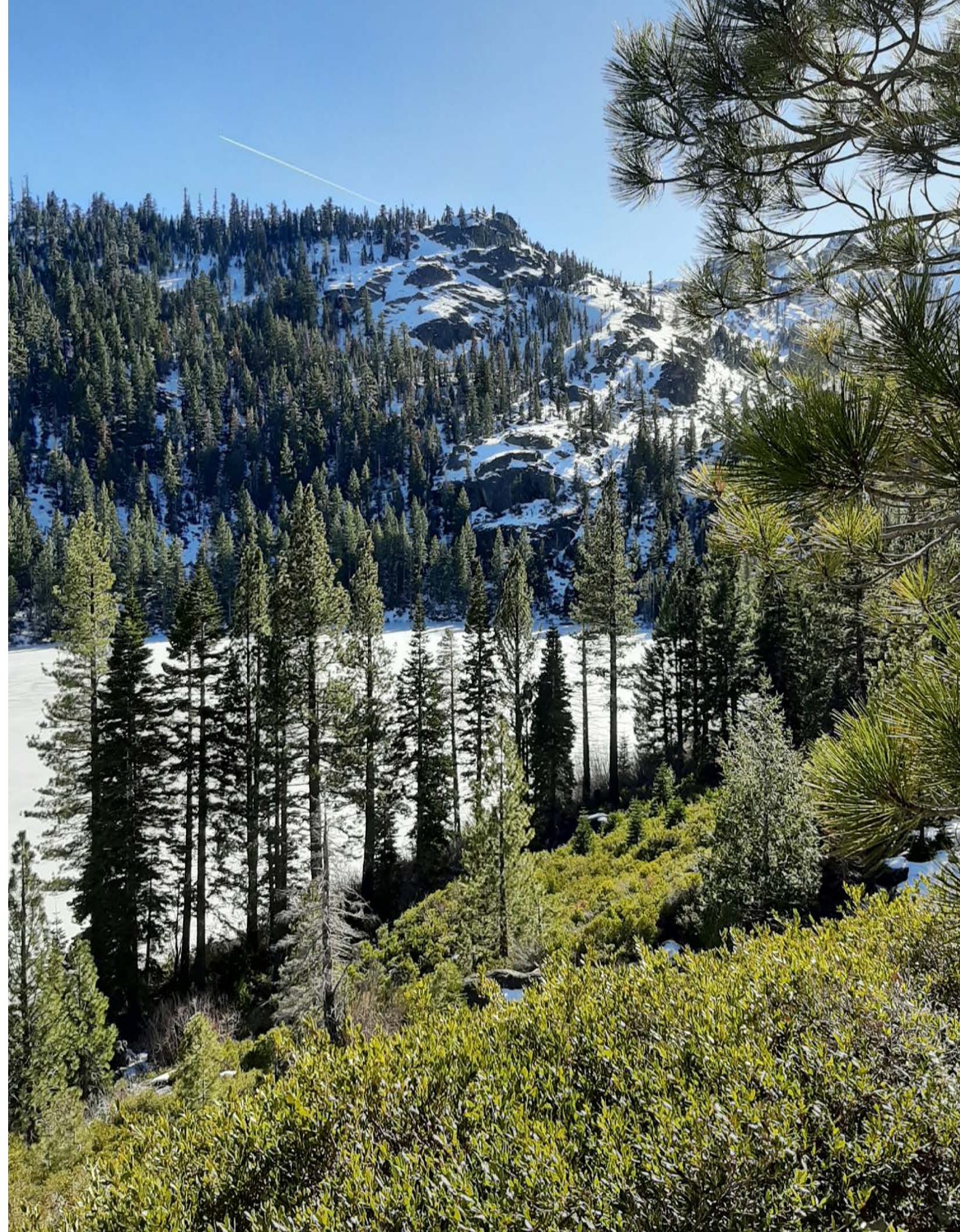
The FRB model applies a two-phase approach: first, a pilot project of roughly \$5m to be followed by a series of large landscape scale projects with >\$10m of financing. This approach allows for partners to become comfortable with the FRB model, leads to long-term stewardship of project areas, and helps forest service goals of shared stewardship while increasing the pace and scale of restoration. As Blue Forest looks to expand the FRB, we are in active conversation with 18+ additional interested national forests across the Western US who would like to launch an FRB, while the success of the Yuba FRB Project has opened up a much larger scale opportunity on the Tahoe.

In 2019, the Nature Conservancy, South Yuba River Citizens League, Yuba Water Agency, National Forest Foundation, Blue Forest Conservation, Tahoe National Forest, Camptonville Community Partnership, Nisenan Tribe, and Sierra County signed a Memorandum of Understanding (MOU) establishing the North Yuba Forest Partnership. In this agreement, the parties agree to work together “to promote ecologically-based, landscape-scale restoration and management of the forests within the North Yuba River watershed, focusing on Tahoe National Forest lands, with principal goals of (1) protecting and restoring forest health and resilience, (2) reducing the risk of high-severity wildfire, and (3) protecting communities from the impacts of high-severity wildfire.”

“The North Yuba, in my mind, is a result of the Yuba Project. We couldn’t have had the kind of collaboration and teamwork efforts that we have had on the North Yuba Project without the FRB and without the Blue Forest team coming to us and initiating this whole concept. The Yuba FRB really is a foundation for future large-scale work in the watershed.”

- WILLIE WHITTLESEY

We are grateful for the many partners who collaborate across disciplines and perspectives to make the Forest Resilience Bond possible.



*Blue Forest Conservation
is a nonprofit organization
committed to creating
sustainable financial solutions
to pressing environmental
challenges.*

Our principal financial product, the Forest Resilience Bond (FRB), deploys private capital to finance forest restoration projects on public lands that reduce the risk of catastrophic wildfire and enhance landscape resilience. Blue Forest brings together public and private stakeholders that benefit from restoration to share the costs of reimbursing investors over time. We launched the first FRB in 2018, providing \$4 million in private capital to finance critical restoration treatments across 15,000 acres of the Tahoe National Forest. Blue Forest developed the FRB in partnership with the World Resources Institute and works closely with the Forest Service and a host of NGO and academic partners that provide research, evaluation, and implementation expertise.

To learn more about Blue Forest:

Visit our [webpage](#) or check out this [video](#) highlighting the Forest Resilience Bond.

For comments, questions, or suggestions on the 2019 Impact Report, send us a note at connect@blueforest.org.


Acknowledgements


The Blue Forest Team would like to thank the following individuals for their support and collaboration in working with us to develop our first impact report.

- Bri Tiffany, Evan Ritzinger, and Matt Millar at the National Forest Foundation
- Sherry Reckler and Jason Ko of Forest Service Region 5 and Nature's Benefits
- Caitlin Rosser and Leigh Pomerantz of Calvert Impact Capital
- Alonzo "Lon" Henderson, District Ranger of the Yuba River Ranger District at Tahoe National Forest
- Eli Ilano, Forest Supervisor at Tahoe National Forest
- Willie Wittlesey, Terri Daly, and Kurt Aiken at the Yuba Water Agency
- Roger Bales and Martha Conklin at UC Merced's Sierra Nevada Research Institute
- Lon Hatamiya of the Hatamiya Group



 facebook.com/blueforestconservation

 twitter.com/BlueForestConsv

 linkedin.com/company/blue-forest-conservation/

*Photo Credits: Unsplash.com, Alex Boesch, BlueForest.org
Impact Measurement, Data Collection, & Evaluation: Abby Gritter, Phil Saksa, Bri Tiffany
Production & Content: Abby Gritter, Jessica Alvarez
Design: Laurelle Creative (laurellecreative.com)*