



American Rivers
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Leveraging Public and Private Investments for Water Infrastructure Projects

Practical Applications for Blended Finance in California

FEBRUARY 2022

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Most conversations about the benefits of bringing private investments to water projects will eventually include the term leveraging. You'll hear that one of the important values that a private finance strategy can bring is the ability to use private dollars to leverage public grants and loans, or vice versa. As with many terms that get tossed around, it's helpful to step back and ask for a more precise definition. This short paper attempts to unpack the art of leveraging and show what we mean when we use that term and how this strategy can create blended portfolios of public and private investments that can support scaling of landscape-level treatments or help unstuck water infrastructure projects.

How does this work in practice:

It's not uncommon for a water infrastructure or watershed restoration project to require multiple grants from state agencies, or a combination of state grants, federal support, and cash inputs from a local water utility. This traditional combination of funding sources is usually necessary because no one source can fully cover project costs or provide funding throughout the lifespan of a project. However, this sequence of grants is more like assembling a "meal train" in which each funder steps in independently to provide funding. The funds aren't used in any way that influences the behavior of other funders or provides access to financing that could benefit the project. In other words, the project implementer isn't **leveraging** one funding source to access others.

When we refer to *leveraging* public and private investments, we're referring to using one source of financial support to open access to additional sources. Another term for this is *blended finance*.

Blended finance isn't a type of investment; rather, the term refers to financing structures that combine public and private sources of investment in ways that exploit the advantages of each. For example, public or philanthropic investors can provide below-market-rate capital to lower the overall cost of borrowing project funding. Another approach relies on public or philanthropic investors to provide credit guarantees that reduce the financial risk for private investors.¹

Water and watershed infrastructure projects in California may use these approaches through a collaborative finance strategy. By assembling a stakeholder group that includes public agencies, philanthropic foundations, and local government, the project implementer can benefit from the relative capabilities of each partner, assembling a portfolio of financial resources that support and enable access to project capital.

Benefits of blended finance

The ability of a blended finance structure to bring affordable, efficient private investment to a water or watershed project has many benefits:

- *Faster project implementation*—funds flow to implementation tasks more quickly and without requiring that the project stakeholder carry costs while waiting for grant reimbursements.
- *Risk reduction and transfer*—funding commitments from philanthropies or public agencies provide some assurance that investors will be repaid. When these initial contributors agree to bear first loss risk, private investors may provide capital at lower interest rates.

"Blended finance entails the use of capital from public or philanthropic sources to de-risk investments to attract the participation of the private sector for sustainable development. According to Convergence, the preeminent organization promoting it, blended finance is an approach to structuring capital that allows organizations with different objectives to invest alongside each other while achieving their own objectives, whether financial return, social and environmental impact, or a blend of both."
[\(Earth Security, 2021\).](#)

¹ See Convergence's [Blended Finance Primer](#).

- *Monetization of benefits/efficiencies* –Blended finance engages multiple investors and payors with overlapping missions or areas of interest. This overlap creates an opportunity to match the project’s benefits to each investor’s interest and capture the economic value of those benefits.
- *Heightened accountability*–Blended finance structures will involve detailed contract agreements between the project implementor and public and private investors. The clear terms, expectations, and repayment levels articulated in these contracts can improve accountability between the parties and provide public funding agencies with clear oversight capabilities.

Blended finance approaches for water-related projects in California

Admittedly, there are few case studies that showcase blended finance strategies linked to successful watershed or water infrastructure projects in California. However, this isn’t surprising given the relatively recent history of this approach to financing projects. In fact, with its abundance of state agency funded grant and loan programs, California may have more opportunities than most states to leverage public funding and private finance. Water and watershed project developers should look through the roster of available state funding sources, and creatively consider how they can be accessed to complement privately sourced investments.

Public revenue source supplies repayment to private investors

Private and institutional investors can provide up-front capital to implement projects. As projects reach completion milestones and deliver benefits related to public agency missions, grants from those agencies can repay the investors. For example, private investors and an insurance firm provide upfront funding to launch a flood risk reduction project. The project developer also applies for grant funding from state and federal agencies with interests in flood hazard reduction, wildlife habitat restoration, and public recreation access. As the project completes levee setbacks, floodplain restoration, and trail building elements, the federal and state grants provide reimbursement for implementation costs. These reimbursements are then directed to repay the initial investors.

Most public agency grants have restrictions that limit or prohibit funds to pay interest on loans or to investors. Because of this restriction, it can be helpful to have a project partner without this restriction, perhaps a water or stormwater agency with access to rate or tax revenue. This partner can provide a portion of the project costs, which then are used to pay interest to the investors. As we’ll see in the discussion of the Forest Resilience Bond below, the benefit to this agency is that it pays a small portion of the overall project costs.

State or federal grant/loan program provides capital which enables private capital

In the example above, the state and federal grants also enable the project to secure private investment. By committing funds to reimburse project costs, these grants reduce the financial risk to potential investors and cost-share partners. Having a ready source of public funding commitments also ensures that the project is feasible, and the implementing agencies or partners can deliver a successful outcome.

Federal or state funding agencies may also assume a first loss position, meaning that they are last in line for repayment. By prioritizing cash flow to repaying investors, loans from the public agency can further reduce the risk for private investors, allowing them to provide capital at reduced rates.

Philanthropic or state/federal funding used as credit guarantee

Another strategy for reducing financial risk to potential investors is accessing federal or state funding agencies to provide a credit enhancement or guarantee. This approach may not require the agency to provide a cash contribution to the project; instead, it will backstop borrowing from other investors. This action can enhance the credit-worthiness of the project implementer, e.g., a public agency with a weak credit rating, making it easier and more affordable to engage private investors.

Most public funding agencies have been reluctant to take on this role, even though many have the legal authority. The Clean Water and Drinking Water State Revolving Funds, for example, are permitted to take on this form of assistance; project developers in California may consider engaging with the State Water Board's Division of Financial Assistance to tap this potential.

Leveraging public and private funds

The inherent nature of blended finance is to complement private and philanthropic investment with public agency revenues and grant funding. Revenue integration is easier said than done, as many federal and state grant programs come with restrictions or administrative challenges that put guardrails on how they can be used to leverage private investment.

For example, the US Forest Service typically relies on annual appropriations from Congress, limiting its ability to enter multi-year contracts or provide commitments for long-term funding. Federal grants usually require non-federal matching dollars; private investment can be helpful in this regard. In California, most state agency grants cannot pay the interest that private investors expect to earn on the money they loan to a project, which is also true for federal government grants.

However, increasing federal and state funding creates significant opportunities for project developers. Federal COVID relief funding, American Rescue Plan Act money, and the significant funds allocated through the Infrastructure Investment and Jobs Act (IIJA) combine to provide substantial support for new and existing federal and state grant and loan programs.² As part of a blended finance approach, water agencies and their partners may benefit from engaging with state and federal funding agencies to identify relevant funding programs and develop relationships that can help secure agency interest and support.



In California, many funding agencies are adapting to these federal infusions of capital and recent increases in state budget funding. [CalFire](#) is increasing its funding for economic development and tribal or disadvantaged community engagement to create a viable market pathway for wood products derived from forest restoration. California's [iBank](#) is offering low-interest loans for wood product startup projects. The [Clean Water and Drinking Water State Revolving Funds](#) (SRF), managed by the State Water Resources Control Board, have additional funding for disadvantaged communities and technical assistance to support the development of water infrastructure projects. The Wildfire & Forest Resilience Task Force [Implementation Strategy](#) links to state and federal funds to better connect funding to implementation projects.

Securing support from a state or federal grant program can be an essential first step leading to private investor interest. Creating a finance package for a project can be a bit of chicken-and-egg dance requiring investments of time to build relationships with funders, investors, and payors. It can be a real challenge for water agencies and local governments to do this dance. Partnering with experts in project finance and collaborative project strategies is a critical component of any blended finance strategy.

² Several resources are emerging to help local agencies navigate this influx of federal funding. American Rivers and a network of partners developed a searchable funding discovery tool. While tailored to the Colorado River Basin, many of the programs listed within this database will be relevant for projects in California. See <https://www.tenstrategies.net/newfederalfunding>.

Potential roles for state agency grant and loan support

Federal and state agency grant programs can be tapped to reimburse project costs. It can be useful to think of agency grants as secure sources for directly covering some project costs as well as repaying the principal of loans provided by private and philanthropic investors. This model can provide substantial funding and burdens the agency or organization with the up-front cost of implementation, awaiting reimbursement from the grantmaking agency.

In addition to grants, the state-administered Clean Water and Drinking Water State Revolving Loan Funds provide zero to low-interest loans to water infrastructure projects, including watershed acquisition and protection initiatives. Because these financing packages require repayment, they can be usefully complemented by a finance portfolio that includes private investors and a revenue stream provided by one or more payors. For example, given the extremely low-interest rate for SRF loans, they can be a viable tool for repaying higher interest loans from private investors. Private financing accelerates project delivery and removes the burden of carrying up-front costs. Economically disadvantaged communities may be eligible for interest or principal forgiveness loans from the SRF programs. By reducing the financial impacts on borrowing entities, SRF program managers have created an exciting opportunity for eligible entities to accelerate the delivery of qualifying projects.³

Examples of blended finance: Portfolio-backed Resilience Bonds

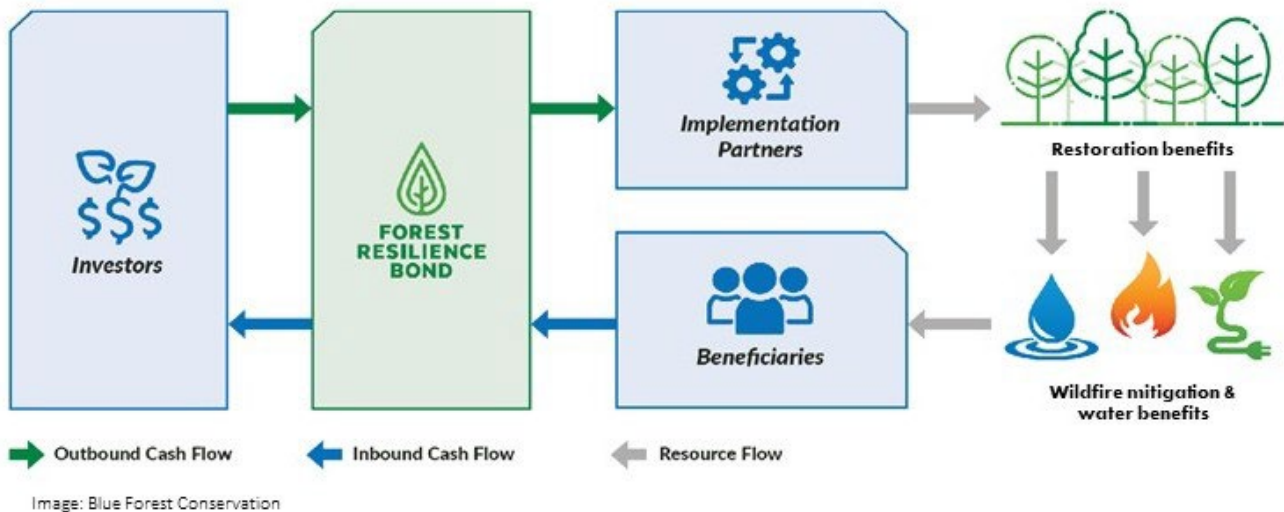
Several communities are developing resilience bonds to finance large-scale watershed restoration and wildfire mitigation projects. The model was developed by the World Resources Institute and Blue Forest Conservation as part of the North Yuba Project in Northern California.

We've highlighted the Blue Forest/Yuba Water Agency [Forest Resilience Bond](#) in some of our other writings because of its relevance for California water agencies and local governments. It's worth revisiting here as an example of blended finance that has a proven track record working with federal and state funding agencies as well as private and philanthropic investors. The structure of the Forest Resilience Bond can be adapted to other types of water infrastructure investments, including managed groundwater recharge, floodplain restoration, and urban green infrastructure.

The Forest Resilience Bond is an independent financing vehicle that assembles investments from private and institutional investors and repayment streams from public and federal agencies. This portfolio approach allows Blue Forest to leverage commitments made by Yuba Water Agency and CAL FIRE to access market and below-market-rate capital for project implementation.

In the diagram below, the Rockefeller and Gordon and Betty Moore Foundations, CSAA Insurance, and Calvert Impact Capital are the four private and philanthropic investors who have provided upfront capital to the Forest Resilience Bond. The Bond, working through the National Forest Foundation as an independent implementation partner, then uses investment capital to undertake restoration activities within the project footprint. These activities are also supported by financial and in-kind services provided by the US Forest Service and a grant from CAL FIRE. These funds can reimburse project costs but cannot be used to pay interest on the loans provided by the investors. The Bond also has a pay-for-services contract with Yuba Water Agency. Yuba Water Agency makes payments to the Bond upon verification that restoration activities have reached agreed-upon milestones. While both CAL FIRE and Yuba Water Agency funds are used to repay investors, only Yuba Water Agency payments are directed to interest payments. A second phase of the Bond has attracted additional investors and agency funders.

³ The Conservation Finance Network has created a useful toolkit, [Using State Revolving Loan Funds for Land Conservation](#), that contains lessons applicable to other non-traditional SRF applications.



[Weber River Watershed](#)

[Resilience Fund](#) with a similar structure to leverage a combined public and private financing portfolio to support wildfire risk reduction and watershed health projects. With a more urban infrastructure focus, the City of Euclid, Ohio, has embarked on a [blended finance strategy](#) that will support a \$5 million shoreline restoration and recreation access project with a combination of private investment and contributions with a multitude of federal, state, and local funding.

Over the next few years, appropriations of federal funds stemming from the IJA will continue to supplement California funding programs. With careful cultivation and a bit of creativity, these public agency dollars can serve as a springboard to unlock additional private capital for water and watershed projects. Anecdotally, a few California counties are already looking at innovative approaches, including resilience bonds and wildfire resilience insurance programs. As our lands, rivers and communities face increasing climate change related impacts, we have both a need and an opportunity to scale up our efforts to create resilience, and to deliver new financing strategies to make that happen.

Collaborative Finance Issue Briefs

Leveraging to create an effective finance portfolio is part five of a series of issue briefs on collaborative finance. Part one, [Finding the Pathway](#), outlines the steps to collaborative finance. In [part two of the series](#), we provide a primer on alternative approaches to project finance. A third paper explores [barriers facing collaborative finance](#) and strategies to leverage public grants and loans to secure private investment. Part Four looks at approaches to [financing forest restoration and wildfire risk reduction](#) projects.

This paper is one of a series of discussions supported by a California Department of Water Resources Integrated Regional Water Management Disadvantaged Community Involvement, Technical Assistance grant provided to the Yuba Water Agency.