

## Clean Water & Drinking Water State Revolving Funds: *Resource Guide for Wetland Applications*



Photo: "Lily Pads Floating on Water" Jensen Beach, Florida. By: Lisa via Pexels

## DISCLAIMER

This resource guide does not impose any binding requirements, determine the obligations of Clean Water State Revolving Fund and Drinking Water State Revolving Fund applicants or loan recipients, or change or substitute any statutory provision or regulatory requirement for the CWSRF and DWSRF programs.

## ACKNOWLEDGEMENT

Our sincere thanks to Steven Malone, Angela Fentress, Mike Donovan Kelly and Linda Merchant-Masonbrink from Ohio Water Resource Restoration Sponsor Program; Alli Miller and Chris Marko from Oregon Department of Environmental Quality Assistance; and Karen Doran and Lauren Linville from Virginia Department of Environmental Quality for their valuable contributions to this resource guide.

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## BACKGROUND: SRF FOR WETLANDS

### PURPOSE

This resource guide is intended to increase awareness about the availability of the two national State Revolving Fund programs – the Clean Water State Revolving Fund (CWSRF) and the Drinking Water State Revolving Fund (DWSRF) – to finance wetland projects. The guide is intended for potential SRF applicants, which may include regional and municipal government agencies, public water systems and non-governmental organizations. This guide summarizes how the CWSRF and DWSRF programs may be applicable to various wetland projects by highlighting best practices and case studies.

The CWSRF, a Clean Water Act program, and the DWSRF, a Safe Drinking Water Act program, provide financing for projects that improve water quality and protect public health. The CWSRF and DWSRF operate separately in each state in the U.S. and Puerto Rico resulting in 51 programs. These 51 CWSRF programs and 51 DWSRF programs combine federal capitalization grants and state funds to provide below market interest rate loans for eligible projects. As the low-interest loans are repaid, those funds are then available to be used again for new projects; hence the “revolving” nature of these funds. SRF programs can also provide additional subsidy (e.g. grants, principal forgiveness) to borrowers who qualify for disadvantaged assistance by meeting state criteria. For the DWSRF program, states may take “set-asides” from their capitalization grants to fund a variety of activities that support achieving the public health protection objectives of the SDWA. Wetland protection, restoration and construction initiatives that protect water infrastructure or otherwise preserve water resources may be eligible under federal and state funding guidelines.

Wetlands throughout the U.S. provide habitat for a wide diversity of species and provide critical ecosystem services including flooding prevention and water filtration. Many wetlands are degraded and lost through development, nutrient pollution, erosion and recurring extreme weather event impacts. In fact, the conterminous U.S. has lost about half of the wetland acreage that existed prior to European colonization.<sup>1</sup>

Coastal wetlands and inland wetlands can be subject to degradation. Coastal wetlands refer to all wetlands located within coastal watersheds<sup>2</sup> and include estuarine wetlands, tidal and non-tidal freshwater wetlands. Coastal wetlands can buffer densely populated coastal communities

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<sup>1</sup> Dahl, Thomas E. [Wetlands Losses in the United States 1780's to 1980's](#). Washington, DC: U.S. Fish and Wildlife Service, 1990.

<sup>2</sup> A USGS 8-digit cataloging unit or part of a cataloging unit that drains to an ocean, estuary or bay and contains a tidal water body. Coastal watersheds extend inland to the farthest extent of the 8-digit Hydrologic Unit (as defined by the USGS) that contains head of tide.

from recurring extreme weather events and global change effects, such as sea level rise and coastal storms, and are vulnerable to the effects of inundation and storm damage. Inland wetlands are similarly vulnerable to impacts including increased drought, as well as human-caused impacts such as development. Not only can the SRF programs help protect and restore wetlands directly, they can provide a means to further leverage additional sources of funding.

## SRF ELIGIBILITIES & WETLAND APPLICATIONS

### CWSRF:

CWSRF assistance can be awarded to regional and municipal government agencies, non-governmental organizations and other applicant types to finance projects that advance clean water resources. Historically, states have used the vast majority of CWSRF assistance to finance municipal wastewater treatment facilities. However, in recent years, more states have begun to use the full extent of eligibilities to manage nonpoint source pollution and to implement more diverse types of water quality projects. For example, partnering with the EPA National Estuary Program to include projects under the Comprehensive Conservation Management Plans. These plans often include projects to protect and restore habitat, including wetlands, within or surrounding a national estuary, and may be CWSRF eligible.

Nonpoint source pollution is typically generated from rainwater or snowmelt running over and through the ground. As it travels, the runoff picks up sediments, fertilizers, and other anthropogenic chemicals and deposits these pollutants into downstream or lower lying waterbodies. Wetland vegetation can transform, uptake and store these pollutants while slowing runoff from the surrounding landscape. Properly functioning wetlands can play a significant role in improving water quality by helping to control nonpoint source pollution. Wetlands provide an innovative form of pollution control and may even be used to help reuse or recycle wastewater, stormwater or subsurface drainage water.<sup>3</sup>

CWSRF may be applicable to wetland projects unrelated to nonpoint source pollution and Comprehensive Conservation Management Plans, including water resource protection. Projects that may be eligible for funds from the CWSRF include wetland acquisition, creation, restoration and purchase through conservation easements. A complete list of CWSRF eligibilities is found in the resource "[Overview of Clean Water State Revolving Fund Eligibilities.](#)"

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<sup>3</sup> Biswal and Balasubramanian (2022) "Constructed wetlands for reclamation and reuse of wastewater and urban stormwater: A Review." *Frontiers in Environmental Science*, vol. 10, 2022, <https://doi.org/10.3389/fenvs.2022.836289>

The Case Studies section of this guide includes examples of the variety of wetland projects funded through the CWSRF.

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#### DWSRF:

Under the DWSRF, states may take up to approximately 31% of their capitalization grant for set-asides. Set-aside funds from DWSRF capitalization grants complement states' ability to provide financial assistance for capital infrastructure projects, which may expand wetland project eligibilities in some states. The DWSRF programs may use set-asides to develop and implement source water protection programs, delineate and assess source water protection areas, and finance a variety of local land use controls and other management tools for source water protection. For instance, the DWSRF set-asides may be used for land acquisition and conservation easements to protect drinking water sources and prevent activities that may degrade water quality; for wetland restoration that improve water quality of a source water stream; and to implement local land use controls and management tools, including riparian buffer conservation, protection and restoration. The DWSRF set-asides may also be used to implement local land use controls and management tools, including riparian buffer conservation, protection and restoration. Only drinking water related wetland benefits are factored into state decisions to fund these projects; other wetland benefits including habitat creation may be co-benefits but are not considered in these funding decisions.

More information on DWSRF set-asides can be found on the EPA's website, including [Using the DWSRF Set-Asides for Source Water Protection Loans](#) and [Protecting Source Water with the DWSRF Set-Asides](#).

A complete list of DWSRF eligibilities can be found in SDWA Section 603(c). See the [DWSRF Eligibility Handbook](#) and [the Expanded Source Water Protection Eligibilities Memo](#) for more information on DWSRF eligibilities. The Case Studies section of this guide contains examples of the variety of wetland projects funded through the DWSRF.

## REPAYMENT SOURCES

Potential borrowers will need to consider how they will repay any loan before it is approved. The repayment source need not come from the project itself. Although finding a source of repayment for watershed protection projects may be challenging, many recipients have been creative. Some potential repayment sources for CWSRF and DWSRF are listed below.

- Revenues from carbon credits (some states count protection credits – not just restoration/capture)<sup>4</sup>
- Dedicated portions of local, county or state taxes or fees
- Donations or dues made to non-profit organizations
- Fees paid by developers (e.g., proffers)
- Homeowner association fees/dues
- Individual or business revenues
- Membership dues
- Nutrient impact fees
- Revenues from nutrient credits
- Recreational fees (fishing licenses, entrance fees)
- Resort taxes/fees
- Revenue from sustainable timber harvest or other forest products
- Sale of treatment process residuals
- Sale of water rights
- Sales tax
- State or local government grants
- Stormwater utility fees
- Tax revenues from contaminated site redevelopment
- Wastewater user charges
- Watershed protection fees/taxes
- Water utility customers revenues

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<sup>4</sup> In 2011, the Yurok Tribe received an \$18.8 million CWSRF loan from the California State Water Resources Control Board to buy 22,237 acres of forest land. The Tribe repaid their loan in part using carbon credit revenues from forest carbon reserves they allocated. Learn more about this project at [Funding Land Conservation Projects with the CWSRF](#).

## BEST PRACTICES FOR APPLICANTS SEEKING FUNDING FOR WETLAND PROJECTS

Potential applicants can use a number of best practices as they embark on the process of applying to a SRF program. Key best practices that have resulted in successful wetland projects are highlighted below:

- Meet with the respective SRF program *early* to seek out technical, financial and managerial assistance and to learn how to best tailor their application to the respective program;
- Wherever possible, highlight multi-benefit projects, for example, a wetland project that both improves water quality and reduces storm surge;
- Explore the diversity of potential green infrastructure<sup>5</sup> projects and non-traditional eligibilities;
- Seek out the financial incentives your state SRF program may offer, including lower interest rates and additional subsidization;
- If relevant, seek out the financial incentives your state SRF program may offer for communities with environmental justice<sup>6,7</sup> concerns;
- Leverage resources and collaborate with other organizations that have been successfully awarded SRF financing; and
- Ensure that the connection between the proposed project and the SRF eligibilities are clearly described.

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<sup>5</sup> In 2018, Congress enacted the [Water Infrastructure Improvement Act](#) which defines green infrastructure as "the range of measures that use plant or soil systems, permeable pavement or other permeable surfaces or substrates, stormwater harvest and reuse, or landscaping to store, infiltrate, or evapotranspire stormwater and reduce flows to sewer systems or to surface waters." Learn more about the CWSRF and Green Infrastructure at: [Green Infrastructure](#) and at [Financing Green Infrastructure: A Best Practices Guide for the CWSRF](#).

<sup>6</sup> Addressing Water Affordability with the DWSRF factsheet can be accessed at:

[https://www.epa.gov/system/files/documents/2021-08/addressing-water-affordability-with-the-dwsrf\\_1.pdf](https://www.epa.gov/system/files/documents/2021-08/addressing-water-affordability-with-the-dwsrf_1.pdf)

<sup>7</sup> Environmental justice refers to the just treatment and meaningful involvement of all people regardless of race, color, national origin, Tribal affiliation, or disability, in agency decision-making and other Federal activities that affect human health and the environment. Learn more about the CWSRF and environmental justice at [Funding Disadvantaged Communities with CWSRF](#).



## CWSRF WETLAND PROJECTS: CASE STUDIES

The following case studies represent the diversity of projects eligible for funding under the CWSRF. Some of these case studies have been awarded the George F. Ames Performance and Innovation in the SRF Creating Environmental Success (PISCES) Award which recognized recipients for exceptional projects. Learn more about PISCES at the [program website](#).

### FLOOD MANAGEMENT IN CALIFORNIA (2002)

This property acquisition project restored the existing system of levees, floodwalls and riprap in the Napa River system to its natural habitat of wetlands and tidal marshes. The project built upon an effort already underway by a consortium of Napa County Flood Control and Water Conservation District, the U.S. Army Corps of Engineers, the City of Napa and the Community Coalition for Napa Flood Management. Through the consortium, land and rights-of-way needed for the project were acquired, and relocation was granted for displaced businesses and residents.

This project also leveraged funding from additional sources including CWA



Source: USGS San Francisco Estuary

Section 319<sup>8</sup> Nonpoint Source Management Program grants and CWA Section 320 consistent with implementing the San Francisco Bay NEP program Comprehensive Conservation Management Plan. This investment reduced nonpoint source runoff pollution and led to the restoration of water quality for waterbodies previously deemed impaired along the Napa River<sup>9</sup>. It created over 800 acres of wildlife habitat and expanded the intertidal and riverine marsh to accommodate the widening and meandering of the river. This project, as well as the ongoing efforts of the consortium, continue to benefit the health of the San Francisco Bay.

#### Overview:

**Project Title:** Napa River Salt Marsh Restoration Project Property Acquisition  
**Recipient:** Napa County Flood Control and Water Conservation District  
**SRF Program:** California State Water Resources Control Board  
**Loan Amount:** \$16M  
**Repayment Method:** 1998 sales tax increase referendum and California Department of Water Resources' State Flood Control Subvention program  
**Primary Intent:** Nonpoint source reduction and flood protection  
**Co-Benefits:** Estuary enhancement, habitat creation for aquatic plants, animals, nutrients removal, sediment reduction

<sup>8</sup> Under the [Section 319 Grant Program](#), states, territories and tribes receive grant money that supports a wide variety of activities including technical assistance, financial assistance, education, training, technology transfer, demonstration projects and monitoring to assess the success of specific nonpoint source implementation projects.

<sup>9</sup> [Nonpoint Source Success Story, California: Implementing Agricultural Best Management Practices Reduces Nutrients in 36 miles of the Napa River](#) factsheet

## BROWNFIELD REMEDIATION IN DELAWARE (2017)

*Winner of 2017 PISCES “Exceptional Project” Award*

This brownfield-to-wetlands conversion project — the first of its kind in Delaware — uses natural systems to remediate waterbodies impaired by decades of industrial activity. The Delaware CWSRF provided \$2.9 million in financing to the Delaware Department of Natural Resources and Environmental Control (DNREC) Division of Waste and Hazardous Substances to create two acres of wetlands by replacing 29,000 tons of soil contaminated with zinc with clean fill material and topsoil. The wetlands will improve water quality, store stormwater to mitigate flooding, help flush the remaining zinc-impacted groundwater to a recovery trench and support the economic redevelopment of the Fiber Mills District in Yorklyn, where the National Vulcanized Fibre company once operated. A separate \$1 million loan to DNREC’s Division of Parks and Recreation was used to create a series of additional wetlands around the project site to protect



Source: [Delaware.gov](http://Delaware.gov)

### Overview:

**Project Title:** National Vulcanized Fibre Yorklyn Site Wetland Project

**Recipient:** Delaware Department of Natural Resources and Environmental Control-Division of Waste and Hazardous Substances

**SRF Program:** Delaware CWSRF

**Loan Amount:** \$2.9M

**Repayment Method:** Hazardous Substances Control Act tax revenues

**Primary Intent:** Improve water quality, mitigate flooding, support economic re-development

**Co-Benefits:** Provide wetland habitat, aesthetic benefits

residents and buildings from flooding and runoff. Without the financing and spirit of partnership made possible by the Delaware CWSRF, the remediation of the site would have likely taken an additional 40 years and \$10.7 million to complete. The loan is being repaid from Hazardous Substances Control Act, or HSCA, tax revenues and a memorandum of understanding between the parties gives DNREC the right to withhold HSCA tax revenues to pay annual CWSRF lease payments. This innovative lease-to-purchase financing structure allows the Division of Waste and Hazardous Substances to borrow from the CWSRF. The overall project involves a cooperative partnership between multiple state agencies, the federal government and the private sector.

## HABITAT RESTORATION AND PROTECTION IN OHIO (2018)

The Ohio Environmental Protection Agency's Water Resource Restoration Sponsor Program<sup>10</sup> utilizes CWSRF loan repayments to generate funds for projects that protect and restore streams and wetlands. This sponsorship system redirects approximately \$15 million of Ohio's CWSRF funding annually to stream and wetland conservation. One example of the program in action is the Western Reserve Land Conservancy/Natural Areas Land Conservancy's Bay Point project of

2018. This project was funded by a \$1.3 million sponsorship package from the Northeast Ohio Regional Sewer District. Sponsorship lending<sup>11</sup> under the SRF program pairs a traditional publicly owned treatment works project with a nontraditional one, usually a nonpoint source project. A municipality receives a loan with a reduced interest rate as compensation for also sponsoring a nontraditional project, thus allowing municipalities to address pressing watershed restoration or protection priorities

**Overview:**  
**Project Title:** Bay Point  
**Recipient:** Western Reserve Land Conservancy/Natural Areas Land Conservancy  
**SRF Program:** Ohio Environmental Protection Agency  
**Sponsorship Amount:** \$1.3M  
**Primary Intent:** Water resource protection  
**Co-Benefits:** Wetland restoration and protection

without placing a repayment responsibility on nonpoint source projects. The funding was derived from their \$142 million CWSRF loan for a combined sewer overflow storage tunnel project. The Western Reserve Land Conservancy/Natural Areas Land Conservancy used the \$1.3 million sponsorship to purchase 65 acres of land in the Bay Point area in western Lake Erie, including 34 acres of high-quality shoreline wetlands. The Bay Point wetlands provide critical habitat for rare plants, as well as nesting, foraging and stopover habitat for several species of coastal-dependent migratory birds. Bay Point also contains 2.4 miles of undisturbed shoreline featuring unique beach and sand dune habitats. Moreover, the peninsula serves a critical role in protecting the health of the Sandusky Bay wetlands to its west, which underscores Bay Point's unique conservation value.<sup>12</sup>

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<sup>10</sup> Ohio Environmental Protection Agency's Water Resource Restoration Sponsor [program website](#) and [fact sheet](#)

<sup>11</sup> Sponsorship Lending and the Clean Water State Revolving Fund [fact sheet](#)

<sup>12</sup> Bay Point Conservation Kaptur Media [press release](#)

## LIVING SHORELINES IN VIRGINIA (2019)

*Winner of 2019 PISCES “Exceptional Project” Award*

The Virginia Marine Resources Commission, in cooperation with the Virginia Department of Conservation and Recreation and with technical assistance from the Virginia Institute of Marine Science, established a general permit regulation that authorizes and encourages the use of living shorelines. However, no financial incentives were provided for implementation. To fill that need, the Middle Peninsula Planning District Commission created a Living Shoreline Revolving Loan Program for homeowners within their six-county

district along the Chesapeake Bay and its tidal tributaries. Known as the Shoreline Resiliency Program, the program provides an innovative long-term source of low-interest financing that establishes living shorelines to protect or improve water quality and prevent the pollution of state waters. This program received such overwhelming interest from small businesses within the district that the Virginia General Assembly expanded eligible applicants to include bed and breakfast operations, campgrounds, restaurants and businesses that use working waterfronts.

### Overview:

**Project Title:** Living Shorelines Local Loan Program

**Recipient:** Middle Peninsula Planning District Commission

**SRF Program:** Virginia Department of Environmental Quality

**Loan Amount:** Varies annually; \$3M in 2022

**Repayment Method:** Project specific repayments from property owners

**Primary Intent:** Protect or improve water quality and prevent the pollution of state waters

**Co-Benefits:** Preserve habitat, provide aesthetic benefits to landowners and the public

## NONPOINT SOURCE REDUCTION IN OREGON (2022)

### Overview:

**Project Title:** Patterson Creek Culvert Replacement

**Recipient:** Bay City, Oregon

**SRF Program:** Oregon Department of Environmental Quality

**Loan Amount:** \$730,000

**Repayment Method:** City revenue

**Primary Intent:** Improve water quality; Restore fish passage

**Co-Benefits:** Wetland and riparian restoration

The town of Bay City, Oregon, will remove two culverts from Patterson Creek on 7th Street and 8th Street. The 7th Street undersized culvert will be replaced with a fish passage structure and the 8th Street culvert removal will result in an open channel. This project is informed in part by a geotechnical and hydraulic analysis of the creek, which was also funded by CWSRF in 2019. Using these analyses, the Patterson Creek Culvert Replacement project will relocate approximately 350 linear feet of water main, 560 linear feet of new sewer pipe, a small sewer lift station and one block of new street – all of which will improve water quality and restore fish passage. It will also restore the creek bed, surrounding wetland and vegetated corridor area via plantings and placement of woody debris in the creek. As phase one of a much larger effort, this project will begin to bring

reliability and resiliency to the Bay City's infrastructure, as well as improve water quality and habitat along waterways and benefit Tillamook Bay, part of the National Estuary Program.

## DWSRF WETLANDS PROJECTS: CASE STUDIES

The following case studies represent the diversity of projects eligible to be funded under the DWSRF program under set-asides. Note that fewer DWSRF projects to date apply directly to wetlands because, unlike CWSRF, DWSRF projects **must have a direct and significant drinking water connection**. However, many projects have co-benefits that protect and restore wetlands in addition to drinking water quality improvements.

### SOURCE WATER SURVEY IN WASHINGTON (2012)

The Skagit Public Utility District provides drinking water to more than 65,000 people in Skagit County, serving three cities as well as suburban and rural areas. The Gilligan Creek area of the Cultus Mountain Watershed provides 45% of the District's source water for its Judy Reservoir

**Overview:**  
**Project Title:** Gilligan Creek Source Water Survey  
**Recipient:** Skagit Public Utility District  
**SRF Program:** Washington Department of Health  
**Grant Amount:** \$45,000  
**Primary Intent:** Watershed water quality protection  
**Co-Benefits:** Wetland and riparian ecosystem protection

Water System. Gilligan Creek is bordered by small wetland areas and is a tributary to the Skagit River, which is bordered by a larger network of wetlands ([Skagit County Hydric Soils Map](#)). Until recently, timber companies owned all property around Gilligan Creek. Using a CWSRF loan with principal forgiveness, the District purchased and protected 250 acres of critical watershed area, in perpetuity, for its customers. Using the DWSRF 15% Local Assistance Source Water Protection set-aside, the Washington Department of Health provided \$45,000 to the PUD to appraise and survey the property. This helped the District understand

the approximate value and exact portion of the Washington Department of Ecology.

## CONSERVATION EASEMENT IN MAINE (2019)

The Portland Water Maine's largest drinking water utility. Its source, Sebago Lake, is a multi-use lake with excellent water quality. The greatest challenge to the long-term protection of lake water quality is potential development pressure in the mostly privately-owned watershed. In response, the District developed a Watershed Land Conservation Program, which provides funding toward forest conservation. In 2019, the District approved the purchase of a \$345,000 conservation easement on a 1,417-acre property known as the Tiger Hill Community Forest, which is home to a network of wetlands located within two miles of the drinking water source. Conservation will not only ensure that the wetlands of this forest are protected but will ensure that the land remains forested in perpetuity, protecting both the wetlands and the drinking water source. The District used the Maine DWSRF's land acquisition loan program under the 15% Local Assistance Source Water Protection set-aside, which offers a low interest rate and up to \$50,000 principal forgiveness, reducing the amount owed on the loan.

### Overview:

**Project Title:** Tiger Hill Community Forest Conservation Easement

**Recipient:** Portland Water District

**SRF Program:** Maine DWSRF

**Loan Amount:** \$345,000

**Repayment Method:** Water utility payments

**Primary Intent:** Protection of drinking water source

**Co-Benefits:** Wetland and forest ecosystem protection

## RESOURCE LIST

### CLEAN WATER ACT AND THE CLEAN WATER STATE REVOLVING FUND

- US EPA. "About the Clean Water State Revolving Fund (CWSRF)." [www.epa.gov/cwsrf/about-clean-water-state-revolving-fund-cwsrf](http://www.epa.gov/cwsrf/about-clean-water-state-revolving-fund-cwsrf)
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#### SAFE DRINKING WATER ACT AND THE DRINKING WATER STATE REVOLVING FUND

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