



Financing Nonpoint Source Water Quality Projects Through the Clean Water State Revolving Fund

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Abstract

The Clean Water State Revolving Fund is the United States' largest source of continuing financing for water quality projects. The 50 state managed funds are specifically authorized to, among other things, finance nonpoint source water quality projects that implement the states' nonpoint source water quality management plans that they have developed pursuant to §319 of the federal Clean Water Act. Since the Clean Water State Revolving Fund's inception, the states have been gradually increasing its use to finance nonpoint source water quality projects. The nation's Clean Water Action Plan¹ has added increased emphasis to this effort by setting a goal of devoting at least 10% of the funds available to nonpoint source water quality projects by the year 2001.

This paper will:

- describe the Clean Water State Revolving Fund program;
- provide the reader with a picture of the magnitude of the funding that has been and continues to be available;
- describe the steps that are typically necessary for a state to be able to effectively use its Clean Water State Revolving fund to finance nonpoint source water quality projects;
- Discuss why the state water pollution control revolving funds are an attractive source of financing for nonpoint source water quality projects;
- Discuss alternative methods that a project owner might use to repay a loan from a state water pollution control revolving fund;
- provide links to fact sheets that document the wide variety of watershed projects that can be financed with loans from state water pollution control revolving funds.

1 The President's Clean Water Action Plan can be found at the following site on the web:
<http://www.cleanwater.gov>

Introduction–The Clean Water State Revolving Fund

The Clean Water State Revolving Fund (CWSRF) was authorized by the 1987 amendments to the federal Clean Water Act. The CWSRF replaced the Construction Grants program, which had been created by Title II of the Clean Water Act in amendments enacted in 1972. That program provided grants to subsidize the construction of publicly owned treatment works (POTW) for municipal sewage. Under the Construction Grants program, the Environmental Protection Agency (EPA) and the states financed the construction of thousands of POTWs over a period of nearly 20 years. During its time, the Construction grants program was the largest civil works program in the United States, financing more than \$60 billion in projects.

Title VI of the Act, as amended, requires the Administrator of the EPA to make capitalization grants to each state for the purpose of establishing a water pollution control revolving fund to provide financial assistance for three types of water quality projects:

1. the construction of publicly owned treatment works;
2. implementation of the nonpoint source management programs required by §319 of the Clean Water Act;
3. development and implementation of the conservation and management programs required by §320 of the Clean Water Act for national estuaries designated by the EPA.

Title VI authorized a limited suite of possible types of assistance for eligible projects from the state water pollution control revolving funds that would be created under its authority:

1. loans made at or below market interest rates, including interest free loans for terms not to exceed 20 years;
2. purchasing or refinancing the debt obligations of municipalities and intermunicipal and interstate agencies within the state at or below market rates;
3. guaranteeing or purchasing insurance for local obligations where such action would improve credit market access or reduce interest rates;
4. serving as a source of revenue or security for the payment of principal and interest on revenue or general obligation bonds issued by the state if the proceeds of the sale of such bonds are deposited into the state's water pollution control revolving fund;
5. providing loan guarantees for similar revolving funds established by municipal or intermunicipal agencies.²

The CWSRF has effectively replaced the Construction Grants program as the United State's largest continuing civil works program. As a mature program it is now consistently financing

2 The Act also authorizes the water pollution control revolving funds to earn interest on fund accounts and to use the fund to pay the reasonable costs of administering the fund and conducting activities under Title VI of the Act. Administrative expenses charged against the fund are limited to an amount not to exceed 4 percent of the total of all capitalization grant awards to the fund under Title VI.

between \$2.5 billion and \$3.0 billion in new water quality projects each year. Figure 1, below, shows how this financial assistance has grown over the life of the fund through 30 June 1999 (the end date for many states' fiscal years).ⁱ

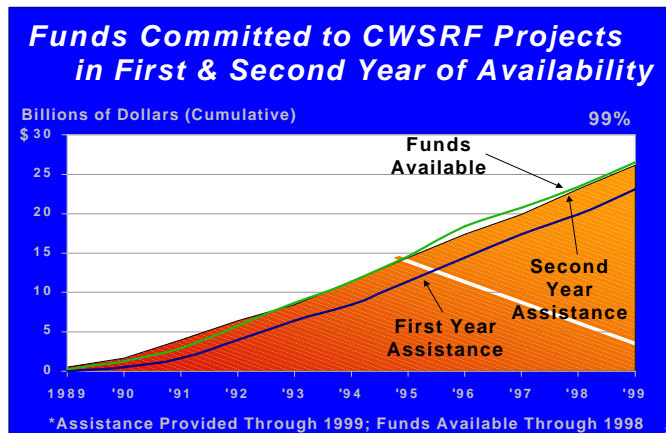


Figure 1-Funds Committed to CWSRF Projects

The CWSRF is now a mature program. This means that a substantial portion of the volume of new loans initiated each year is now being financed with the earnings the state water pollution control revolving funds have been accruing over the years and are accruing each year. This is illustrated in figure 2.³

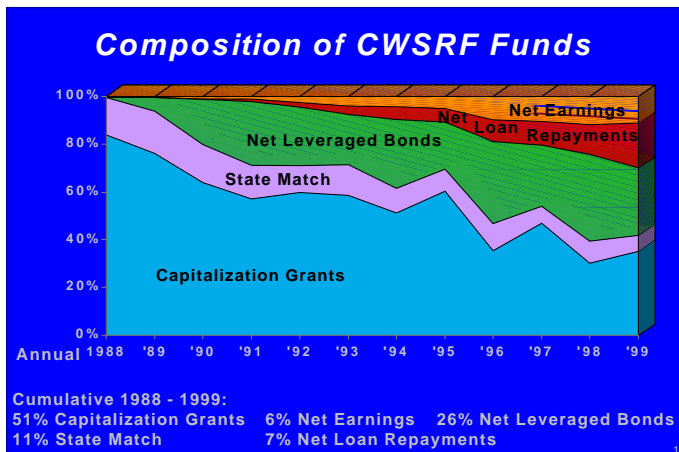


Figure 2- Composition of the CWSRF

³ Leveraging is a process in which, usually, the EPA capitalization grant and state matching capitalization contributions are used as security for revenue bonds that a state revolving fund issues (continued...)

The states have, over the last decade, gradually increased the proportion of their loan portfolios dedicated to nonpoint source water quality projects. Figure 3, below, illustrates the cumulative results through 30 June 1999.

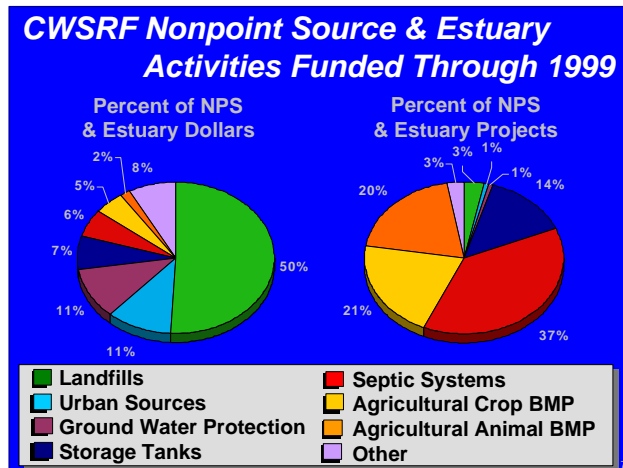


Figure 3-Nonpoint Source and Estuary Finance

Nonpoint Source Planning Requirements

The Clean Water Act authorizes the clean water state revolving funds to offer financial assistance to projects that implement a state's nonpoint source water quality management plan that has been developed pursuant to §319 of the Act. These plans were developed more than ten years ago. Over the last few years the states have been engaged in massive updates to their nonpoint source management plans in accordance with guidance issued by the EPA⁴. The focus of the states efforts have been to improve their nonpoint source management plans and, by doing so, gain eligibility to receive additional grant funding under §319 from the EPA. Thus, the central question becomes what constitutes a project that implements a nonpoint source water quality management plan or, alternatively, how should a state design its nonpoint source plan if it wants to maximize the opportunities for its water pollution control revolving fund to be used to finance

3(...continued)

(sells) in order to be able to support a considerably larger volume of new loans. Often the proceeds of the leverage bond sales will be two to three times larger than the original capitalization amount. Net leveraged bonds are the net proceeds of these bond sales (net accounts for the costs of issuing the bonds).

4 This guidance is available at the follow location on the EPA web site:
<http://www.epa.gov/owow/nps/guide.html>

projects that implement that plan. After giving considerable thought to this question, in our view, there are several approaches that a state could take to designing its nonpoint source management plan.

The first characteristic of a nonpoint source management plan that could access a state's water pollution control revolving fund is that it should tell the reader what the state intends to do to address its identified nonpoint source water quality problems. Next, it should tell us the types of changes in behavior, operating practices and land and resource management strategies the state wants to encourage, promote or require of the entities that are the principal sources of the identified nonpoint source water pollution. By "entities" we mean farmers, ranchers, conservation districts, irrigation districts, timber companies, state and federal land and resource management agencies, special purpose districts, such as sewer districts and port authorities, and local governments. This list is not, necessarily, exhaustive. It represents an initial attempt at identifying the institutions that have control (*de facto* or *de jure*) over the behaviors and practices that result in nonpoint source related water pollution.

The critical analytical link here is that the state's Revolving Fund managers, when reviewing applications from project sponsors, need to be able to determine whether projects are eligible to receive a loan under the terms of §603(c)(2) of the Clean Water Act. In order to do that the sponsor needs to be able to demonstrate that the project would implement the state's EPA approved nonpoint source management plan. In order for a sponsor to be able to do that, the plan must identify what the state intends to do to address the identified nonpoint source water quality problems. More "planning" and coordination is not an implementation related activity.

In those circumstances where a state's nonpoint source water quality management plan does not tell us what the state intends to do to address the identified nonpoint source water quality problems, there may be other ways to create a fact situation that allows the state to finance nonpoint source projects with loans from its water pollution control revolving fund. First, the nonpoint source water quality management plan could explicitly integrate the Total Maximum Daily Loads (TMDLs) and Waste Load Allocations that the state is developing for streams that are listed under §303(d) due to nonpoint source pollution. By this, we mean that the plan could discuss in clear terms how and when the state intends to implement those TMDLs.

Second, if the Watershed Restoration Action Strategies (WRAS) being developed under the Clean Water Action Plan are an integral part of the state's nonpoint source plan and these WRAS are sufficiently specific then they could provide the basis for making the required demonstration. In order for this to work the state would need to create a mechanism to incorporate these WRAS by reference into the nonpoint source plan.

A third approach would be for the nonpoint source water quality management plan to identify on a sub-state or watershed basis the water quality improvements that the state wants to achieve with its strategy. For example it might say that the state wants to bring particular watersheds into compliance with specific water quality standards. Or it might say that it wants to reduce nutrient loads in particular watersheds by specified percentages. Each of these possibilities

provides a clearly defined target. This would allow a project sponsor to then demonstrate in its loan application that its project would contribute to attaining the specified water quality or pollutant loading target.

These alternative approaches are not mutually exclusive. A state could, indeed, do all three in its nonpoint source water quality management plan. They are also not an exhaustive list of the possibilities. They are simply good illustrations of the type of content that needs to be present in these strategies if they are to lay an effective foundation for using the Clean Water State Revolving Fund to finance their implementation.

Clean Water State Revolving Fund Planning

Intended Use Plans

Each year, every state is required to develop a plan for the intended uses of the funds available to its water pollution control revolving fund. This Intended Use Plan (IUP) must include, among other things:

1. A description of the short and long-term goals of its water pollution control revolving fund;
2. The criteria and methods established for the distribution of funds; that is the criteria and methods that will be used during the year to determine which projects receive financial assistance from the fund;
3. A project priority list for publicly owned treatment works projects that are eligible for assistance from the fund;
4. A list of activities eligible for assistance under §319 (nonpoint source) and §320 (estuary) of the Clean Water Act.

In order to receive a loan, a project must be identified on the state's IUP. Most states develop their IUPs through a public solicitation process in which potential project sponsors are asked to submit an application for financial assistance that provides the state with the information necessary to "rank" the project and estimate the financial demands that the project would place on the state's water pollution control revolving fund. The IUP must be subjected to public review and comment before the state implements it. As long as federal capitalization continues, the IUP is submitted to the EPA to support the state's application for a capitalization grant award. The actual application procedure is different in each state. State specific information can be obtained from the individual state revolving fund coordinators. A list of these contacts is available on the world wide web at the EPA's Clean Water Online system.⁵

5 The site is here: <http://204.46.198.13/> Simply select Clean Water State Revolving Fund Reports and you will see a choice for contact lists!

Integrated Water Quality Planning and Priority Setting Systems

The Clean Water State Revolving Fund program was created to provide financial assistance to what EPA now calls “traditional” water quality projects. A traditional water quality project is one that has as its primary purpose water quality protection. As the program evolved several states provided low-cost loans from their water pollution control revolving funds to finance the construction of new sanitary landfills. These projects have as their primary purpose solid waste management and disposal. They also can have an additional purpose of preventing or abating water pollution. The EPA calls projects such as these “non-traditional” water quality projects.

In the early 1990s the EPA became concerned at the large number of non-traditional projects that some state water pollution control revolving funds were financing. In cooperation with the states, the EPA developed and issued a new policy and guidance document titled “The Clean Water State Revolving Fund Funding Framework” that sets out the actions states must take in order to continue offering financial assistance from their water pollution control revolving funds to non-traditional water quality projects.⁶

The Funding Framework specifies that, if a state wishes to offer financial assistance from its water pollution control revolving fund to non-traditional water quality projects, then the state must develop and use an integrated water quality planning and priority setting system in developing its Intended Use Plans and allocating available loan funds among potential projects. States with integrated water quality planning and priority setting systems could be said to have several common characteristics:

1. In the process of developing their systems they have reviewed their existing water quality data and made some policy judgments and decisions about the state’s water quality priorities;
2. Those priorities are beginning to be reflected in the state’s watershed planning efforts;
3. Those priorities are integrated into the system that the state uses to rank projects that are competing for financial assistance from the state’s water pollution control revolving fund.

6 The guidance can be found on the EPA web site at <http://www.epa.gov/OW/regs/srftoc.html>

As a direct result of these conditions, in these states, nonpoint source water quality projects (both traditional and non-traditional) are able to compete much more effectively for financial assistance from the states' water pollution control revolving funds. The current status of the states' efforts to develop and adopt integrated water quality planning and priority setting systems is summarized in the figure at right.

Some states have gone to additional lengths to promote nonpoint source financing from their water pollution control revolving funds. In Washington state, for example, the state reserves 10% of the funds available for new loans each year for nonpoint source

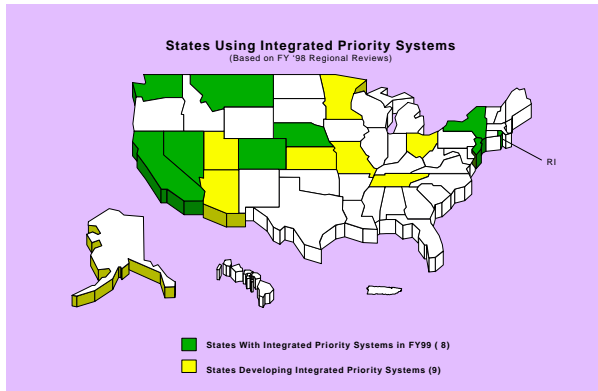


Figure 4 Status of CWSRF Priority System Development

water quality projects. Additionally, Washington does one combined solicitation each year for its three major water quality financial assistance programs which are:

2. The Washington Water Pollution Control Revolving Fund (the CWSRF);
3. The Centennial Clean Water Fund (grants and loans)
4. Nonpoint source water quality grants (under §319 of the Federal Clean Water Act).

Project sponsors submit one application to be considered for all three financial assistance programs and the state agency, the Washington Department of Ecology, “streams” the available funds to projects based on their rank on the state’s priority list, the amount of money available, the sponsor’s funding preferences⁷ and the financial terms required to make the project affordable.

EPA Support for Nonpoint Source Finance

Currently slightly over half of the states are using their water pollution control revolving funds to finance nonpoint source or estuary water quality projects. As of the end of June 1999, more than \$848,000,000 in loans had been made for these projects. Throughout the life of the Clean Water State Revolving Fund program the EPA has continued to encourage the states to expand the uses

⁷ Any sponsor that indicates that it will accept a loan or partial loan financing usually receives a loan, assuming that the project meets the program’s eligibility requirements and that it ranks high enough on the state’s project priority list to receive financial assistance in the current budget period.

of the water pollution control revolving funds. Several examples of this encouragement can be found in fact sheets that describe how the water pollution control revolving funds can be used to finance different types of nonpoint source and estuary water quality projects. These fact sheets can be found at the Clean Water State Revolving Fund's national Internet site at: <http://www.epa.gov/OWM/finan.htm>.

A subject of recent attention from the EPA was the use of the Clean Water State Revolving fund to finance point source solutions to nonpoint source water quality problems. The EPA issued a revised and corrected policy addressing this topic on January 11, 2000. That policy memorandumⁱⁱ states in relevant part:

“Projects developed to address NPS problems included in a state’s approved §319 management plan or §320 CCMP are fundable as CWSRF NPS projects regardless of the type of controls used to address the NPS pollution. This includes privately owned projects that have point source characteristics which are not otherwise explicitly prohibited by law, regulation or policy.”

The policy sets out several examples of projects that would now be eligible to receive financial assistance from a state water pollution control revolving fund under its terms. Among the more relevant examples are:

“Failing onsite septic systems which are causing NPS problems could be funded with CWSRF loans to individuals. Alternatively, a public or private decentralized system which ties a small group of existing homes directly into a cluster treatment technology, such as a mound system, could be employed to correct an existing NPS problem. Projects to install new septic systems or decentralized treatment systems in areas without existing development are not eligible . . .”

“As a final example, the remediation of acid drainage from abandoned mines may be funded under §603(c)(2) authority if the cleanup of acid drainage is included in the NPS management plan and the mining operation either was never issued a permit or is abandoned. Cleanup of acid mine drainage may be undertaken at the mine or further downstream. Potential projects include the 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.”ⁱⁱⁱ

These examples illustrate that EPA's definition of what is an eligible project under the terms of the Clean Water Act continues to be one that provides maximum flexibility to states in their efforts to find viable ways of financing water quality projects. This is particularly important as many of the states are continuing to face financial demands on their general fund budgets that exceed their available general fund revenues.

Why Borrow?

It is reasonable to ask why a project sponsor or owner would want to borrow funds to finance a nonpoint source water quality project when it might be able to obtain a grant to finance some or all of the project. The first reason is a simple matter of supply and demand. The available grant funding for water quality projects is limited. For example, in Washington State, as the state was planning for its SFY 2001 water quality financial assistance programs it determined that it had the following funds available:

Washington Water Quality Financial Assistance for FY 2001		
Program	Point/Nonpoint	Amount
State Revolving Fund	Both	\$62,000,000 ⁸
Clean Water Act §319 grants	Nonpoint	\$ 1,800,000
State Centennial Clean Water grants & loans	Both	\$ 11,700,000

The Washington Water Pollution Control Revolving Fund “reserves” 10% of its available funds each year for nonpoint source projects. It also reserves 10% of its available funds each estuary projects. Thus, the two reserves this year total \$12,400,000 or almost seven times as much money as is available under the nonpoint source grants program. In a typical year Washington receives considerably more applications for grants than it can award. In a typical year it receives fewer applications for nonpoint source and estuary loans than could be financed with the reserved funds. The balance of these reserved loan funds is ultimately used to finance public owned treatment works projects. Thus, if getting the project done sooner rather than later is important to the sponsor or owner, a low interest loan could be the preferable financing choice.⁹

A second reason why a loan might be attractive is that it can minimize the owner’s required commitment of funds early in the project. Most grant programs require some matching contribution from the recipient. This match can be as much as 50% of the total cost of the project. A loan can require little or no cash at the beginning of the project. This allows the owner additional time to raise any cash that is ultimately required for the project. For example, in states where the water pollution control revolving fund requires a loan origination fee or where the loan terms include the creation of a debt service reserve by the borrower, the terms of the loan

8 This is two years’ capitalization plus accrued revenues from prior years that have not yet been committed to new loans.

9 As this paper is being written, Washington is developing its Intended Use Plan for SFY 2001. It is currently evaluating the applications it has received. For SFY 2001 Washington reduced the interest rate that it would charge on all loans with repayment periods of five years or more to 1.5%. The result is that Washington has received applications for over \$200 million in loans for SFY 2001.

may allow the borrower to accrue the cash necessary to finance the origination fee and the debt service reserve during project construction. This can “buy” the borrower a period of two to three years in which to raise that cash.

A third reason why a loan might be financially attractive is that the state water pollution control revolving funds offer attractive interest rates. For a private sector borrower such as a farmer or rancher these rates can be extremely attractive when compared to the interest rates such borrowers can typically obtain from commercial lending sources. Loans from state water pollution control revolving funds must be at “below market” rates. This typically means that loans are offered to borrowers at a rate that is considerably below the current Municipal Bond Buyers’ Index. For loans that have short repayment periods, some state offer loans that are interest free (a 0% interest rate). Some states also offer 0% loans to relieve economic hardships for some classes of borrowers. An SRF loan at 0% interest will cost approximately 50% less than the same project funded by a grant program where the 50% cost share (match) is financed by a commercial loan at a market rate of 7.5%. For private sector borrowers that would typically be the owners of nonpoint source water quality projects, these rates are even more attractive in that these borrowers do not have access to credit at (tax free) municipal bond rates. The interest rate history for the Clean Water State Revolving Fund is shown Figure 5.

Repayment Options

One of the requirements for any loan from a state water pollution control revolving fund is that the borrower must have a dedicated source of funds to repay the loan. One of the challenges in using the CWSRF to finance nonpoint source and estuary projects is identifying a secure source

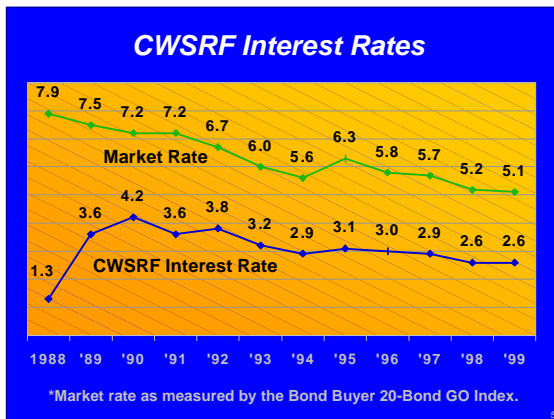


Figure 5 CWSRF Interest Rates

of revenue adequate to amortize the loan. A corollary concern is the collateral that the borrower can pledge as security for the loan, when the loan is to a private sector borrower. No state agency wants to end up in a position in which it is forced to foreclose on property that a private

sector borrower has pledged as collateral for a loan from its water pollution control revolving fund.

In spite of these challenges, states have been successful in using several different sources of repayment and means of securing loans for nonpoint source projects. The revenue sources used to repay water pollution control revolving fund loans have included:

- State agency appropriations (pledged as security in the event that a private sector borrower defaults on the loan);
- Local government tax revenues or fees (for example, when the local government is using the loan to finance loans to individual homeowners to subsidize repairs of failing septic systems);
- Recreational fees such as fishing license or park entrance fees;
- Stormwater management fees and wastewater user charges;
- Dues and donations to environmental organizations such as The Nature Conservancy;
- Proceeds from the resale of lands purchased with the loan for habitat preservation;¹⁰
- Plant sales revenues (the loan financed a nursery to grow plants used for riparian habitat restoration and protection);
- Wholesale milk sales revenues (dairy farm waste management plan implementation loans);

This list, which is not exhaustive, demonstrates that there are many possible sources of revenue that could be used to repay a loan for a nonpoint source water quality project. The experience in many of the states has been that the state water pollution control revolving fund agency is quite willing to work with the project sponsor or owner to identify both an appropriate dedicated source of revenue to pay off the proposed loan and adequate security for the funds that would be borrowed to finance the project.

Nonpoint Source Project Types

There are many types of nonpoint source projects that can be and have been financed with loans from state water pollution control revolving funds. The table below provides pointers to fact sheets developed by the EPA describing many of them.

Nonpoint Source Project Type	URL to U.S. EPA Fact Sheet
General polluted runoff cleanup	http://www.epa.gov/OWM/npsfact.pdf
Nonpoint source and estuary enhancement	http://www.epa.gov/OWM/final.pdf

¹⁰ In some cases the land was resold with restrictive covenants in the deed to protect the aquatic habitat from development

Nonpoint Source Project Type	URL to U.S. EPA Fact Sheet
Reclaiming watersheds damaged by mining	http://www.epa.gov/OWM/pdfs/template.pdf
Water conservation and reuse	http://www.epa.gov/OWM/cwreuse.pdf
Decentralized wastewater systems	http://www.epa.gov/OWM/septic3.pdf
Brownfields cleanup	http://www.epa.gov/OWM/brown.pdf
Wetlands protection	http://www.epa.gov/OWM/wetland.pdf
Land acquisition	http://www.epa.gov/OWM/pdfs/pinebar.pdf http://www.epa.gov/OWM/pdfs/howardra.pdf

These fact sheets demonstrate that there are a wide variety of circumstances in which nonpoint source water quality and watershed protection and improvement projects can be financed with low-cost loans from the Clean Water State Revolving Fund.

- i. These graphics were prepared by Ms. Kit Farber, State Revolving Fund Branch, U.S. Environmental Protection Agency and are excerpted from her 1999 annual presentation before the Council of Infrastructure Financing Authorities. Ms. Farber's electronic mail address is: farber.kit@epamail.epa.gov
- ii. CWSRF 00-4 (revised); Policy on Using the CWSRF to Solve Nonpoint Source Water Quality Problems with Point Source Solutions; Memorandum from Bill Kramer, Acting Chief, State Revolving Fund Branch to Municipal Program Managers, EPA Regions I-X; January 11, 2000.
- iii. The EPA has published all of the official CWSRF documents on-line. They can be found at the following site: <http://www.epa.gov/owm/enhance/pd/List.pdf> . If you are using an edition of the Adobe Acrobat reader that includes indexed search capabilities, you can do the equivalent of a full text search of all of the documents in the data base. The reader is available from <http://www.adobe.com/products/acrobat/readstep.html> (complete the form and check the "box" for the ability to search PDF files). As of this writing (April 2000), the database is current through 30 June 1999. The author expects that it will be updated with documents through 30 June 2000, in the late fall of 2000.