5
Sources of Funding for Water and Wastewater Infrastructure

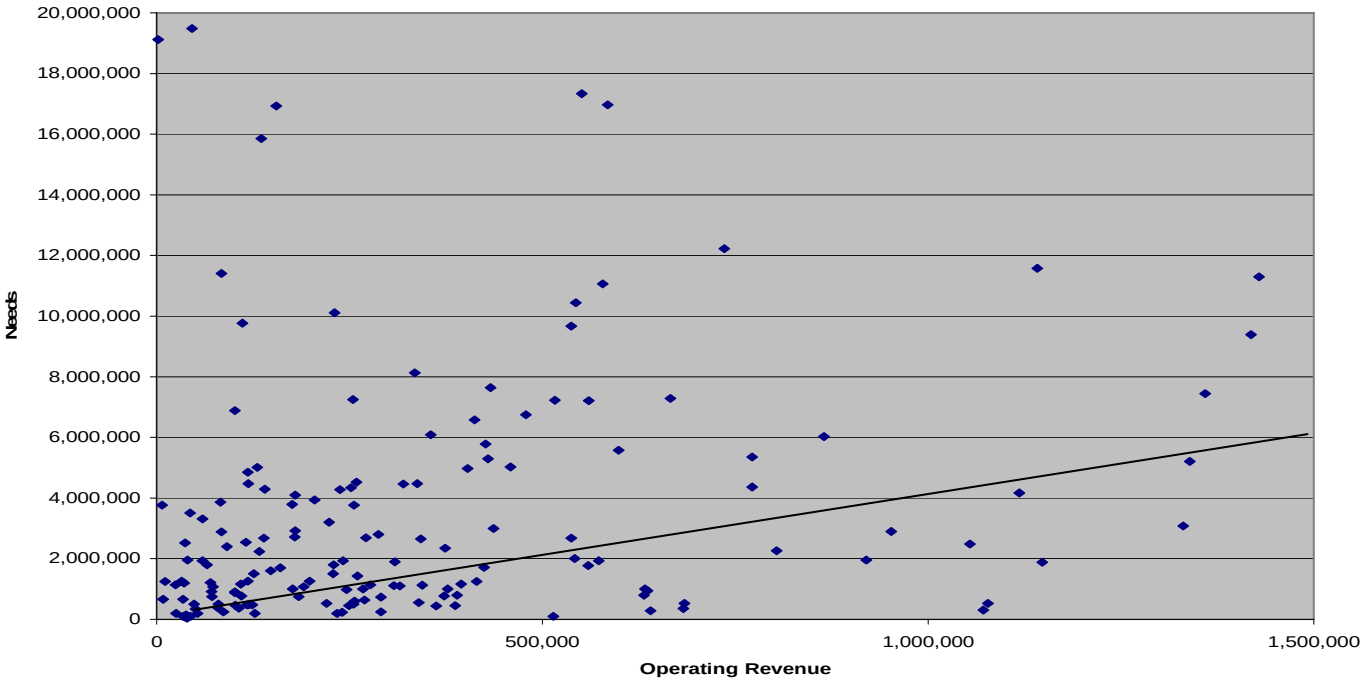
When communities write a check for a large infrastructure project, they normally find the funds in one of three places: their current revenues and reserve funds, the private capital market, or public funding programs. Some communities create innovative partnerships with other systems or private entities, but this source of funding is relatively uncommon, compared with the other three sources.

Current Revenues and Reserve Funds

The use of current revenues and reserve funds to pay for capital improvements often is referred to as pay-as-you-go financing. Systems with large annual revenues and well-planned, staggered investments can occasionally cover large initial capital expenditures using revenues generated in the year in which the investment is made, but this is rare for all but the largest systems. For most systems, pay-as-you-go financing depends on proactive capital planning, which involves putting funds aside for future expenditures, sometimes for years. This type of planning is particularly difficult for small systems with limited revenues and elected boards that are reluctant to charge rates beyond what the systems require to meet current operating needs. The use of pay-as-you-go financing as a financial management strategy is discussed further in the next chapter.

Analysis of the documented needs for wastewater systems in West Virginia, versus current revenues, is instructive (see Figure 5-1). All the points above the diagonal line in Figure 5-1 represent communities where the documented needs are more than four times the annual revenues. If these systems could put 10 percent of their current revenues aside for future capital costs, it would take each of them at least forty years to accumulate enough savings to address today's needs, not to mention future needs. Even if systems did want to use pay-as-you-go financing, for many, the needs are so much higher than the revenues that it is difficult to imagine how they would generate extra revenues.

Figure 5-1. Documented Needs for Wastewater Systems in West Virginia, versus Current Revenues



Source: Data from West Virginia Public Service Commission, provided to UNCEFC by Dave Jarret, 19 May 2004 ; West Virginia Infrastructure and Jobs Development Council, *2002 Inventory and Needs Assessment Report* (Charleston: the Council, 2003), available at www.wvinfrastructure.com/reports/index.html.

Many state and federal programs that fund infrastructure require local matching (also called cost-sharing). For example, State and Tribal Assistance Grants require 45 percent cost-sharing (unless a different requirement is specified). The Capital Improvements Revolving Loan Program in Mississippi requires 50 percent cost-sharing. The North Carolina Clean Water Management Trust Fund provides communities with grants but requires cost-sharing of at least 20 percent.

Some communities have savings or cash on hand to cover these additional matching or cost-sharing requirements, but in many situations, communities turn to another funding program to obtain the additional funds. In the end, communities often can carry out multimillion-dollar projects with minimal local contributions up front. For example, Weaverville, North Carolina, combined $100,000 of its own funds with millions of dollars from other funding sources to pay the costs of a new water system (for a case study of Weaverville, see appendix E).

The Private Capital Market

According to EPA, the private capital market is the single largest source of infrastructure capital funds.[56] However, use of this market varies significantly as a function of a community's creditworthiness, which in turn depends on a range of local factors. Relatively few communities in Appalachia, especially in economically distressed counties, have credit ratings for water and wastewater purposes from major rating agencies (for those with credit ratings from Moody's Investors Service, one of the nation's three major rating agencies, see Figure 5-2).

Some areas of Appalachia have regional rating agencies, such as the North Carolina Municipal Council. More than 40 percent of the cities and the counties in the Appalachian region of North Carolina either do not have a rating from the council or have a rating that indicates limited creditworthiness (less than 75). A review of outstanding private debt in certain areas in Appalachia indicates that in many of them, direct borrowing from the private capital market still is relatively rare Nevertheless, for larger and more economically advanced communities, such as Weaverville, North Carolina, the private debt market has been an important source of capital (see the sidebar below; also, for more detail about Weaverville, see the case study in appendix E).

Because of the difficulty many local communities have to accessing private capital, many states have realized that one of the most efficient methods of supporting infrastructure investment is to use a state's credit worthiness or bonding authority to develop pooled loan programs. This method of providing private capital to local communities has taken different forms in different states. For example, Virginia, Ohio, and West Virginia have developed traditional pooled loan programs in which state agencies serve as intermediaries to borrow money from the private capital market and lend it back to local governments through special state assistance programs. In some cases, states use the EPA SRF programs as their vehicle for providing local governments with access to private capital. Alabama has issued revenue bonds in order to contribute millions more than its required 20% state match to its EPA supported revolving loan programs. [57]

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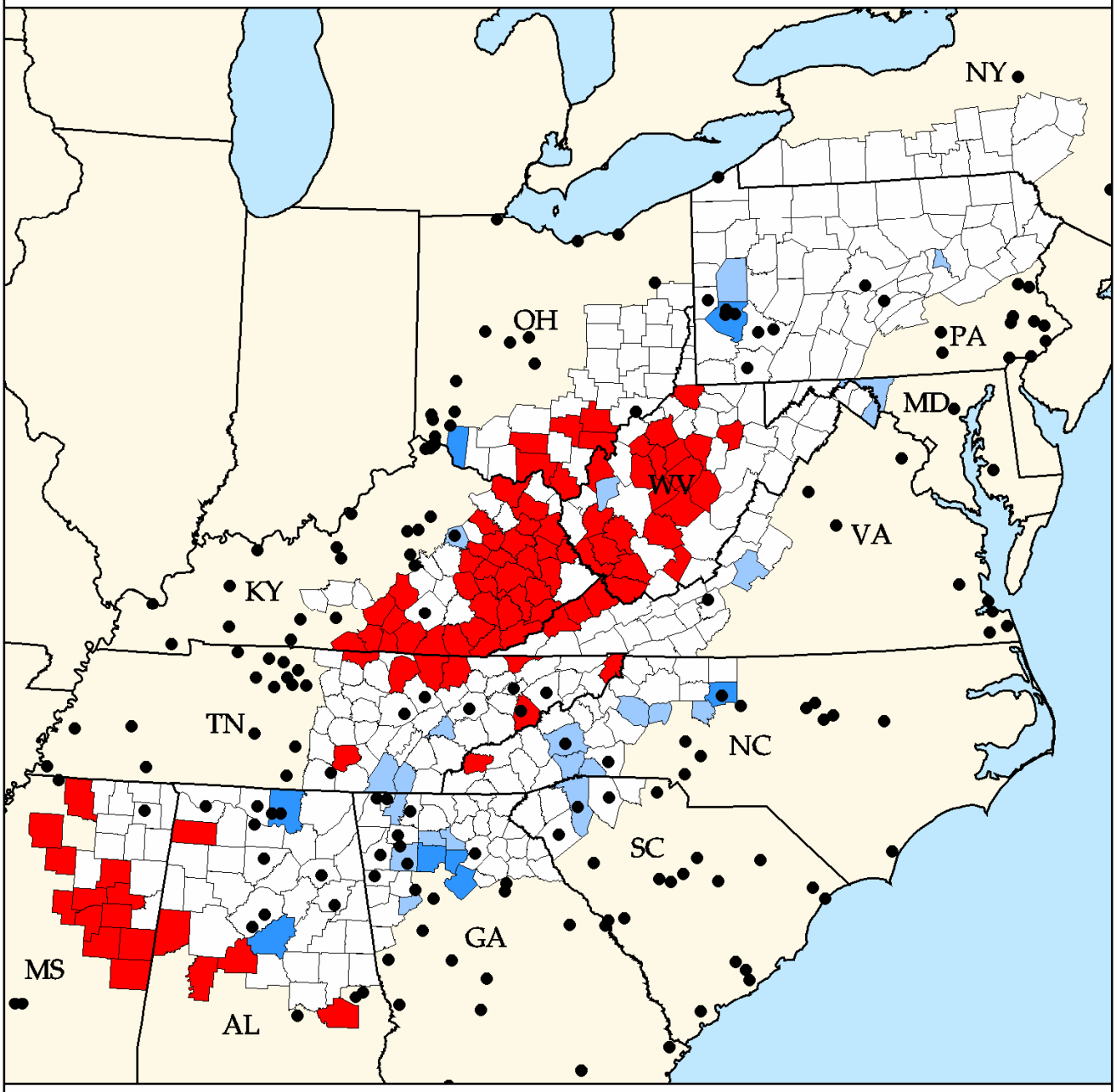
[56] Environmental Protection Agency, *2000 Community Water System Survey* (Washington, D.C.: EPA, 2002).

[57] Alabama Department of Environmental Management http://www.adem.state.al.us/WaterDivision/SRF/SRFMainInfo.htm, Web site accessed July 22, 2005.

Figure 5-2. Communities in Appalachia with Credit Ratings from Moody's for Water and Sewer Purposes



Data Sources:
2004 ARC Economic Status data
Credit Ratings: Moodys Investor Service, New York, NY, data received at UNCEFC in April 2004 from Ms. Rebecca Blackmon Joyner, Analyst

Community
Attainment
Competitive
Transitional
Distressed

Sidebar 5-1

Sources of Capital: Weaverville, North Carolina

Year: 1996

Purpose: expansion of drinking water source and protection of watershed

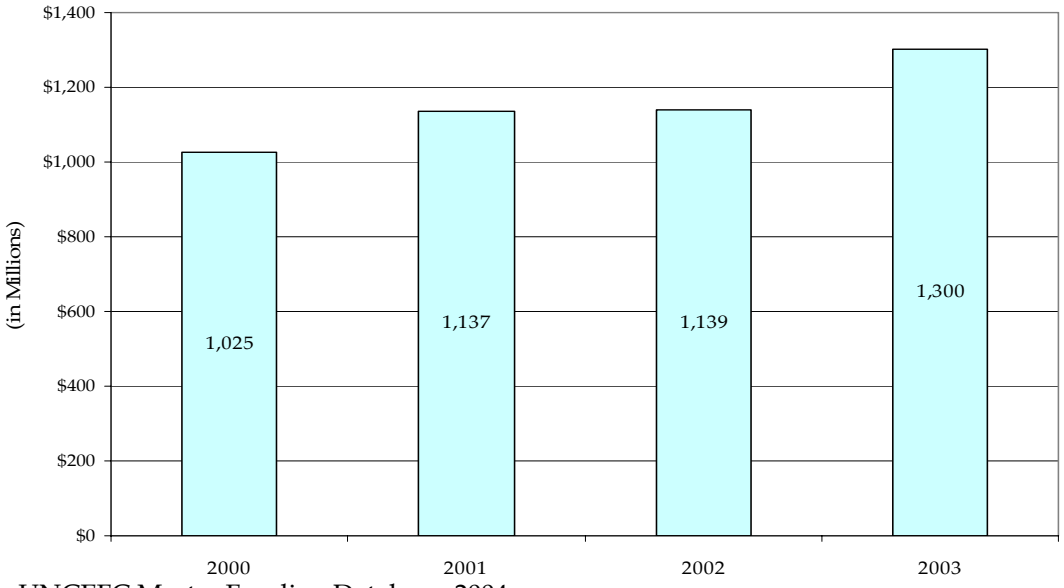
Funding Sources:

- $3.9 million general obligation bond
- $1.5 million grant from the Farmers Home Administration of the U.S. Department of Agriculture
- $200,000 grant from ARC
- $100,000 in local township funds

Public Funding Programs

Communities with significant investment needs that do not have cash on hand or access to private capital invariably turn to the federal government or their state government for capital funds for water and wastewater infrastructure. Government programs disbursing such funds collectively account for a significant amount of capital investment in Appalachia. UNCEFC created a Master Funding Database as part of the present study (see appendix I). Data from that source indicate that between January 1, 2000, and December 31, 2003, government programs disbursed about $4.6 billion for water and wastewater infrastructure in Appalachia (see Figure 5-3). Funding programs include grants, subsidized loans, and pooled loans (bond bank programs).

Figure 5-3. Disbursements in Appalachia by Federal and State Programs, 2000–2003

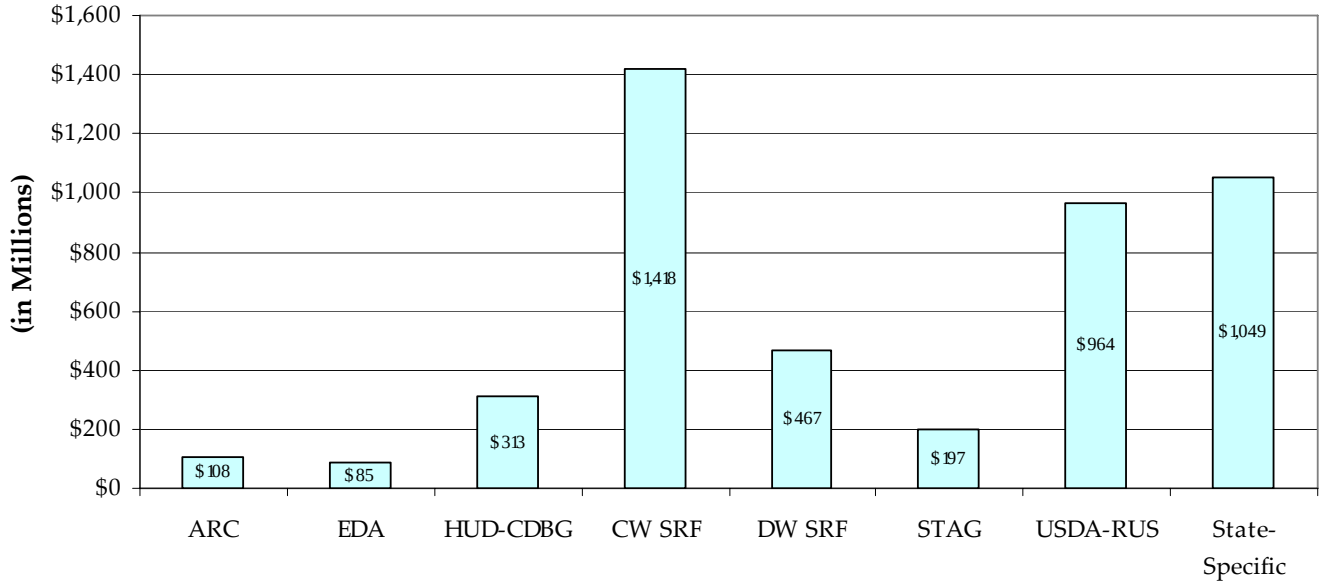


Source: UNCEFC Master Funding Database, 2004.

Types of Funding Programs

Funding programs in Appalachia are directly administered by federal and state government agencies, independent authorities, and nonprofit programs. Some, such as ARC's programs, EPA's CWSRF and DWSRF, and the Community Development Block Grants program of the U.S. Department of Housing and Urban Development (HUD–CDBG), are primarily federal programs that are administered by state agencies. Federal funding programs do not rely exclusively on federal funds, for example the EPA SRF programs require states to contribute a 20 percent capital match. In other words, disbursements from federal assistance programs do not equate to federal funding levels. In other cases, state agencies and organizations manage pools of state-appropriated funds that are state-specific. (For the identities of major funding programs in Appalachia, see Figure 5-4.)

Figure 5-4. Disbursements in Appalachia by Major Water and Wastewater Programs, 2000-2003



Source: UNCEFC Master Funding Database, 2004.

The CWSRF is the single largest infrastructure program in the region, accounting for 30.8 percent of the water and wastewater investments by public programs from 2000 through 2003. Over this period, across the thirteen Appalachian states, the CWSRF provided an average of $354.4 million each year.[58]

[58] This report refers to the CWSRF as a federal funding program. However, CWSRF funds are disbursed by state-managed government programs. These programs also distribute state cost-sharing funds and proceeds from past loans.

The Water and Waste Disposal Loans and Grants Program of the U.S. Department of Agriculture, Rural Utilities Service (USDA–RUS), is the second-largest federal funding program in Appalachia, accounting for $964 million in water and sewer investments between 2000 and 2003. The funding criteria and procedures for USDA grants and loans are the same throughout the country, and the programs are administered by USDA offices located in each Appalachian state. (For a summary of the CWSRF, the USDA Water and Waste Disposal Loans and Grants Program, and other federal programs, see appendix J.)

Taken together, the special programs established by individual states accounted for 22.8 percent of the public program investments. The size of the programs varies significantly across states. The largest single state program is the West Virginia Infrastructure and Jobs Development Loan Program, with $215.4 million in funding from 2000 through 2003. (For the four-year funding totals for each major category of state funding program, see Table 5-1.)

Stand alone state specific programs have been important in some states and nonexistent in others. The data presented in Table 5-1 and throughout this chapter under the heading of "State Specific" refers to disbursements from state specific programs and does not include funds that states contribute to federal programs such as the EPA's SRF programs. SRF state matching funds are accounted for within the disbursements made through federal programs in this study. Alabama, while without any major stand alone state specific programs, is the only Appalachian State to have made significantly higher state capitalization matches (an average of 45 percent over 1988-2003) to its CWSRF program.[59]

Table 5-1. Major Water and Wastewater Funding Programs in Appalachia and Percentage of Total Funding in Appalachia, 2000 –2003

Program Name	Total Funding	Percentage of Total Appalachian Program Funding
Federal Programs		
SRF—Clean Water Program	$1,417,601,834	30.81
USDA–RUS Water and Wastewater Disposal Loans and Grants	964,322,220	20.96
SRF—Drinking Water Program	466,727,534	10.14
HUD—Community Development Block Grants	312,813,531	6.80

[59] *Clean Water SRF Program Information for the State of XXX* 2004, online at http://www.epa.gov/region5/water/cwsrf/pdf/*.*

Program Name	Total Funding	Percentage of Total Appalachian Program Funding
State and Tribal Assistance Grants	197,213,837	4.29
ARC—Area Development, Economic Development, and Grant Programs	107,840,761	2.34
EDA—Public Works Program (about 5% of EDA funds were not used in this analysis)	84,974,870	1.85
State-Specific Programs		
West Virginia Infrastructure and Jobs Development Loan Program	215,387,425	4.68
Pennsylvania State Revolving Fund (Clean Water and Drinking Water—State Source of funds, not Federal source of Funds)	177,997,697	3.87
West Virginia Water Development Authority	75,267,433	1.64
Georgia Fund Loan Program	72,940,037	1.59
West Virginia Infrastructure and Jobs Development Grant Program	55,669,810	1.21
Tennessee Municipal Bond Fund	53,596,660	1.16
Ohio Water Development Authority	48,822,280	1.06
Ohio Public Works Commission—State Capital Improvements Program	41,404,787	0.90
New York Clean Water/Clean Air Bond Act—Safe Drinking Water Portion	37,654,156	0.82
Kentucky Coal and Tobacco Development Fund Program	33,110,783	0.72
North Carolina Revolving Loan and Grant Program—High Unit Cost Grants, Clean Water	31,723,316	0.69
Kentucky Wastewater Construction	28,008,669	0.61
Kentucky 2020 Water Services Account Program	24,476,650	0.53
Kentucky Single County Coal Program	20,482,894	0.45
North Carolina Revolving Loan & Grant Program—High Unit Cost Fund, Drinking Water	20,359,310	0.44
Virginia Pooled Financing Program	19,505,000	0.42
Kentucky Coal Severance Tax Receipts—Kentucky Infrastructure Authority portion only	12,686,958	0.28
North Carolina Supplemental Grants Program	11,728,130	0.25
Kentucky Flexible Term Finance Program	11,643,700	0.25
North Carolina Unsewered Communities Grants Program	9,942,907	0.22
North Carolina Clean Water Management Trust Fund	9,010,490	0.20
South Carolina Water and Wastewater Infrastructure Fund	7,790,473	0.17

Program Name	Total Funding	Percentage of Total Appalachian Program Funding
Maryland Supplemental Assistance Program	6,132,000	0.13
Kentucky Infrastructure Revolving Loan—Fund B	5,247,364	0.11
Maryland Drinking Water Supply Assistance Program	4,749,925	0.10
South Carolina Budget and Control Board Grant Program	3,620,184	0.08
New York Financial Assistance to Business—Water Program	3,162,628	0.07
Mississippi Capital Improvements Revolving Loan Program	2,019,534	0.04
Georgia Equity Fund Program	1,761,800	0.04
U.S. Army Corps of Engineers (includes only selected records)	1,510,000	0.03
North Carolina Capacity Building Grants Program	1,371,939	0.03
Georgia Regional Assistance Program (2003 data not included)	500,000	0.01

Source: UNCEFC Master Funding Database, 2004.

Sixty-eight percent of the public funding assistance to Appalachian communities from 2000 through 2003 came as loans. In total, $3.1 billion was loaned to communities. The largest single source of loans in the region was the CWSRF. The largest single source of grants was the Water and Waste Disposal Loans and Grants Program.

The terms of the loans varied significantly across programs. CWSRF loan terms are established by individual state programs. Typical terms from 2000 through 2003 were interest rates between 0 and 4.5 percent and loan periods of 15–20 years.[60] The Water and Waste Disposal Loans and Grants Program packages loans with grants. Most loans in the loan portion of the financing are made at 4 percent to 5 percent over 30–40 years.

State loan programs use various assistance strategies. One strategy is to offer loans at market rates but for periods (thirty years) longer than communities would qualify for in the private sector. The Ohio Water Development Authority is among the programs that employ this strategy. Another strategy is to offer discounted loan terms (for example, 0.0 percent). The Ohio Water Development Authority and Pennsylvania's State Funded State Revolving Fund (Clean Water and Drinking Water) are among the followers of this strategy.

[60] Some states extend DWSRF loans to disadvantaged communities for thirty years. West Virginia has received special permission to extend CWSRF loans for thirty years.

Distribution of Funds

Public funding programs in Appalachia support different objectives and have different eligibility requirements, making geographic comparison difficult without taking into consideration the characteristics of systems in each area. On a per capita basis, Appalachian counties received $0–$649 annually from state-originated programs from 2000 through 2003, with a median of $36 and a mean of $58 (see Figure 5-5). As expected, the counties in the states with large state programs received significantly more funding than those in states without similar programs.

From 2000 through 2003, Appalachian communities received about 16.5 percent of the funds distributed by USDA's Water and Waste Disposal Loans and Grants Program and about 8.2 percent of the funds distributed nationally by the CWSRF.[61]

Analysis of the distribution of state-specific program investments in the Appalachian and non-Appalachian areas of the states offering the programs reveals that most of the programs are investing more per capita in the former areas than in the latter (see Table 5-2). This distribution is not surprising, given the distressed economic status of many Appalachian communities and the design of most funding programs to support low-income communities.

Table 5-2. Total Funding per Capita by State-Specific Programs

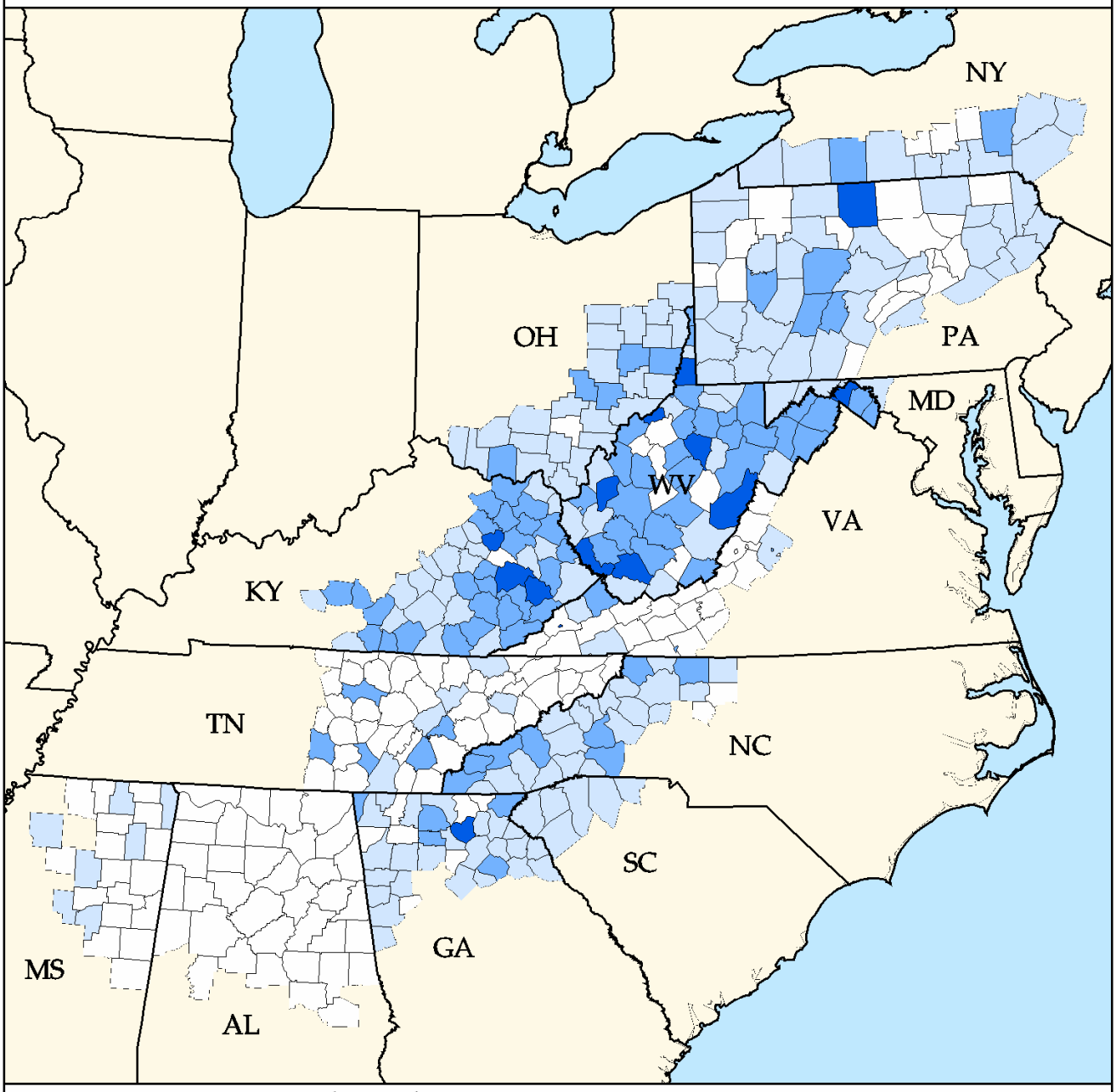
	Region (per Capita)		
Program	**Appalachian**	**Non-Appalachian**	**State**
West Virginia Infrastructure and Jobs Development Loan Program	$119.11	NA	$119.11
West Virginia Water Development Authority	41.62	NA	41.62
New York Clean Water/Clean Air Bond Act —Safe Drinking Water Portion	35.10	$28.85	29.21
Ohio Water Development Authority	33.55	29.35	29.89
Georgia Fund Loan Program	33.04	20.36	23.78
West Virginia Infrastructure and Jobs Development Grant Program	30.78	NA	30.78

[61] Data on USDA distributions from U.S. Department of Agriculture, Rural Utilities Service, *Annual Reports for Fiscal Years 2001, 2002, 2003* (Washington, D.C.: USDA, 2002, 2003, 2004), and UNCEFC Master Funding Database (see appendix I). Data on EPA distributions from Environmental Protection Agency, *Annual Report for 2003* (Washington D.C.: EPA, 2004), and UNCEFC Master Funding Database (see appendix I). In some cases these calculations were made by comparing calendar fiscal years with state or federal noncalendar fiscal years.

Program	Region (per Capita)		
	Appalachian	Non-Appalachian	State
Pennsylvania State Revolving Fund (Clean Water and Drinking Water—State Source)	30.58	0.00	14.49
Virginia Pooled Financing Program	29.32	45.44	43.92
Kentucky Coal and Tobacco Development Fund Program	29.01	5.67	12.26
Ohio Public Works Commission—State Capital Improvements Program	28.45	16.21	17.78
Maryland Supplemental Assistance Program	25.91	2.31	3.37
Kentucky Wastewater Construction	24.54	0.00	6.93
Tennessee Municipal Bond Fund	21.62	13.07	16.79
Kentucky 2020 Water Services Account Program	21.44	7.65	11.55
North Carolina Revolving Loan and Grant Program—High Unit Cost Grants, Clean Water	20.79	16.83	17.58
Maryland Drinking Water Supply Assistance Program	20.07	0.76	1.63
Kentucky Single County Coal Program	17.94	2.37	6.77
North Carolina Revolving Loan & Grant Program—High Unit Cost Fund, Drinking Water	13.34	12.65	12.78
Kentucky Coal Severance Tax Receipts—Kentucky Infrastructure Authority portion only	11.11	1.50	4.22
Kentucky Flexible Term Finance Program	10.20	7.76	8.45
North Carolina Supplemental Grants Program	7.68	7.24	7.32
South Carolina Water and Wastewater Infrastructure Fund	7.57	23.96	19.76
North Carolina Unsewered Communities Grants Program	6.51	9.84	9.21
North Carolina Clean Water Management Trust Fund	5.90	4.00	4.36
Kentucky Infrastructure Revolving Loan—Fund B	4.60	3.14	3.55
South Carolina Budget and Control Board Grant Program	3.52	5.25	4.81
Mississippi Capital Improvements Revolving Loan Program	3.28	3.78	3.67
New York Financial Assistance to Business—Water Program	2.95	0.34	0.49
North Carolina Capacity Building Grants Program	0.90	0.92	0.92
Georgia Equity Fund Program	0.80	2.20	1.82
Georgia Regional Assistance Program (2003 data not included)	0.23	0.30	0.28

Source: UNCEFC Master Funding Database, 2004.

Figure 5-5. Per Capita Disbursements for Water and Wastewater Projects from Stand Alone State Funding Programs



Data Source: UNCEFC Master Funding Database, 2004

Note: Data from the 32 largest state specific programs of the 13 states are included.The data does not include funds that states contribute to federal programs such as the EPA's SRF programs. Alabama, while without any major stand alone state specific programs, is the only Appalachian State to have made significantly higher state capitalization matches (an average of 45 percent over 1988-2003) to its CWSRF program.

- No Public Funding or No Data
- Less than $25
- $25 through $100
- More than $100

Sources of Funds

The terms "public funding program" and "government funding program" imply that the government provides the funds for community infrastructure. In reality, individuals (taxpayers, investors, etc.) are the source of funds for all public infrastructure investments. Governments just collect and distribute funds.

The public funding programs in Appalachia use different mechanisms to generate the capital funds they distribute. Some of these mechanisms are quite complicated, as in the case of the SRF programs, which involve combining state and federal appropriations with loan proceeds to create a pool of capital.

States have tapped into different revenue sources to support their public funding programs. The source of funds for programs may influence where the funds go, as in the Kentucky Coal and Tobacco Development Fund. Kentucky divides its counties by the principal commodity they export, coal or tobacco. The state used $5 million from coal severance taxes to secure $50 million in bonds that funded 103 water and wastewater projects specified by legislators in coal counties. Likewise, the state used $5 million from tobacco settlement money to finance more than $50 million in bonds to pay for 164 specified projects in tobacco counties.

Relationship between Funding and County Needs

Any discussion of public funding invariably leads to this question: Did the funds go to those who needed it most? To attempt to answer the question, the UNCEFC research team carried out a series of analyses comparing the amount that counties received from different funding programs with various indicators of needs. Funding programs employ a wide variety of criteria to prioritize funding. The UNCEFC analysis was designed not to evaluate whether an individual program adhered to its criteria but to determine if there were general relationships between where funding went and what the public might commonly consider to be indicators of financial or environmental need (see Table 5-3)—for example, low median household incomes and a history of wastewater system violations. This section presents an overview of the analysis.[62]

[62] For a description of the methodology and a discussion of analysis results, see Matthew T. Richardson, "Examination of the Relationships between Public Funding for Water and Sewer Infrastructure and Indicators of Need in the Appalachian Region from 2000 through 2003" (master's thesis, University of North Carolina at Chapel Hill, 2005).

Table 5-3. Sample Indicators of Need and Expected Relationships with Funding

	Indicator of Need	Abbre-viation	Hypothesized Relationship
1	Median household income	MHI	Negative—counties with lower income receive more funding
2	Total clean watershed needs per capita (from 2000 EPA CWNS)	CWNS	Positive—counties with more documented needs receive more funding
3	Septic system density (from 1990 Census)	Septic	Positive—counties with high septic system density receive more funding
4	Permitted combined-sewer-overflow systems	CSO	Positive—counties with more CSO permits receive more funding
5	Number of POTW NPDES violations per POTW NPDES permit issued	NPDES	Positive—counties with more NPDES violations receive more funding
6	SDWA violations per community water system (monitoring and reporting violations excluded)	SDWA	Positive—counties with more SDWA violations receive more funding
7	Waterborne disease outbreaks	WBD	Positive—counties with more disease outbreaks receive more funding

Note: POTW = publicly owned treatment works (a facility). SDWA = Safe Drinking Water Act.

The analysis revealed that needs identified by the CWNS were statistically "significant" and positively related to the distribution of water and wastewater infrastructure funding in Appalachia. (A "significant" relationship is one that could not have occurred by chance, given a 0.01 percent probability.) The relationship between funding distributions and NPDES compliance violations were significant and positive. Likewise, the relationships between funding distributions and waterborne diseases were significant and positive. The relationship between septic system density and funding, although significant, was negative. In other words, on average, counties with higher densities of septic systems received less public funding than counties with lower densities of septic systems. This finding is likely attributable to a fundamental characteristic of infrastructure funding: funding from large programs tends to flow to communities with existing large public systems. In essence, septic system density also is an indicator of whether or not a county is likely to have centralized water and wastewater systems. (For a summary of the results, see Table 5-4.)

Table 5-4. Regression Analysis: Relationship between County Funding Totals (All Funding Programs) and Indicators of Need

Independent Variable	Significance	Direction	Result
CWNS	High	Positive	An increase of one dollar per capita identified in CWNS is associated with an increase of 0.06 dollars per capita in funding.
NPDES	High	Positive	An increase of one NPDES violation from a POTW is associated with an increase of 54 dollars per capita in funding
Septic	High	Negative	An increase of one septic system per square mile is associated with a decrease of 2.7 dollars per capita in funding
WBD	High	Positive	An increase of one WBD case is associated with an increase of 1.3 dollars per capita in funding

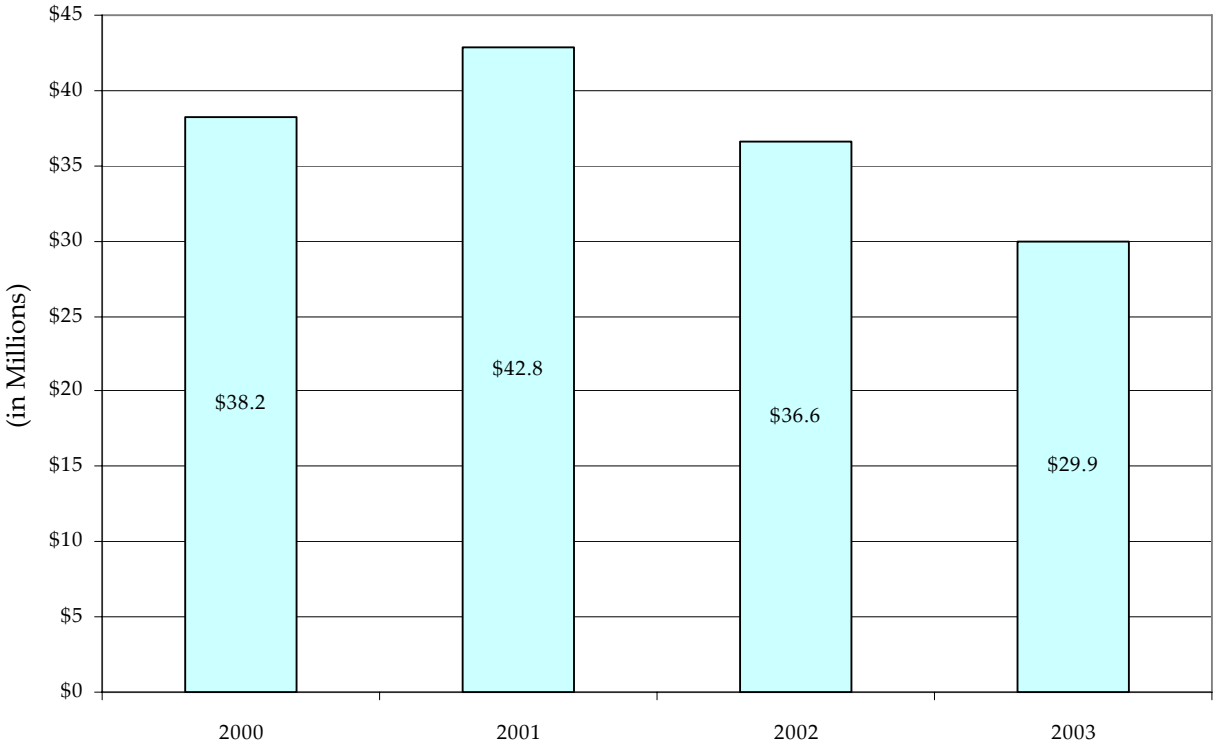
Source: Matthew T. Richardson, "Examination of the Relationships between Public Funding for Water and Sewer Infrastructure and Indicators of Need in the Appalachian Region from 2000 through 2003" (master's thesis, University of North Carolina at Chapel Hill, 2005)

The number of public funding programs and the amount of the public funding to upgrade existing wastewater systems in Appalachia or build new, decentralized ones are extremely limited. Consultations with public officials at the state and local levels suggest that some of these approaches promote sustainability and improved access to funds more than others do. States that have developed coordinated funding organizations have been able to improve communication and minimize the administrative hurdles. Other states, such as Ohio and West Virginia, have made difficult decisions regarding the eligibility of communities for funds and the types of funds to make available to communities. These states offer a large proportion of their funds as loans and pay careful attention to the fiscal capacity of communities before granting them. The measures have promoted consolidation and have kept some communities from investing funds in systems that may not be sustainable.

Funding Stability over Time

Historical funding levels are not always good predictors of future funding, for the funds available to many programs, particularly those funded by state appropriations, can be highly variable over time. Over the study period, funding generally increased, but in some states, such as North Carolina, it decreased (see Figure 5-6). Many of the state programs in North Carolina that were most active from 2000 through 2003 have ceased distributing funds to communities because of depletion of a pool of bond funds approved in 1998.

Figure 5-6. Disbursements of Federal and State Programs in the Appalachian Region of North Carolina, 2000–2003



Source: UNCEFC Master Funding Database, 2004.

The amounts of federal funds that individual states have to administer also can change significantly over time. The USDA's Water and Waste Disposal Loans and Grants Program allocates funds to states on the basis of formulas that take rural population and incomes into consideration. In several Appalachian states, including New York and Pennsylvania, major demographic shifts between 1990 and 2000 have affected the number of Appalachian communities that are eligible for the funds. Congressional appropriations for the CWSRF program dropped significantly for the first time in several years in federal fiscal year 2004–05. Nationwide the appropriation dropped from $1.35 billion to $1.1 billion. (For the impact of this decrease on the capitalization funds that Appalachian states receive, see Table 5-5.) Additional decreases have been proposed in the fiscal year 2005–06 budget.

Table 5-5. Decreases in Appropriations of Capitalization Funds for Appalachian States

State	CWSRF Appropriation FY 2003–04 (in millions)	CWSRF Appropriation FY 2004–05 (in millions)
Alabama	$15.0	$12.1
Georgia	22.6	18.4
Kentucky	17.0	13.8
Maryland	32.4	26.3
Mississippi	12.1	9.8
North Carolina	24.2	19.6
New York	147.8	119.9
Ohio	75.4	61.2
Pennsylvania	53.0	43.0
South Carolina	13.7	11.1
Tennessee	19.4	15.8
Virginia	27.4	22.2
West Virginia	20.9	16.9
All App. States	$480.8	$390.0
U.S.	**$1.35 billion**	**$1.09 billion**

Source FY 2003–04 data from Environmental Protection Agency, *FY 2004 Clean Water State Revolving Fund Title VI Allotments* (February 17, 2004), available at www.epa.gov/owm/cwfinance/cwsrf/cwsrfallots.pdf. FY 2004–05 data from National Resource Defense Council, *Bush Budget Impacts on EPA Funding for Water Quality Programs* (Feb. 10, 2005) (last visited April 14, 2005), available at www.nrdc.org/media/docs/050211.pdf. National Resource Defense Council values for 2004–05 are based on formula calculations from the 2003–04 budgets.

In addition to seeing variation in the size of the funding pie, states may experience change in the relative size of their slice. CWSRF capitalization funds continue to be distributed to Appalachian states on the basis of percentages established about fifteen years ago. The allocation of funds has been a source of debate among states. Over the last few years, there have been several attempts to modify the allocation percentages in a way that could significantly affect several Appalachian states, including New York and Tennessee.[63] To date, these proposals for revised allocations have not been enacted. However, in the UNCEFC survey, several state needs coordinators indicated that they have begun investing more in carrying out their state's CWNS to ensure that if the change does occur, they will not be penalized by avoidable underreporting.

[63] "Perspectives on the CWSRF Allocation Formula" (paper presented at Council of Infrastructure Financing Authorities, Federal Policy Conference, May 2004).

In sum, whatever the true needs for water and wastewater services in Appalachia are, whether at the lower or the upper end of this study's $26 billion–$40 billion estimate, the $4.6 billion in total nonlocal public financing provided from 2000 through 2003 is only meeting part of the need. Unlike communities in more populous, higher-growth areas of the country, many communities in Appalachia have little or no access to private capital markets to make up the difference. These same communities cannot generate revenue to pay for capital improvements on a pay-as-you-go basis. State programs to help pay for water and wastewater capital problems have been an increasingly important share of the public funding effort, but the state commitments tend to wax and wane over fairly short cycles.