

The Clean Water State Revolving Fund Program: Tapping its Untapped Potential.

Introduction

This paper outlines statutorily supported uses of two dimensions of the Clean Water State Revolving Fund (CWSRF) program: Program Eligibilities and Types of Assistance. The paper takes a fresh look at the potential of the program after 20 years of successful operation. It is not intended to serve as new policy or guidance. Instead, it is a compilation of possible uses of CWSRF funds under existing statutory authority. Why prepare a compilation now? As a nation, we are faced with the burgeoning issues of how to pay for water supply, efficiency and conservation; energy efficiency and conservation; and green and sustainable water infrastructure. At the same time, we are faced with staggering capital costs for the replacement, repair, and expansion of existing traditional wastewater infrastructure. The CWSRF program with its broad mandate and inherent flexibility is uniquely positioned to make a significant contribution in the provision of financial assistance to these important areas of public need.

The recent national conference in Atlanta, Georgia on “Paying for Sustainable Water Infrastructure: Innovations for the 21st Century” underscored the urgency in recognizing and responding appropriately to the dual issues of lowering costs and increasing investment in our future. Conference presentations highlighted numerous opportunities for the CWSRF program in this regard.

The following discussion considers the role the CWSRF program could play in this endeavor. Innovations in the water industry have never been easy. The main questions become what are the practical incentives to innovate in a meaningful way and in particular what incentives are available to the CWSRF community? What has been tried and worked and what hasn't been tried that may hold promise? What more can be done beyond what we are doing now? We hope to begin addressing these and other questions here.

I. Program Eligibilities—A fresh look at what the CWSRF can fund.

The CWSRF program can fund significant portions of watershed protection efforts. States have the opportunity to target CWSRF funds to their own water quality priorities, ideally using an Integrated Planning and Priority Setting System. While the CWSRF has a long history of funding publicly owned treatment works (POTWs), there are additional issues such as stormwater, water conservation, and energy efficiency, that can be addressed, consistent with the CWSRF statute. The State/EPA State Revolving Fund Workgroup opened the door to a fresh look at existing CWSRF funding authorities through the recommendations provided to EPA at the November 2006 meeting. As a result, each CWSRF authority has been re-evaluated to identify funding opportunities to meet emerging water quality and public health needs.

A. CWSRF 212 Eligibility

Publicly owned projects defined in section 212 of the Clean Water Act (CWA) are eligible. These include wastewater collection and treatment, regulated stormwater, and the water quality portions of municipal landfill projects. The principles that guide State funding decisions for section 212 projects are:

- All projects must be consistent with the definition of “treatment works” as set forth in section 212.
- All section 212 projects must be publicly owned, as required by CWA section 603(c)(1).
- All section 212 projects must serve a public purpose.

Financial assistance opportunities under section 212 for certain categories of eligibilities:

1. Stormwater:

Publicly owned municipal stormwater projects are eligible. These include traditional pipe, storage, and treatment systems. They also include green infrastructure, such as green roofs, infiltration basins, curb cuts and landscaped swales, and wetland protection and restoration. If stormwater projects are not specifically required by a draft or final National Pollutant Discharge Elimination System (NPDES) permit, the project may be funded under section 319 nonpoint source authority. This is particularly useful in reaching privately owned projects. If the project falls within the watershed of a section 320 National Estuary, broader authority is available to fund privately owned, regulated stormwater projects.

Land is eligible under section 212 only if it will be an integral part of the treatment process. When rights of way are used to address stormwater, such as through green technology, and the land is integral to the stormwater best management practice (BMP), it is eligible for funding under section 212.

2. Water Conservation and Reuse:

a. Before a POTW: Publicly owned projects to reduce water use are eligible. For instance, the installation of publicly owned water meters, plumbing fixture retrofits or replacement and gray water recycling in public buildings, and water efficient landscape irrigation equipment at public facilities are eligible. Publicly owned stormwater treatment and reuse is eligible.

b. At a POTW: Wastewater treatment up to and including water quality sufficient to meet drinking water standards is eligible. This includes additional treatment for POTWs interested in treating effluent further than that required by

the NPDES permit and additional treatment necessary for effluent reuse/recycling uses.

c. After a POTW: Publicly owned distribution lines to support effluent reuse/recycling uses, including piping the effluent to the property line of a privately owned effluent consumer are eligible. Publicly owned equipment to reuse effluent is eligible at public facilities.

Refer to CWSRF section 320 for eligibility within National Estuaries.

3. Energy Conservation and Efficiency:

a. Power Consumption: Certain capital costs to power POTWs are eligible. This may include energy efficient pumps, backup generators and other energy utilizing capital necessary to meet the water quality purpose of the POTW. Planning activities, such as energy audits, that have a reasonable prospect of resulting in a capital project are eligible. In addition, the pro-rata share of capital costs of offsite publicly owned clean energy facilities that provide power to a POTW are eligible.

b. Power Production: Capital costs of energy generated onsite by a POTW are eligible. This includes clean energy, such as wind and solar, as well as methane capture from digesters.

4. Landfills:

Water quality projects at discharging municipal landfills that are required to have NPDES permits are eligible if the landfill is publicly owned, pursuant to section 212, since the leachate is considered “liquid municipal waste”. This includes all water quality projects at publicly owned municipal landfills, such as a liner, leachate collection and treatment systems, monitoring wells, stormwater Best Management Practices (BMPs), and caps. Privately owned landfills with leachate collections systems and/or NPDES permits are eligible only if they are consistent with implementation of a section 320 Comprehensive Conservation Management Plan for a National Estuary. Refer to section 319 for eligibility of landfills without leachate collection systems that do not require an NPDES permit.

5. Trading:

There are two ways the CWSRF can support water quality trading. First, the CWSRF can provide funding for section 212 construction projects that generate water pollution control credits. The revenue from the sale of the credits is not program income and can remain with the CWSRF recipient. Second, the CWSRF can provide funding to a POTW for eligible capital projects that are located offsite of the POTW. For instance, so long as it is otherwise consistent with the laws and regulations regarding the CWSRF, a POTW can receive CWSRF assistance and use that funding to provide a loan, grant or purchase

the debt obligation of another POTW to pay for eligible section 212 projects. The POTW can also receive CWSRF assistance and use that funding to provide a loan, grant or purchase the debt obligation to pay for eligible section 319 projects.

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Note: This list is intended to present examples of eligible projects, and is by no means exhaustive

		Publicly-Owned	Privately-Owned	
		Public Purpose	Private Purpose	
212				
NPS Problem	NPS Solution	<ul style="list-style-type: none"> ●Municipal stormwater projects <ul style="list-style-type: none"> ○Green infrastructure -Green roofs -Infiltration basins -Curb cuts -Landscapes swales -Wetland protection & restoration -Land/right of way purchase ●Water conservation and reuse <ul style="list-style-type: none"> ○Ordinances, regulations or incentive programs ○Development and implementation of public education programs ●Projects that generate water pollution control credits for water quality trading 	N/A	N/A
	PS Solution	<ul style="list-style-type: none"> ●Municipal stormwater projects <ul style="list-style-type: none"> ○Pipe, storage and treatment systems ○Green infrastructure <ul style="list-style-type: none"> -Green roofs -Infiltration basins -Curb cuts -Landscapes swales -Wetland protection & restoration -Land/right of way purchase ●Water conservation and reuse <ul style="list-style-type: none"> ○Installation of publicly-owned water meters ○Plumbing fixture retrofits or replacements ○Gray water recycling in public buildings ○Publicly-owned stormwater treatment and reuse ○Additional POTW effluent treatment beyond NPDES requirements, such as for reuse/recycling ○Publicly-owned distribution lines to support effluent reuse/recycling, such as piping to private owner property line ○Publicly-owned equipment to use treated effluent, such as irrigation reusing wastewater ●Wastewater collection and treatment <ul style="list-style-type: none"> ○Capital costs to power a POTW <ul style="list-style-type: none"> -Energy efficient pumps and backup generators necessary to meet POTW water quality purposes -Planning activities, such as energy audits, with a reasonable prospect of resulting in a capital project -Pro-rata share of capital costs of offsite publicly-owned clean energy power sources to the POTW ○Capital costs of clean energy (wind, solar, and methane capture) generated onsite by a POTW 	N/A	N/A
PS Problem	PS Solution	<ul style="list-style-type: none"> ●Municipal stormwater projects <ul style="list-style-type: none"> ○Pipe, storage and treatment systems ○Green infrastructure <ul style="list-style-type: none"> -Green roofs -Infiltration basins -Curb cuts -Landscapes swales -Wetland protection & restoration -Land/right of way purchase ●Wastewater collection and treatment <ul style="list-style-type: none"> ○Capital costs to power a POTW <ul style="list-style-type: none"> -Energy efficient pumps and backup generators necessary to meet POTW water quality purposes -Planning activities, such as energy audits, with a reasonable prospect of resulting in a capital project -Pro-rata share of capital costs of offsite publicly-owned clean energy power sources to the POTW ○Capital costs of clean energy (wind, solar and methane capture) generated onsite by a POTW ●Water quality projects at discharging municipal landfills with NPDES permits <ul style="list-style-type: none"> ○Liner ○Leachate collection and treatment systems ○Monitoring wells ○Stormwater BMPs ○Caps ●Water quality trading <ul style="list-style-type: none"> ○Funding for POTWs that generate water pollution control credits ○POTW loan, grant or purchase of debt obligation to sub-recipient POTW for 212 projects 	N/A	N/A
	NPS Solution	<ul style="list-style-type: none"> ●Municipal stormwater projects <ul style="list-style-type: none"> ○Green infrastructure <ul style="list-style-type: none"> -Green roofs -Infiltration basins -Curb cuts -Landscapes swales -Wetland protection & restoration -Land/right of way purchase ●Water quality trading <ul style="list-style-type: none"> ○Projects that generate water pollution control credits ○POTW loan, grant or purchase of debt obligation to sub-recipient POTW for 319 projects 	N/A	N/A

B. CWSRF 319 Eligibility

Publicly or privately owned projects that implement nonpoint source management programs established under section 319 are eligible, including pollution prevention and pollution abatement projects. Both surface and groundwater pollution abatement projects are eligible for funding. Nonpoint source management programs are very broad and extend beyond the scope of the CWSRF's capital funding. The following principles are intended to help States make project by project eligibility decisions.

- Eligible nonpoint source projects support a component of an approved section 319 plan or the nine element watershed plans required by the 319 program.

The Clean Water Act provides the CWSRF with the opportunity to implement section 319 plans. While this is the foundation of the authority, additional principles are necessary to clarify the nonpoint source status of a project and benefits to water quality.

- Projects can be either publicly or privately owned and can serve either public or private purposes.

For instance, it is acceptable to fund land conservation activities that preserve the water quality of a drinking water source which represents a public purpose project. It is also acceptable to fund agricultural BMPs that reduce nonpoint source pollution, but also improve the profitability of the agricultural operation. Profitability is an example of a private purpose.

- Eligible nonpoint source projects are not specifically required by a draft or final NPDES permit.

The NPDES Stormwater Permit Program largely removed projects from eligibility under section 319. Stormwater projects that are specifically required by a draft or final NPDES permit can be funded under the CWSRF's authority to fund publicly owned section 212 projects. However, projects that go beyond minimum Federal regulatory requirements defined in NPDES permits may be fundable as section 319 projects. Consequently, projects not specifically required by a draft or final NPDES permit may be considered nonpoint source projects.

- Eligible costs are limited to capital costs.

The CWSRF considers planting trees and shrubs, purchasing equipment, environmental cleanups and the development and initial delivery of education programs as capital projects.

- Projects must have a direct water quality benefit.

Implementation of a water quality project should, in itself, protect or improve water quality. States should be able to estimate the quantitative and/or qualitative water quality benefit of a nonpoint source project.

- Only the portions of a project that remediate, mitigate the impacts of, or prevent water pollution should be funded.

In many cases, water quality protection is combined with other elements of an overall project. For instance, brownfield revitalization projects include not only water quality assessment and cleanup elements, but a redevelopment element as well. Where the water quality portion of a project is clearly distinct from other portions of the project, only the water quality portion can be funded by the CWSRF.

- Point source solutions to nonpoint source problems are eligible as CWSRF nonpoint source projects.

Section 319 Nonpoint Source Management Plans identify sources of nonpoint source pollution. In some cases, the most environmentally and financially desirable solution has point source characteristics and requires an NPDES discharge permit.

Financial assistance opportunities under section 319 for certain categories of eligibilities:

1. Stormwater:

Publicly or privately owned stormwater projects that are not specifically required by a draft or final NPDES permit are eligible. Green infrastructure that simulates the natural hydrology of an area by capturing stormwater where it falls, treating, and infiltrating it often goes beyond the requirements of an NPDES permit. Consequently, they can be funded under the section 319 authority. Examples include green roofs, infiltration basins, curb cuts and landscaped swales, and wetland protection and restoration.

The table on Page 8 illustrates how stormwater projects are eligible for CWSRF assistance.

Stormwater Project Eligibility Clean Water State Revolving Fund												
CWSRF Authority	Publicly Owned Project						Privately Owned Project					
	Specifically Required by an NPDES Permit		Not Specifically Required by an NPDES Permit		Unregulated Project		Specifically Required by an NPDES Permit		Not Specifically Required by an NPDES Permit		Unregulated Project	
	Phase I/Phase II Municipal Stormwater Area	Construction Permit >1 acre *	Phase I/Phase II Municipal Stormwater Area	Construction Permit >1 acre *	Unregulated Community	Construction <1 acre **	Phase I/Phase II Municipal Stormwater Area	Construction Permit >1 acre *	Phase I/Phase II Municipal Stormwater Area	Construction Permit >1 acre *	Unregulated Community	Construction <1 acre **
212	✓	✓	✓	✓	✓	✓						
319	n/a	n/a	✓	✓	✓	✓	n/a	n/a	✓	✓	✓	✓
320	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

- ✓ **Eligible**
- * **or construction sites in a common plan of development**
- ** **and the construction site is not in a common plan of development**

2. Water Conservation and Reuse:

Capital projects to reduce the water use and diffuse discharge of nonpoint source pollution are eligible. For instance, efficient irrigation equipment that encourages farmers to use less water and reduce subsurface drainage is eligible. The CWSRF can also fund incentive programs to conserve water, including the development and implementation of public education programs on water conservation and efficiency.

3. Source Water Protection:

Actions to protect source water are eligible if they meet the principles listed above. Projects include the various project categories listed in this paper, as well as tree plantings and other protection activities that take place in a well head protection area or surface water drainage area. Land for reservoirs, as well as the impoundment or dam, is eligible.

4. Contaminated Sites:

Capital projects to clean up contaminated sites that impact surface or ground water quality are eligible. For instance, site assessments, excavation, removal and disposal of contaminated soil or sediments, capping of wells or soil, remediation of stormwater runoff, unless specifically required by an NPDES permit, monitoring of groundwater or surface water for contaminants and groundwater cleanup are eligible.

Payment of premiums for environmental insurance is eligible as costs of construction. Both the construction and insurance policy must be for water quality related projects. Environmental insurance is not an eligible cost as a stand-alone CWSRF project unrelated to a water quality project. Payments of premiums may only be made during the construction period. The Environmental Finance Advisory Board published recommendations on financial considerations associated with environmental insurance. The letter to the EPA Administrator is available at www.epa.gov/efinpage.

- a. Brownfields: Phase I, II and III site assessments are eligible.
- b. Superfund Sites: As noted above.
- c. Underground Storage Tanks: Excavation and disposal of underground storage tanks are eligible. In addition, the CWSRF can fund the replacement tank if it meets federal leak prevention standards.
- d. Abandoned mines: Removal of tailings from stream beds and flood plains, and the restoration of aquatic life or correction of secondary impacts caused by mining activities by means such as discharge diversion, runoff dispersion, sediment control and collection, vegetation and soil stabilization, and the capping of contaminated sources are eligible.

5. Animal Feeding Operations (AFOs):

Water quality related BMPs at AFOs that are not regulated as point source concentrated animal feeding operations (CAFOs) are eligible. CAFOs are not eligible for CWSRF nonpoint source assistance because they are defined as point sources in section 502(4) of the CWA. Eligible BMPs at AFOs include manure containment structures, calibratable application equipment, fencing and alternative water supply for animals to keep them out of water bodies, as well as capital to capture methane from manure digesters and convert it to energy. Refer to CWSRF section 320 for the eligibility of CAFOs located within National Estuaries.

NPDES permits for CAFOs cover the animal production area and the land where manure is applied. Any projects specifically required by an NPDES permit are not eligible for section 319 assistance. However, when CAFO manure is not under the control of the CAFO, such when it is given away, it is no longer regulated by the NPDES permit. A CWSRF loan to a non-CAFO to treat or make beneficial use of manure no longer under the control of the CAFO, such as in a manure digester, is eligible. In addition, a loan to a medium or small AFO to refinance debt undertaken for water quality work to remove the characteristics that made it a CAFO is eligible so long as the loan recipient is no longer a CAFO at the time of the CWSRF binding commitment.

6. Failing Decentralized Wastewater Systems:

The upgrade or replacement of failing decentralized wastewater systems is eligible. The CWSRF has already allowed funding for a privately owned septage treatment works and pumper trucks to support the proper maintenance of decentralized systems. In addition, the CWSRF can fund the portion of a privately-owned centralized wastewater treatment works that are associated with the collection and treatment of effluent from properties with failing decentralized systems. This includes the house lateral to connect homes with failing septic tanks to a centralized treatment works.

7. Landfills:

Capping and other water quality related closure activities for non discharging municipal landfills without leachate collection systems that do not require an NPDES permit are eligible, including both public and privately owned landfills. Water quality projects, such as monitoring wells, stormwater BMPs and caps are eligible. Refer to section 212 for eligibility of municipal landfills that are required to have NPDES permits. Refer to section 319 for eligibility of privately owned landfills within a National Estuary.

8. Trading:

The CWSRF can provide funding for nonpoint source projects that generate water pollution control credits. The revenue from the sale of the credits is not program income and can remain with the CWSRF assistance recipient. For additional ideas related to trading, see section A.5.

9. Land:

Land and easements for water quality purposes are eligible. However, with competing demands for limited funding, it is important that States estimate the potential water quality benefits from each tract and that these benefits should be considered significant. Land easements and fee simple purchase of land are an example of projects where the entire project is related to water quality, though there are other benefits, such as habitat. CWSRF financial assistance for easements and fee simple purchase of land need not be pro-rated. In the case of fee simple purchase, States should include deed restrictions to protect water quality with a caveat that they be permanent unless the original purpose of the land is unobtainable or the land is no longer needed for water quality protection. Some amenities, such as pervious trails and water quality related signage, contribute to the protection of water quality and the abatement of nonpoint source pollution and are eligible for CWSRF funding.

10. Atmospheric deposition:

Where there is a causal link between manmade air pollution and water quality, projects to prevent the emission of air pollutants are eligible. For instance, mercury contamination is a serious water contaminant across the nation. Data from 303(d) lists indicate that over 8,500 water bodies in 43 states and Puerto Rico have been listed as impaired by mercury and most are believed to be caused by atmospheric deposition. The primary source of mercury contamination is from power plant emissions. Mercury released in gaseous form contaminates water through air deposition. Additionally, air deposition of nitrogen is a significant component of nitrogen-caused problems in many water bodies. Impacts from nitrogen deposition are estimated to represent between 5 and 44% of total nitrogen contributions in National Estuaries. Since the location of the contamination is not related to a particular source of mercury or nitrogen, but to all sources, deposition is a nonpoint source of pollution for water quality purposes. The cost of installing mercury or nitrogen reducing technologies at public or private sources is eligible.

11. Monitoring:

Water quality monitoring equipment for the purpose of assessing the effectiveness of BMPs is eligible. In addition, project monitoring activities, including costs to perform monitoring such as testing and lab work, are eligible during a project's start up period, if the monitoring is not required by an NPDES permit. The start-up period shall not extend beyond the first 3 years of project operation. Documenting the efficacy of non-structural nonpoint source BMPs and stormwater BMPs will help States refine their project priority systems and document the actual environmental outcomes from CWSRF funding for inclusion in the Clean Water SRF Benefits Reporting Database. Broad ambient watershed monitoring activities and Total Maximum Daily Load (TMDL) development are beyond the scope of capital CWSRF projects.

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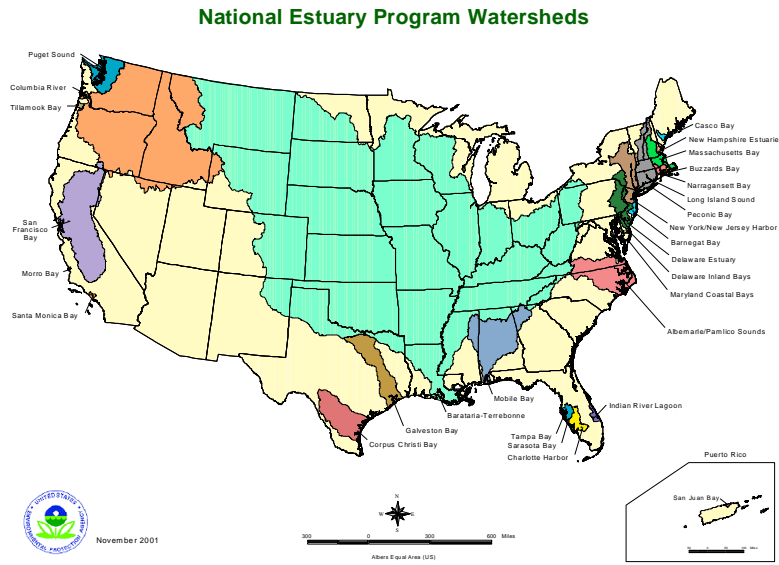
Note: This list is intended to present examples of eligible projects, and is by no means exhaustive

		Publicly-Owned	Public Purpose	Privately-Owned	Private Purpose
319					
NPS Problem	NPS Solution	<ul style="list-style-type: none"> ● Stormwater projects not required by NPDES permit <ul style="list-style-type: none"> ○ Green infrastructure - Green roofs - Infiltration basins - Curb cuts - Landscape swales - Wetland protection and restoration ● Water conservation and reuse projects, such as public education programs on water conservation and efficiency ● Water supply projects <ul style="list-style-type: none"> ○ Planting trees and shrubs ○ Land for reservoirs and the impoundment ● Projects to clean up contaminated sites <ul style="list-style-type: none"> ○ Site assessments ○ Excavation, removal and disposal of contaminated soil/sediments ○ Capping of wells or soil ○ Environmental insurance premiums for construction ○ Phase I, II and III Brownfields site assessments ○ Excavation and disposal of underground storage tanks ○ Replacement of underground storage tanks ○ Remediation of stormwater runoff (unless required by NPDES) ○ Ground water or surface water monitoring ● Upgrade or replacement of failing decentralized systems ● Capping/closure activities for non-NPDES municipal landfills ● Water quality trading <ul style="list-style-type: none"> ○ Projects that generate water pollution control credits for water quality trading ○ POTW sub-recipient assistance for 319 projects ● Land purchase and easements <ul style="list-style-type: none"> ○ Pervious trails ○ Water quality-related signage ● Project monitoring activities (first 3 years) ● Projects to remediate mine drainage <ul style="list-style-type: none"> ○ Restoration of aquatic life ○ Runoff dispersion / discharge diversion ○ Vegetation and soil stabilization 	<ul style="list-style-type: none"> ● Stormwater projects not required by NPDES permit <ul style="list-style-type: none"> ○ Green infrastructure - Green roofs - Infiltration basins - Curb cuts - Landscape swales - Wetland protection and restoration ● Water supply projects <ul style="list-style-type: none"> ○ Planting trees and shrubs ○ Land for reservoirs and the impoundment ● Projects to clean up contaminated sites <ul style="list-style-type: none"> ○ Site assessments ○ Excavation, removal and disposal of contaminated soil/sediments ○ Capping of wells or soil ○ Environmental insurance premiums for construction ○ Phase I, II and III Brownfields site assessments ○ Excavation and disposal of underground storage tanks ○ Replacement of underground storage tanks ○ Remediation of stormwater runoff (unless required by NPDES) ○ Ground water or surface water monitoring ● AFO water quality BMPs <ul style="list-style-type: none"> ○ Manure containment structures ○ Calibrated application equipment ○ Fencing and alternative water supply ○ Methane capture and conversion ○ Capital for an AFO to use or treat former CAFO manure, such as manure digesters ● Refinance debt to transform a CAFO to an AFO ● Upgrade or replacement of failing decentralized system <ul style="list-style-type: none"> ○ Privately-owned septage treatment works ○ Pumper trucks ○ Portion of treatment works costs for collection/treatment of effluent ● Capping/closure activities for non-NPDES municipal landfills ● Water quality trading <ul style="list-style-type: none"> ○ Projects that generate water pollution control credits ○ POTW sub-recipient assistance for 319 projects ● Land purchase and easements <ul style="list-style-type: none"> ○ Pervious trails ○ Water quality-related signage ● Project monitoring activities (first 3 years) ● Projects to remediate abandoned mine drainage <ul style="list-style-type: none"> ○ Restoration of aquatic life ○ Runoff dispersion / discharge diversion ○ Vegetation and soil stabilization 	<ul style="list-style-type: none"> ● Stormwater projects not required by NPDES permit <ul style="list-style-type: none"> ○ Green infrastructure - Green roofs - Infiltration basins - Curb cuts - Landscape swales - Wetland protection and restoration ● Water conservation and reuse projects, such as efficient irrigation equipment ● Projects to clean up contaminated sites <ul style="list-style-type: none"> ○ Site assessments ○ Excavation, removal and disposal of contaminated soil/sediments ○ Capping of wells or soil ○ Environmental insurance premiums for construction ○ Phase I, II and III Brownfields site assessments ○ Excavation and disposal of underground storage tanks ○ Replacement of underground storage tanks ○ Remediation of stormwater runoff (unless required by NPDES) ○ Ground water or surface water monitoring ● AFO water quality BMPs <ul style="list-style-type: none"> ○ Manure containment structures ○ Calibrated application equipment ○ Fencing and alternative water supply ○ Methane capture and conversion ○ Capital for an AFO to use or treat former CAFO manure, such as manure digesters ● Refinance debt to transform a CAFO to an AFO ● Upgrade or replacement of failing decentralized system <ul style="list-style-type: none"> ○ Privately-owned septage treatment works ○ Pumper trucks ○ Portion of treatment works costs for collection/treatment of effluent ● Water quality trading <ul style="list-style-type: none"> ○ Projects that generate water pollution control credits ○ POTW sub-recipient assistance for 319 projects ● Project monitoring activities (first 3 years) 	
		PS Solution	<ul style="list-style-type: none"> ● Projects to prevent air pollution impacting water quality, such as installation of mercury reduction technology ● Project monitoring activities (first 3 years) ● Projects to remediate abandoned mine drainage <ul style="list-style-type: none"> ○ Removal of tailings ○ Sediment control and collection ○ Capping contaminated sources 	<ul style="list-style-type: none"> ● Upgrade/replacement of failing decentralized systems <ul style="list-style-type: none"> ○ Privately-owned septage treatment works ○ Pumper trucks ○ Portion of treatment works costs for collection/treatment of effluent from failing decentralized systems, such as house laterals ● Projects to prevent air pollution impacting water quality, such as the installation of mercury reduction technology ● Project monitoring activities (first 3 years) ● Projects to remediate abandoned mine drainage <ul style="list-style-type: none"> ○ Removal of tailings ○ Sediment control and collection ○ Capping contaminated sources 	<ul style="list-style-type: none"> ● Upgrade/replacement of failing decentralized systems <ul style="list-style-type: none"> ○ Privately-owned septage treatment works ○ Pumper trucks ○ Portion of treatment works costs for collection/treatment of effluent from failing decentralized systems, such as house laterals ● Projects to prevent air pollution impacting water quality, such as installation of mercury reduction technology ● Project monitoring activities (first 3 years)

C. CWSRF 320 Eligibility

The CWSRF’s authority to develop and implement Section 320 Comprehensive Conservation Management Plans (CCMP) typically overlaps with the authority to fund section 212 and section 319 projects. However, the CCMPs include point sources of pollution and other estuarine watershed projects not eligible under section 212 or section 319. As a result, the section 320 authority provides the opportunity to fund privately owned projects that require NPDES permits.

The CWSRF can fund projects located within a National Estuary’s watershed, so long as it is done pursuant to a conservation and management plan under Section 320. To date, funding had been limited to the study area for the CCMP. However, the section 320 eligibilities have been defined within section 320 to be consistent with the definition of “estuarine zones” from CWA 104 (n)(4). This definition allows for a broader geographical scope than the study area for the CCMP.



The principles that guide State funding decisions for section 320 projects are:

- All section 320 projects implement a section 320 CCMP and must be sanctioned in the plan.
- Section 320 projects can be either publicly or privately owned.
- Eligible costs are limited to capital costs.

The CWSRF considers planting trees and shrubs, purchasing equipment, environmental cleanups and the development and initial delivery of education programs as capital projects.

- Projects must have a direct benefit to the water quality of an estuary.

This includes protection of public water supplies and the protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife, and allows recreational activities, in and on water, and requires the control of point and nonpoint sources of pollution to supplement existing controls of pollution.

- Only the portions of a project that remediate, mitigate the impacts of, or prevent water pollution in the estuary watershed should be funded.

In many cases, water quality protection is combined with other elements of an overall project. Where the water quality portion of a project is clearly distinct from other portions of the project, only the water quality portion can be funded by the CWSRF.

Financial assistance opportunities under section 320 for certain categories of eligibilities, in addition to eligibilities under section 212 and section 319 authority:

1. Stormwater:

Privately owned regulated capital stormwater projects are eligible, including traditional pipe, storage and treatment systems as well as green infrastructure. Projects include the control of the impacts of development through sediment controls such as filter fences, storm drain inlet protections, and temporary mulching and seeding of exposed land areas. Similarly, CWSRF loans may be used to protect operations from storm water exposure by covering operations with potential to impact water quality under a storm resistant shelter. Low impact development practices that reduce the post-development stormwater discharge are also eligible, including the removal of impervious pavement in favor of pervious surfaces.

2. Water Conservation and Reuse:

Privately owned water efficiency and water reuse projects under section 320 are eligible. These projects help mitigate the water shortages associated with climate change. For instance, privately owned projects such as water meters, plumbing fixture retrofits in private buildings, efficient landscape irrigation equipment, gray water recycling and reuse, and distribution systems to recycle treated effluent are eligible.

3. Mining:

Privately owned, regulated mining projects that are required by NPDES permits are eligible.

4. Animal Feeding Operations:

Privately owned, regulated manure management projects on CAFOs that are required by NPDES permits are eligible.

5. Landfills:

Privately owned landfills with leachate collections systems and/or NPDES permits that predominantly receive municipal waste and serve a public purpose are eligible.

6. Trading:

The CWSRF can support water quality trading in National Estuaries. For additional information, see sections A.5. and B.8., above.

7. Atmospheric deposition:

The water quality portion of capital to mitigate air deposition of pollutants is eligible. See B.10., above, for more information.

8. Privately–Owned Municipal Wastewater Treatment and Other Purposes:

Privately owned, public purpose projects that serve community wastewater treatment needs, reduce wastewater flows to treatment works, and preserve or restore natural hydrology are eligible. For example, privately owned, public purpose wastewater treatment works are eligible. Energy conservation and efficiency measures described in section 212 that help minimize the carbon footprint of wastewater treatment are also eligible at privately owned wastewater treatment works.

D. Interaction Among Eligibility Sections 212, 319 and 320. Section 212 contains definitions of treatment works that originally served as the eligibilities of the wastewater construction grants program of the 1970-80's. The definitions in this section do not include the term "publicly–owned." This term is applied to section 212 eligibilities of the CWSRF program because it is specifically mentioned in section 603(c)(1) of Title VI. Nor does section 212 mention "public purpose" in the context of the definitions. It was simply understood that anything public-owned would serve a public purpose. Nevertheless, the 212 definitions could apply to privately owned, public purpose treatment works or conceivably to privately owned, private purpose works. But they could not be funded as section 212 projects. However, if such projects met the eligibility criteria of sections 319 or 320 they could be eligible under their authority.

Another important interaction occurs where a point source solution is selected to resolve a nonpoint problem. A good example is the replacement of failing septic systems by centralized collection and treatment as defined under section 212. This project if it were privately owned would be considered a nonpoint source project eligible under section

319. Conversely, nonpoint solutions to point source problems remain nonpoint source projects.

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Note: This list is intended to present examples of eligible projects, and is by no means exhaustive

In addition to eligible 212 and 319 projects:

		Publicly-Owned	Privately-Owned	
		Public Purpose		Private Purpose
320				
NPS Problem	NPS Solution	Covered under sections 212 and 319	<ul style="list-style-type: none"> ● Stormwater projects <ul style="list-style-type: none"> ○ During construction <ul style="list-style-type: none"> - Filter fences - Storm drain inlet protections - Mulching and seeding of exposed land areas ○ Post-construction <ul style="list-style-type: none"> - Storm-resistant shelters - Low impact development practices - Removal of impervious surfaces ● Water supply projects, such as land for reservoirs and the impoundment 	<ul style="list-style-type: none"> ● Stormwater projects <ul style="list-style-type: none"> ○ During construction <ul style="list-style-type: none"> - Filter fences - Storm drain inlet protections - Mulching and seeding of exposed land areas ○ Post-construction <ul style="list-style-type: none"> - Storm-resistant shelters - Low impact development practices - Removal of impervious surfaces ● Water supply projects, such as land for reservoirs and the impoundment
		Covered under sections 212 and 319	<ul style="list-style-type: none"> ● Water conservation and reuse projects <ul style="list-style-type: none"> ○ Water meters ○ Plumbing fixture retrofits in private buildings ○ Efficient landscape irrigation equipment ○ Gray water recycling and reuse ○ Distribution systems to recycle treated effluent 	
PS Problem	PS Solution	Covered under sections 212 and 319	<ul style="list-style-type: none"> ● Stormwater projects <ul style="list-style-type: none"> ○ During construction <ul style="list-style-type: none"> - Filter fences - Storm drain inlet protections - Mulching and seeding of exposed land areas ○ Post-construction <ul style="list-style-type: none"> - Storm-resistant shelters - Low impact development practices - Removal of impervious surfaces ● Water quality components of regulated landfills <ul style="list-style-type: none"> ○ Liner ○ Leachate collection and treatment systems ○ Monitoring wells ○ Stormwater BMPs ○ Caps ● Wastewater treatment works 	<ul style="list-style-type: none"> ● Stormwater projects <ul style="list-style-type: none"> ○ During construction <ul style="list-style-type: none"> - Filter fences - Storm drain inlet protections - Mulching and seeding of exposed land areas ○ Post-construction <ul style="list-style-type: none"> - Storm-resistant shelters - Low impact development practices - Removal of impervious surfaces ● Regulated CAFO manure management BMPs <ul style="list-style-type: none"> ○ Manure containment structures ○ Calibrated application equipment ○ Fencing and alternate water supply ○ Methane capture and conversion ● Projects to remediate regulated mine drainage <ul style="list-style-type: none"> ○ Removal of tailings ○ Sediment control and collection ○ Capping contaminated sources
	NPS Solution	Covered under sections 212 and 319	<ul style="list-style-type: none"> ● Stormwater projects <ul style="list-style-type: none"> ○ During construction <ul style="list-style-type: none"> - Filter fences - Storm drain inlet protections - Mulching and seeding of exposed land areas ○ Post-construction <ul style="list-style-type: none"> - Storm-resistant shelters - Low impact development practices - Removal of impervious surfaces 	<ul style="list-style-type: none"> ● Stormwater projects <ul style="list-style-type: none"> ○ During construction <ul style="list-style-type: none"> - Filter fences - Storm drain inlet protections - Mulching and seeding of exposed land areas ○ Post-construction <ul style="list-style-type: none"> - Storm-resistant shelters - Low impact development practices - Removal of impervious surfaces ● Projects to remediate regulated mine drainage <ul style="list-style-type: none"> ○ Restoration of aquatic life ○ Runoff dispersion/discharge diversion ○ Vegetation and soil stabilization

II. Financial Options and Incentives: Addressing Program Priorities

A Highly Successful Program Looks to the Future

In its twenty years of operation, the CWSRF program has proven to be a highly successful mechanism for generating funding to address important clean water projects. The program has experienced an exceptional growth in funding assets so that currently, CWSRF program assets exceed \$50 billion. The lending operation of the States' programs is running smoothly with nearly 20,000 projects funded. The program has funded a wide variety of projects ranging from projects designed to control runoff from farms to on-site wastewater treatment to more traditional wastewater collection and treatment projects.

With the strong base of past performance and high expectations for continued success, it is appropriate to ask whether there are new goals to reach - new challenges to address to gain an even higher level of CWSRF performance. In this section we consider how States and borrowers can work to gain greater benefit from the CWSRF program by designing and implementing financing options that will help direct financial assistance to the wide range of eligible projects. The intent throughout this discussion is not to divert funding from the historical pattern of funding traditional wastewater infrastructure. Instead, it is to catalogue ways to use existing CWA authorities to gain greater financing efficiency and achieve a level of financial assistance beyond what would otherwise be realized if the CWSRF program continued to operate exactly as it has in the past.

Opportunities for CWSRF Funding Incentives

The CWSRF program has an impressive record of using its statutorily described financial mechanisms to fund high priority projects. CWSRF funding mechanisms fall into categories that are established in Title VI of the CWA. Title VI of the CWA provides for six types of financial assistance:

- CWSRF loans – terms of up to twenty years, interest rates from 0% to market rate.
- Buy or refinance local debt.
- Guarantees and insurance for local debt.
- Security for CWSRF revenue or general obligation bonds.
- Guarantees for loans issued by sub-state revolving funds.
- Earn interest.

Within each of these types of assistance there is a wide array of options for States to consider for their program. Title VI is designed to encourage States to be innovative in designing financial programs and assistance delivery mechanisms within the assistance options. Such efforts on the part of the States in the past have resulted in highly beneficial options for local communities. It is highly likely that States will continue to find innovative new structures or arrangements consistent with the statute that will deliver subsidies to targeted projects.

Below are examples of either unused or not widely used financial and institutional arrangements that demonstrate the flexibility of the CWSRF program. They are not meant to comprise an exhaustive list of what be possible through the CWSRF program. However, States are encouraged to consider use of these and other types of arrangements to address important water quality and public health projects.

A. Loans

In Part I a number of project eligibilities are discussed. Many of the project types described can be funded through traditional direct loans from CWSRF programs. However, many other projects described could be funded through SRF loans that are provided through unique or alternative loan structures. For example, a State may provide loans to counties which then provide assistance to homeowners for on-site wastewater treatment projects. States have proven to be extraordinarily creative in developing loan structures. Importantly, the dedicated revenue stream required to obtain an SRF loan can be entirely separate from the project(s) financed. Additional means for delivering financial assistance could include the concepts outlined below.

- Watershed restoration and protection incentives through the CWSRF program.
 - Loan to address a section 212 eligible project is paired with a section 319 eligible project or activity (based on Ohio WRRSP model). A municipality receives a loan with a reduced interest rate that will compensate the municipality for undertaking desired NPS or related projects that would not otherwise be funded. Projects are coordinated to address the most pressing watershed restoration or protection areas of the community's service area.
 - Loan to a local government sponsor program where a county or city acts as intermediary for eligible projects. A local government acts as an intermediary for one or more local watershed restoration/protection projects. The local government could provide loans to project sponsors that would be repaid over a specified period of time. States may allow local governments to maintain control over the loan funds for an extended period of time and the funds under local control can be lent out as new loans many times at the local level. Alternatively, the local government could use the funds as grants for specific projects. In that case, while the community is not repaid by the project sponsors, the community would repay the CWSRF loan to the State. Local governments could also purchase the debt of another entity as the mechanism for providing assistance.
 - Loan to an intermunicipal watershed fund where a watershed is comprised of several political jurisdictions within a State. These jurisdictions could form, for example, an intermunicipal watershed fund to receive CWSRF financial assistance. The intermunicipal fund could create a portfolio of watershed projects eligible for CWSRF assistance and deliver that assistance to recipients. The fund could revolve all, in part, or not at all as long as any obligation to the CWSRF is satisfied.

- Cross jurisdictional coordination for regional solutions. Where eligible, loans are provided across State lines to provide for a regional project solution to an existing water quality problem.

This approach may call for interstate lending for NPS projects. Interstate lending could occur in at least two ways. An interstate agency could be established by congressional action or with the agreement of two or more States, as defined in section 502(2), with the agency given necessary authority to provide financial assistance. A CWSRF would lend to this entity which in turn would either off lend or even make grants (or other types of assistance) to projects in another State. The interstate agency would be obligated to pay the loan.

- Linked-deposit loans could be used more widely to finance targeted nonpoint source eligibilities.
- Establish or expand coordination of State infrastructure assistance programs to targeted priority projects.
 - Streamlined loan application process for multiple State and federal programs.
 - State financing in combination with CWSRF loans.
 - Technical assistance in developing projects necessary to meet State goals for addressing watershed protection/restoration.
- Apply very low to zero percent loans as incentives to address targeted types of projects or to address hesitancy of using CWSRF program or to lower cost per household. Use of means testing to distribute CWSRF loan funding in high demand States.
- Adopt loan fees.
 - Maintain fee revenue account outside Fund (must be non-program income)
 - Incentive funds for targeted projects
 - Guarantees for green infrastructure and other innovative technology
 - Technical assistance grants
 - Planning grants
 - Grants to hardship communities or to alleviate project costs
- Ensure the performance of "soft-path" or "green" technology through the purchase of performance insurance (as a construction cost). Providing performance insurance as a safety net would exclude failure due to inadequate O&M.
- Apply some loan capacity to financing capital improvement plans (CIP). CWSRFs can make advance loan commitments to finance projects in the outyears of a CIP subject to the availability of funds when required. This provides reasonable assurance to the borrowers that they would be able to obtain SRF loans when needed. Advance loan commitments are a useful planning tool that could be made for a portfolio of CIP projects consisting of desired priority eligibilities.

- Make grants for planning. CWSRFs may lend to entities that use funds to make grants so long as the loans are repaid and are made for eligible costs. Planning grants could be made for a wide variety of useful purposes, including energy audits, development of environmental management systems, asset management planning, water conservation plans, and green infrastructure planning and design. The general requirement is that the planning project bear a reasonable relationship to a current or anticipated capital project. Funds to repay the loan could come from any number of sources including non program fee income generated by operation of the CWSRF itself.

B. Guaranties and insurance

CWSRFs could provide guaranties or insurance as an incentive for borrowers to undertake additional or targeted types of projects.

- In States where demand for assistance far out paces the available supply of CWSRF funding, States could provide local bond insurance or provide guaranties for local debt instead of leveraging or in coordination with leveraging scheme.

Guaranties or insurance could also be used as part of financing package for small/disadvantaged communities, perhaps in combination with other funding. A separate loan guaranty program could be established to support borrowing for green infrastructure projects or targeted categories of eligibilities.

- Guaranties could be used in combination with loans for mega projects. For example many wet weather projects are very costly, possibly exceeding the capacity of the CWSRF to finance. As an alternative, the CWSRF could loan for a portion and guaranty the tax-exempt debt issued to pay for the balance. Importantly, there is no restriction of CWSRF guaranties of tax exempt debt.

C. Refinancing or purchase of local debt

The purchase of local debt provision allows for the extended maturities approach now in use in nine States. Extended maturities allows for longer term financing than 20 years. To provide even greater benefits for priority needs, States could combine extended maturity assistance with low interest rates for targeted projects with longer useful lives.

D. Guaranteeing SRF revenue debt

States could explore the use of a leveraging while also supporting NPS or other projects that would not participate in the leverage pool of loans. A number of States have shown that they can leverage and fund NPS projects through the CWSRF program. In general, it would be useful to establish parameters to help guide States to consider leveraging – e.g., demand, large utility participation, etc., and encourage them to discuss the options with stakeholders in their State.

E. Interest earnings

While State laws may restrict what can be done with funds that are deposited in SRF accounts, because of the large size of the investments it is appropriate to consider what actions or new approaches might be considered to benefit the CWSRF program.

- Development of cash demand forecast approach to State investments to potentially increase earnings.
- Develop report on options for cash management – collection of proposed approach and techniques and present to State fund managers
- Evaluate opportunities to pool CWSRF funds from several States to achieve greater efficiency from the management of a larger pool and to increase return from its investments. However, interstate pooling may not be legally possible in many if not most States.
- An innovative State has proposed allowing the State Treasurer to provide CWSRF funding in the form of an investment to eligible water quality projects. The transaction has been identified as an investment because it results in a tradeable nutrient credit that can then be sold in a nutrient trading market being established by the State. The Treasurer is already responsible for investing idle cash and providing a return to the CWSRF and plans to sell the credits to dischargers to provide the return to the CWSRF.

F. Guaranties for Substate revolving fund loans. Guaranteeing the loans provided by substate revolving funds can encourage locally-focused revolving funds for important water quality projects.

III. Effective Planning and Outreach

Planning and outreach are critical components of any effort to broaden the types of eligible projects considered by States through CWSRF programs. The topic is not new to discussions on CWSRF program management. In 1991, EPA developed a guide to implementing integrated priority systems in the CWSRF programs (Integrated Planning and Priority Setting in the Clean Water State Revolving Fund Program, EPA-832-R-01-002, March 2001.) That report provides information of the types of priority systems that States could use as they work to broaden project assistance to include non-traditional projects made eligible through the State-EPA developed funding framework policy. The report also describes the need for States to actively reach out to their communities and others to encourage them to undertake the types of projects necessary to address important water quality problems in the State.

Moving forward with CWSRF eligibilities that are consistent with the statute, but may not have been widely considered by States and assistance delivery approaches will likely result in some States revisiting their approach to planning how best to use CWSRF

resources and how best to reach out to parties that implement projects that are consistent with a State's goals.

Plan to Address Priorities

Understanding the local water quality conditions will inform State efforts to expand their programs and to consider the range of eligibilities available in the CWSRF program. Major sources of information are available to a State for this effort including:

- State watershed assessments
- The National Water Quality Inventory (305(b)) Report
- List of impaired waters (303(d) lists) and TMDLs
- National Water Information Survey (USGS)
- Nonpoint source assessment reports and management programs (Section 319)
- National Estuary Program Comprehensive Conservation and Management Plans (Section 320)

By working with State colleagues with expertise in water quality program management, CWSRF programs can tap this information and develop a clear understanding of the State's water quality priorities.

Determine the Best Role for the CWSRF

The CWSRF is one funding source of many available to each State for water pollution control. Other sources of funding include:

- State-funded grant and loan programs
- Nonpoint Source Grant Program (EPA)
- Community Development Block Grant (CDBG) program (HUD)
- Environmental Quality Incentives Program (EQIP) of the Natural Resources Conservation Service
- Rural Utilities Service water and waste disposal grant and loan programs

All of these funding programs collectively impact a State's water quality. A CWSRF program should explore how best to coordinate available funding with SRF loans and other assistance to achieve the greatest possible positive effect on State priority projects. This understanding is critical in marketing the CWSRF program, in selecting projects for CWSRF funding, and in assessing the success of the CWSRF program.

The availability of assistance through other programs can affect the CWSRF roles in a number of ways. Many States have State-funded grant and loan programs that adequately address specific water pollution issues. For example, a large State-funded grant program targeting dairy best management practices may address a significant State need without funding assistance from the CWSRF. Dairy BMPs would not be a CWSRF priority so CWSRF resources would target the State's other water quality priorities.

Other States have established a “one stop-shopping” concept for assistance programs. A State may develop one planning and priority setting system (and one application) for all of its water quality funding programs. The State would then fund its highest priority projects with resources from the most appropriate program or programs. In a “one-stop-shopping” scenario, the CWSRF-funded projects would not always match up perfectly with the State’s water quality priorities. A coordinated approach taken at the State level will result in a higher level of efficiency and a greater positive impact on water quality.

Conduct Outreach

Effective outreach efforts are crucial to the success of an integrated planning and priority system. Finely crafted priorities and ranking systems will only enable a State to address its highest priority water quality issues if the program has attracted applications for appropriate projects. To ensure that the appropriate projects receive funding, CWSRF programs will likely find it necessary to modify and expand their outreach efforts. State CWSRF programs have an established relationship with communities and are viewed as a source of funding for traditional municipal treatment projects. Most CWSRF programs do not have the benefit of a similar relationship with communities or individuals where the CWSRF has been used as a source of funding for nonpoint source projects. For this reason, an expanded approach to outreach is necessary.

There are a number of ways that States can expand outreach in the CWSRF program. States may wish to use techniques such as surveys, focus groups, small group discussion forums, presentations at State meetings or conferences to get the word out on the program. The most successful approaches are focused on raising the profile of the program for potential SRF assistance recipients. A number of States are now developing marketing or enhanced outreach plans that first consider how the CWSRF is perceived by the public, develops a customized set of outreach activities (e.g., presentations at local meetings), and tracks how the efforts succeed over time. The wide range of eligibilities and financial options of the program should serve as a key component of State-wide marketing plans. A comprehensive plan will generate a much bigger impact on CWSRF program performance than will a more piecemeal approach.

In addition, organizations other than the State agencies managing the CWSRF program can promote the program and help bring water quality projects to the table for funding. For instance, watershed groups, including the National Estuary Programs, have many assets. These assets include watershed plans, monitoring data, and credibility within the community. Watershed groups can serve as brokers to bring priority projects within their watershed to the CWSRF for funding. They may also play a role in identifying sources of funding to repay loans that are not immediately obvious or generated by the project being funded. Watershed groups can also help the CWSRF create funding programs that are attractive to water quality projects. The CWSRF provides numerous formal opportunities for public input, including the development of the annual Intended Use Plan. There are also opportunities to inform the priority setting system used by each State.

Going forward, it is likely that more States will become more sophisticated in conducting outreach to communities, nongovernmental organizations and others that are important implementers of CWSRF funded projects.

Appendix A: Relationship to OW's Climate Change Strategy [To be added]

Appendix B: Notes on certain ineligible projects [To be added]