



Supporting Healthy Watersheds in the West

Arizona's Forest Thinning & Wildfire Restoration Program

With more than 2.6 million people living in the wildland-urban interface, Arizona has a long history of savage wildfires that have burned millions of acres over the past 20 years. Communities have seen their drinking water supply resources damaged, their forests decimated, and their homes and businesses destroyed. Arizona experiences an average of 1,500 wildfires every year and with the region amid an enduring megadrought, that trend is likely to continue.

The Arizona Water Infrastructure Authority of Arizona (WIFA) administers the state's Clean Water State Revolving Fund (CWSRF) Program and has provided \$1.4 billion of financial assistance to Arizona communities. While the CWSRF program is widely known for supporting wastewater infrastructure projects for publicly owned treatment works, many communities are not aware of the vast array of activities that the program can support to prevent pollution of surface water and groundwater resources from nonpoint sources.

WIFA has been promoting the use of the CWSRF program for projects that address watershed health, green infrastructure, and nonpoint source water quality challenges for many years. But they wanted to do more to help communities threatened by wildfires, so they worked with the City of Flagstaff to create the Forest Thinning and Wildfire Restoration Program. This was the perfect foundation for WIFA and the City to undertake the first large-scale forest thinning project funded in part by the CWSRF program in 2019.

THE CITY OF FLAGSTAFF

Funding projects that protect water resources by reducing the risk of wildfire and post-fire flooding in key watersheds with a

\$6 MILLION CWSRF LOAN

\$1 MILLION LOAN FORGIVENESS

THE CITY SAVED MORE THAN 20%

\$1.7 MILLION

BY FINANCING ITS PROJECT WITH WIFA

The Power of Partnership and Financial Incentives

Successfully undertaking forest thinning projects that span tens of thousands of acres of forest requires a good strategy and a deep bench of partners from various stakeholder groups on the federal, state, tribal, and local levels that include public and private entities alike.

Positive Engagement

At the state level, WIFA understood the importance of engaging its sister agency, the Arizona Department of Environmental Quality (ADEQ), whose Water Quality Improvement Grants program has provided \$533,640 in funding for several watershed restoration projects resulting from wildfire using grant dollars provided by Section 319 of the Clean Water Act.

To successfully implement forest restoration project activities, CWSRF participation requires collaboration with a wide range of entities, including local governments, tribal entities, and citizen groups. The City of Flagstaff's CWSRF project is a case study in the range of partnerships that are critical to a successful forest restoration program. The City of Flagstaff's forest restoration program involved:

- **US Forest Service**
- **Residents**
- **State government**
- **Stakeholder groups**
- **Non-governmental organizations (e.g., National Forest Foundation)**
- **Other funders**

How does WIFA incentivize nonpoint source project funding in the CWSRF program?



As the southwestern US continues to endure a historical [megadrought](#), protecting water resources is more critical than ever.



WIFA offers up to 20% loan forgiveness to projects that include nonpoint source pollution reduction, riparian restoration, or reducing stormwater flows.



A \$10 million loan for a forest thinning project may receive up to \$2 million that does not need to be repaid.

Innovative Financing Mechanisms in Action

In Arizona, CWSRF program statutes only permit making loans to public entities. So how does the program succeed in getting critical funding to non-profit organizations and watershed protection

Think Outside the Box

Pass-through loans are commonly used by CWSRF programs nationally to fund nonpoint source projects by taking advantage of existing relationships with public borrowers. This structure allows a municipality to act as a conduit through which CWSRF funding can flow through to watershed partners that are implementing the project, but would not otherwise be eligible to apply for a loan. These watershed partners are responsible for repaying the loan proceeds to the conduit municipality, which in turn repays the CWSRF program.

The pass-through loan mechanism allows state CWSRF programs that have more limited eligibilities to broaden the horizon of eligible projects and the types of borrowers they may offer loans to, provided that the pass-through entity and the assistance recipient are eligible under Section 603(c) of the Clean Water Act. Because the conduit organization is the loan guarantor, this provides increased security over making direct loans to small, inexperienced borrowers thus minimizing the financial risk to the program. One of the most attractive features of this approach is that the loan forgiveness offered by the CWSRF program may be passed along to the watershed partnership borrower(s), which represents a tremendous cost savings not found on the open market today. Pass-through lending is an excellent strategy to extend the reach of the CWSRF program across the watershed.

How does WIFA finance Forest Thinning & Wildfire Restoration loans using the CWSRF?

Pass-Through Lending

The CWSRF makes a loan to a public entity.

The public entity makes smaller loans to non-profits, watershed groups, private entities to implement forest thinning work.



The entities implementing the project repay the public entity using a variety of sources like tax revenue, license fees, dues, or other grant funding.

The public entity uses the proceeds to repay its loan to the CWSRF.



Marketing and Outreach

To expand wildfire mitigation programs in a way that supports water quality, communities must understand the value of the ecosystem services that the forests provide.

Communicating Project Benefits

WIFA chose to focus its marketing efforts for the CWSRF Forest Thinning & Restoration Program on the measurable benefits and costs avoided by undertaking pro-active forest management projects. A triple-bottom-line tool was developed using quantifiable metrics designed to communicate values that everyday citizens could relate to. It provides real, actionable data that potential municipal and tribal borrowers can use to gain approval for projects from their community leadership and voters (if necessary). The metrics in the tool include:

- Lost revenues to local economies
- Impacts on real estate and property values
- Drinking water supplies and billing rates
- Impacts to recreation and tourism
- Public health and economic prosperity

Did you know?

Homes located within 3 miles of the wildfire perimeter had a 31% decline in value, while homes within 12 miles had a 6% decline in value.

Lost property values within 12 miles:

Average value of homes destroyed:
\$4.8M

\$1.2 BILLION

Lost property values within 3 miles of fire:
\$72M



Did you know?

The damage caused by wildfire can persist for **5-10 years** and be **more detrimental** to water supplies than the **fire itself**. So how can healthy forests save you money?



Wildfires often result in **flash floods and mudslides**

that pollute rivers and reservoirs



Cost up to **\$37 Million** to restore local drinking water infrastructure damaged by post-fire runoff, rendering **drinking water supply sources unusable**



Cleaning polluted water is **200 times more expensive** than preventing pollution of drinking water sources. Forest thinning helps utilities save money by protecting healthy soil

Did you know?

Forest thinning projects are good for the economy!

Healthy forests generate over **\$1 BILLION** in revenue from recreation annually

