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Allocation of Wastewater Treatment Assistance: Formula and Other Changes

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Summary

Congress established a statutory formula governing distribution of financial aid for municipal wastewater treatment in the Clean Water Act (CWA) in 1972. Since then, Congress has modified the formula and incorporated other eligibility changes five times. Federal funds are provided to states through annual appropriations according to the statutory formula to assist local governments in constructing wastewater treatment projects in compliance with federal standards. The most recent formula change, enacted in 1987, continues to apply to distribution of federal grants to capitalize state revolving loan funds (SRFs) for similar activities.

The current state-by-state allotment is a complex formulation consisting basically of two elements, state population and "need." The latter refers to states' estimates of capital costs for wastewater projects necessary for compliance with the act. Surveys of funding needs have been done since the 1960s and became an element of distributing CWA funds in 1972. The Environmental Protection Agency (EPA) in consultation with states has prepared 16 clean water needs surveys since then (the most recent was released in 2016) to provide information to policymakers on the nation's total funding needs, as well as needs for certain types of projects.

This report describes the formula and eligibility changes adopted by Congress since 1972, revealing the interplay and decisionmaking by Congress on factors to include in the formula. Two types of trends and institutional preferences can be discerned in these actions. First, there are differences over the use of "need" and population factors in the allocation formula itself. Over time, the weighting and preference given to certain factors in the allocation formula have become increasingly complex and difficult to discern. Second, until recently, there was a gradual increase in restrictions on types of projects eligible for federal assistance. However, amendments adopted in 2014 expanded eligibilities, adding eligibility for such measures as water conservation, efficiency, or reuse in order to reduce demand for capacity of wastewater treatment facilities.

Crafting an allotment formula has been one of the most controversial issues debated during past reauthorizations of the Clean Water Act. The dollars involved are significant, and considerations of "winner" and "loser" states bear heavily on discussions of policy choices reflected in alternative formulations. This is likely to be the case again, when Congress considers legislation to reauthorize the act. Because the current allocation formula is now more than 25 years old, while needs and population have changed, the issue of how to allocate state-by-state distribution of federal funds remains an important topic. In May 2016, EPA issued a report requested by Congress on the allotment of CWA water infrastructure funding. It concludes that, for the majority of states, the current allotment does not adequately reflect reported water quality needs or the most recent Census data on population. It provides several possible options to update the allotment in the future, but does not recommend or identify a preferred option.

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Introduction

Congress established a statutory formula governing distribution of financial aid for municipal wastewater treatment in the Clean Water Act (CWA) in 1972. Since then, Congress has modified the formula and incorporated other eligibility changes five times, actions which have been controversial on each occasion. Federal funds are provided to states through annual appropriations according to the statutory formula to assist local governments in constructing wastewater treatment projects in compliance with federal standards. Congress has appropriated more than $91 billion since 1972. The formula originally applied to the act's program of grants for constructing such projects. That grants program was replaced in the law in 1987 by a new program of federal grants to capitalize state revolving loan funds (SRFs) for similar activities. The most recent formula change, also enacted in 1987, continues to apply to federal capitalization grants for clean water SRFs.

The current state-by-state allotment is a complex formulation consisting basically of two elements, state population and "need." The latter refers to states' estimates of capital costs for wastewater projects necessary for compliance with the act. Funding needs surveys have been done since the 1960s and became an element for distributing CWA funds in 1972. The Environmental Protection Agency (EPA), in consultation with states, has prepared 15 clean water needs surveys since then to provide information to policymakers on the nation's total funding needs, as well as needs for certain types of projects. Legislation to fund water infrastructure projects has been on Congress's agenda regularly since the 107th Congress. The 113th Congress enacted some changes to the SRF provisions of the CWA in Title V of the Water Resources Reform and Development Act of 2014 (WRRDA, P.L. 113-121). These amendments did not modify the existing allotment formula, but requested EPA to conduct a review of the current allotment formula and submit a report to Congress. In part because the formula is more than 25 years old, while needs and population have changed, the issue of state-by-state distribution of funds remains an important topic.

This report describes the formula and eligibility changes adopted by Congress since 1972, revealing the interplay and decisionmaking by Congress on factors to include in the formula. Two types of trends and institutional preferences can be discerned in these actions. First, there are differences over the use of need and population factors in the allocation formula itself. During the 1970s, the Senate strongly favored reliance on use of population factors in the allocation formula, while the House strongly advocated a needs-based approach. During the 1980s, the period when categorical eligibilities were restricted in order to emphasize water quality benefits, the Senate favored needs as the basis for grants distribution, while the House position generally was to retain formulas used in prior years, which incorporate both needs and population elements. When population has been used as a factor, differences have occurred over whether a current or future year population estimate is appropriate, but there is no clear trend on this point.

Second, until recently, there have been gradual increases in restrictions on types of wastewater treatment projects eligible for federal assistance. Beginning with a limitation that denied use of federal funds for stormwater sewer projects in 1977, debate over categorical eligibility has had two elements. One has been fiscal: a desire to not fund types of projects with the highest costs and often the most unreliable cost estimates. The other focus has been environmental: a desire to use federal resources to assist projects which benefit water quality protection most directly. While some of these eligibility restrictions presented Congress with rather straightforward choices, others have been more complex. Some continue to be debated, such as whether certain types of projects should be fully eligible for federal aid or should be the responsibility of state and local governments. The 2014 CWA amendments enacted as part of WRRDA revised the list of project

categories that are SRF-eligible to include some that have been eligible by practice, such as stormwater management and treatment, and to identify newly-eligible categories, such as decentralized wastewater treatment systems.

Formula and Other Changes

The following table provides a generalized summary of the components of the allocation formula since 1972. Details discussed below should be consulted, because a summary table such as this cannot fully reflect factors such as "hold harmless" or "minimum share" provisions frequently included in the state-by-state distribution scheme to protect states with small allocations or to minimize potential disruptions when formula changes were adopted. The term "total needs" refers to funding needs identified by states for all categories of projects and water quality activities eligible for assistance. The term "partial needs" refers to a subset of eligible project categories, primarily construction or upgrades to comply with the act's minimum requirement that municipalities achieve secondary treatment of wastewater.

Table 1. Needs and Population Components of CWA Allocation Formula

Fiscal Year	Total Needs	Partial Needs	Population
Pre-1973	—	—	100%
1973-1974	100%	—	—
1975-1976	50%[b]	50%[a]	—
Talmadge-Nunn Act, P.L. 94-369	—	50%[a]	50%[c]
1977	25%[b]	50%[a]	25%[d]
1978-1982	25%[b]	50%[a]	25%[e]
1983-1986	12.5%[b]	50%[f]	37.5%[e]
1987-present[g]	?	?	?

a. Project categories I, II, and IVB (see "The 1973 Needs Survey" below).
b. Excluding separate stormwater sewers.
c. 1990 population.
d. 1975 population.
e. Population year cannot be determined.
f. Backlog needs only, categories I, II, IIIA, and IVB (see "1983-1986 Allocation" below).
g. Precise factors included in the formula are unclear; see text for discussion.

Grants Allocation Before P.L. 92-500 (Pre-1973)

Prior to enactment of the Federal Water Pollution Control Act Amendments in 1972 (FWPCA, P.L. 92-500), the federal government administered a comparatively small program of aid for constructing municipal wastewater treatment plants.[1]

[1] The Water Pollution Control Act of 1948 (P.L. 80-845) started the trickle of federal aid to municipal wastewater

Under the prior program, assistance was allocated to states on the basis of population. There was no statutory formula. Nor was there a systematic process for the federal government or states to estimate and report on funding needs for sewage treatment. Needs surveys had been developed by the Conference of State Sanitary Engineers, which reported generally (but not rigorously) on estimated construction costs of municipal waste treatment facilities planned by communities to meet water quality standards or other standards or enforcement requirements. They lacked both consistent definitions of objectives and consistent reporting requirements. Moreover, these surveys tended to be based on needs of larger municipalities, so needs in small or rural communities were underrepresented.

The first funding needs survey undertaken by the federal government was published in 1968, in response to a general requirement in the 1966 Clean Water Restoration Act for an annual report on "the economics of clean water," but it was a considerably more modest effort than followed enactment of P.L. 92-500. These early documents reported state-by-state and national **total** needs over a given period of time but did not estimate or report needs for particular categories of waste treatment projects, such as secondary treatment. Annual surveys were published each year through 1974; Congress then changed the reporting requirement to biennial.

P.L. 92-500 and the Formula for 1973-1974

In P.L. 92-500 Congress provided the first statutory formula, governing state-by-state allocations in fiscal years 1973 and 1974. It was entirely needs-based and contained no categorical limitations. Despite weaknesses of the prior surveys, they were the only tool available to guide Congress when the decision was made in the 1972 legislation to move away from a population-based distribution of grants. The 1972 survey estimated total needs, from 1972 through 1976, to be $18.1 billion. Estimated construction costs for the first three years of that period were reported to be $14.6 billion. The rationale for changing to a needs basis for grants allocation despite limitations of available needs information was explained in the House Public Works Committee's report on the 1972 legislation.[2]

> This needs formula is a sound basis for allotting funds since our experience to date clearly demonstrates that there is no necessary correlation between the financial assistance needed for waste treatment works in a given State and its population.
>
> The Committee is fully aware that at the present time there is no satisfactory estimate of the total funds required by the States for construction of publicly owned treatment works... However [the 1972 Needs Survey] report does provide some measure of the relative needs of the various States and in the absence of any better measure has been incorporated in the bill for the determination of the State allotments for the fiscal years 1973 and 1974.

The Senate favored retaining population as the basis for grants allocation, and the available public records—committee reports and Senate debates—give no indication whether an alternative approach, such as one based on needs, was considered.

The 1972 FWPCA incorporated a statutory formula for distributing grants that was derived from the 1972 survey for the period 1972 through 1974. It covered reported needs in the 50 states and territories, with little categorical restriction. Some limitation was included on use of federal funds

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treatment authorities that grew in subsequent years. It authorized loans for treatment plant construction. With each successive statute in the 1950s and 1960s, federal assistance to municipal treatment agencies increased. A grant program replaced the loan program; the amount of authorized funding went up; the percentage of total costs covered by federal funds was raised; and the types of project costs deemed grant-eligible were expanded.

[2] U.S. Congress. Senate. Committee on Public Works. *A Legislative History of the Water Pollution Control Act Amendments of 1972.* January 1973. Serial No. 93-1. 93rd Cong., 1st sess. p. 780.

for new collector sewers (which collect and carry wastewater from an individual house or business to a major, or interceptor, sewer that conveys the wastewater to a treatment facility). In addition, eligibility for funds was limited to communities in existence when P.L. 92-500 was enacted and could only be provided if the treatment plant had sufficient existing or planned capacity to treat sewage collected by such sewers.

Section 205(a) of the FWPCA cross-referenced a table in a House Public Works and Transportation Committee Print that identified each state's percentage share under the legislation.[3] The percentages would apply to total grant amounts made available through annual congressional appropriations. The statute provided that this distribution formula would apply for two years; in Section 516 of the act, EPA was directed to prepare a new needs survey that would govern distribution in FY1975.

The 1973 Needs Survey

In response to the 1972 statutory directive, EPA undertook a new method of preparing the needs survey, and the 1973 Needs Survey was the first effort to report and evaluate needs for categories of waste treatment projects, as well as state and national totals. This survey reported costs for the following categories:

I—Secondary treatment required by the 1972 act

II—Treatment more stringent than secondary required by water quality standards

III—Rehabilitation of sewers to correct infiltration and inflow

IV—New collector and interceptor sewers

V—Correction of overflows from combined stormwater and sanitary sewers (CSOs)

This original categorization was subsequently refined. Category III was subdivided to include category IIIA—correction of infiltration and inflow in existing sewers; and category IIIB—replacement or rehabilitation of structurally deteriorating sewers. Category IV was subdivided to include category IVA—new collector sewers; and category IVB—new interceptor sewers. Needs surveys have continued to be based on this same categorical arrangement since the mid-1970s.

However, from an initial estimate of $63 billion in the 1973 survey, the survey figure for wastewater treatment and collection system projects went to a high of $342 billion in 1974, dropped to $96 billion in 1976, rose to $106 billion in 1978, $120 billion in 1980, declined to $80 billion in 1990, and was assessed at $67 billion in 2000, the 13th and most recent survey. Since the 1992 survey, states also have assessed needs for projects to address nonpoint pollution from sources such as agriculture, silviculture, and urban runoff. In the 2000 survey, needs for these types of projects were an additional $14 billion. Over time, inconsistencies and variations in the surveys have been ascribed to several factors, including the lack of precision with which needs for some project categories could be assessed and the desire of state estimators to use the needs survey as a way of keeping their share of the federal allotment as high as possible.[4]

[3] U.S. Congress. House. Committee on Public Works and Transportation. *Estimated Construction Cost of Sewage Treatment Facilities Planned for the Period Fiscal Years 1972-74.* Committee Print 92-50. 92nd Cong., 2nd sess. Table 3, p. 3.

[4] Water Pollution Control Federation (now, the Water Environment Federation). *The Clean Water Act with Amendments.* 1982. p. 14.

Formula Applicable in 1975 and 1976

In December 1973, Congress enacted P.L. 93-243, Waste Treatment Fund Allocations, providing the Section 205(a) allocation formula for FY1975. As enacted, the formula was based on EPA's November 1973 Needs Survey, with a formula that split the difference between total needs and partial needs. The formula was one-half of amounts reported in the 1973 Needs Survey for all categories (secondary treatment, more stringent than secondary, sewer rehabilitation to correct infiltration and inflow, new collector sewers, new interceptor sewers, and CSO correction, but not separate stormwater sewers), and one-half of amounts just for categories including secondary treatment, more stringent than secondary and new interceptor sewers. The formula also included a hold harmless provision, under which no state would receive less in construction grant funds than it was allotted under the previous formula.

Use of the partial needs categories was based on EPA's recommendation to the Congress that the allocation formula should only include the costs of providing treatment works to achieve secondary treatment (the basic national treatment requirement mandated in the 1972 act), treatment more stringent than secondary as required by water quality standards, and eligible new interceptor sewers, force mains, and pumping stations (categories I, II, and IVB, respectively). These were the core categories representing projects to comply with the basic water quality objectives of the Clean Water Act. EPA's basis for this recommendation was the agency's assessment that the data for the other categories, as reported by the states, were limited and considerably less reliable than for these three categories.

In the 1973 survey, EPA reported that total needs nationwide were $60.1 billion (1973 dollars), but that reported costs probably underestimated actual expenditures—by half—due to underreporting of CSO needs and failure of states to report all needs in categories I and II. EPA reported that estimates from only 15 states included cost surveys of all communities in the state; data from the remaining 35 states represented all urban areas plus a sample of communities of less than 10,000 persons located outside urban areas.

The Senate Committee on Public Works found that EPA's recommendations would lead to inequities affecting a number of states. In its version of legislation to establish an allocation formula for 1975 (S. 2812), it recommended distribution based 75% on partial needs and 25% on 1972 population (i.e., the ratio of a state's 1972 population compared to the population of all states).

The formula recommended by the House, in its version of the legislation (H.R. 11928), was the same as the version finally agreed to: one-half partial needs, and one-half total needs, based on the 1973 EPA Needs Survey. The House committee's actions were explained by the chairman of the Public Works and Transportation Committee.[5]

> The Environmental Protection Agency proposed two tables for allocation of the grant funds to the States. One was based on all of the needs of the States ... The other table was based on only part of the needs ... The committee heard testimony from several States, some of which would receive more funds under one table and some of which would receive more under the other table. In addition, some States found that under the needs concept they would receive less than they had previously when funds were allocated on the basis of population. The primary reason for this appears to be that these States have not yet accurately identified their true needs for wastewater treatment facilities.
>
> The committee is very much committed to the allocation of funds on the basis of need. After much consideration, we determined that the most equitable solution would be to

[5] Congressional Record, vol. 119, part 32, p. 42259.

> allocate the funds for the next 2 fiscal years on the basis of 50 percent of each of the two tables, with no State receiving less than its allocation of 1972. While some States may receive a little less under the committee's solution, all States will benefit greatly in the long run.

Although the House-passed bill called for a two-year allocation formula, the enacted legislation applied only to FY1975. Nevertheless, the formula continued to apply through FY1976, because Congress did not enact legislation to modify it until 1977.[6]

1977 Allocation and Appropriations

Appropriations in FY1977 were provided under two appropriations acts, the Public Works Employment Appropriations Act of 1976 and the Fiscal Year 1977 supplemental appropriations act, each using a different allocation formula.

Allotment under the Public Works Employment Act (Talmadge-Nunn Act)

The 1973 allocation legislation, P.L. 93-243, required EPA to prepare a new, comprehensive needs survey no later than September 3, 1974, and directed that it include all of the categories included in the 1973 survey, plus costs to treat separate storm water flows. In response, the next wastewater needs survey (the 1974 survey) was transmitted to Congress in February 1975.[7] Based on that survey, EPA recommended that future formulas focus on needs reported for categories I, II, and IVB. This recommendation came from the agency's conclusion that data and cost estimates for other categories submitted in prior surveys had been of poor and inconsistent quality and had resulted in an inequitable allocation formula, as expressed by EPA Administrator Russell Train.[8]

> There is serious doubt, however, that we will be able to provide accurate estimates of the total national needs, or of needs for each State, which would form an equitable basis for allocation of construction grant funds. Even categories I, II, and IV(b) will be very difficult to refine for purposes of allocation because of the large variations in approach used by the States in estimating needs in these categories.
>
> I believe that the fundamental differences in reported cost estimates for the construction of publicly owned wastewater treatment facilities highlighted by the last two surveys confirms our concerns about basing the allocation of Federal funds on "needs," at least as they are currently reported.

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[6] In FY1976, construction grant funds provided to states resulted from the release of $9 billion originally authorized in P.L. 92-500 which the Administration had impounded. The withheld sums amounted to $3 billion for each of the Fiscal Years 1973, 1974, and 1975. In 1975, the Supreme Court affirmed a lower court decision requiring the allotment of these funds (*Train v. City of New York*, 420 U.S. 35 (1975)), and EPA did so in February 1975. A portion of the released funds (representing the $3 billion from FY1973 and the $3 billion from FY1974) was allocated according to the allotment formula specified in P.L. 92-500 that had applied to other funds previously distributed for those years. The remaining $3 billion (representing withheld FY1975 funds) were allocated on the basis of the requirements of P.L. 93-243, that is, one-half partial needs, one-half total needs. See U.S. Environmental Protection Agency. Amendment to Final Construction Grant Regulations. 40 *Federal Register* 40, February 27, 1975, p. 8349.

[7] The 1974 needs survey also reported rough estimates of construction costs for a new category: costs for treatment and/or control of stormwaters that are not part of combined stormwater and sanitary sewer systems. This is now category VI. In the 1974 survey, this category alone was estimated to be $235 billion, but EPA said that this estimate was unreliable.

[8] U.S. Senate. Committee on Public Works. Subcommittee on Environmental Pollution. *The Environmental Protection Agency's 1974 Needs Survey.* Hearing, 93rd Cong., 2nd sess., September 11, 1974. Serial No. 93-H53. p. 15.

Congress adopted EPA's recommendation to limit the use of "total needs" in connection with the allotment formula that governed distribution of $700 million in authorized monies under the Public Works Employment Act of 1976, P.L. 94-369, but in so doing, it reintroduced a population factor. This act, commonly referred to as the Talmadge-Nunn Act, authorized funds for a number of public works programs, including wastewater treatment construction, in order to counter unemployment conditions in certain regions of the country. Under the statutory language, the wastewater treatment monies authorized in P.L. 94-369 were to be allocated just to the 33 states and 4 territories that had received inequitable allocations as a result of the prior two needs surveys.[9] The action in this legislation is significant, because it restored population as a factor in the construction grants allocation formula. The formula in P.L. 94-369 was used to govern the distribution of $480 million in FY1977 construction grants to the 33 states and 4 territories identified in that act.[10] The formula provided under P.L. 94-369 was 50% partial needs, as reported in the 1974 needs survey, and 50% 1990 projected population.

1977 Supplemental Appropriations Allocation

The second portion of funds provided in Fiscal Year 1977, totaling $1 billion, was governed by the formula that Congress enacted in the FY1977 supplemental appropriations act, P.L. 95-26. That legislation directed that construction grants allocation be according to the 25-50-25 formula contained in the table on page 16 of S.Rept. 95-38,[11] which was 25% total needs from the EPA 1974 needs survey, 50% partial needs from the 1974 survey, and 25% 1975 population. The needs factors used in this formula were the same as had been in use since FY1975 (derived from the 1974 needs survey), but the population basis was different—population in 1975, rather than projected 1990 population, as under the formula that applied in 1976 under Talmadge-Nunn.

1978-1982 Allocation

The next Clean Water Act amendments that addressed the allocation formula were in the 1977 amendments (P.L. 95-217); these amendments provided the distribution formula for FY1978 through FY1981. The final version of the formula was based 25% on total needs (excluding costs of treating separate stormwater flows), 50% on partial needs (categories I, II, and IVB), and 25% on population. The resulting distribution, on a percentage basis, was summarized in tables included in a House Public Works and Transportation Committee print; the allocation provided in table 3 from that report is referenced in Section 205(a) of the Clean Water Act, as amended by P.L. 95-217. (As discussed below, this same formula was subsequently extended to 1982.)

Documents in the legislative history do not indicate clearly either which year's needs survey or which population year were reflected in the final formula. The formula provided in the House version of the 1977 legislation (H.R. 3199) contained a ratio similar to the final version and was based on data from EPA's 1974 needs survey and 1990 estimated population (the factors also used under the Public Works Employment Act of 1976).[12]

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[9] The States were: Alabama, Alaska, Arizona, Arkansas, Colorado, Florida, Georgia, Hawaii, Idaho, Iowa, Kansas, Kentucky, Louisiana, Maryland, Mississippi, Missouri, Montana, Nebraska, Nevada, New Mexico, North Carolina, North Dakota, Oklahoma, Oregon, South Carolina, South Dakota, Tennessee, Texas, Utah, Washington, West Virginia, Wisconsin, Wyoming, plus Guam, Puerto Rico, American Samoa, and Trust Territory of the Pacific.

[10] P.L. 96-447, Public Works Employment Appropriations Act of 1976.

[11] U.S. Congress. Senate. Committee on Environment and Public Works, *Public Works Employment Act of 1977, report to accompany S. 427*. 95th Cong., 1st sess., S.Rept. 95-38. 36 pp.

[12] During debate on H.R. 3199, the House rejected an amendment offered by Congressman Ottinger that would have struck the population factor from the formula and retained the prior fundamental reliance on needs.

The Senate version of the legislation, S. 1952, contained a formula based on 1975 population and needs reported in the 1976 survey for categories I, II, III, IVB, and V. The committee formula utilized the higher of the two percentages each state would receive under the two formulas and then reduced the total (which added up to 117.34%) to 100%. In addition, no state would receive less than one-half of one percent of total funds.

Although the 25-50-25 ratio in the final formula was the same as under the House bill, the state-by-state percentages were not identical, so it appears that, although conferees endorsed the basic House approach, they made some changes, as well. Neither the conference report nor House and Senate debates on the final legislation provides sufficient explanation to determine which population year (1990 or 1975) or needs survey (1974 or 1976) was used in the final allocation formula.

Categorical Restrictions

Beyond the question of which categories should be included for purposes of the allocation formula, the 1977 amendments presented the first explicit restrictions on categories eligible for federal grant assistance. Based on provisions in the Senate bill (the House version had no similar provisions), the 1977 amendments made one categorical restriction. The legislation prohibited use of federal funds for projects to control pollutant discharges from separate storm sewer systems, category VI in the EPA needs survey. The concerns here were fiscal (the 1974 survey estimated category VI costs at $235 billion, or double all other costs in total) and environmental. The committee sought to assure that federal funds would be used for facilities most critical to reducing pollutant discharges, according to the report on the Senate bill, S. 1952.[13]

> The cost of controlling stormwater is substantial even after consideration of other options such as land use controls which may be more cost-effective in some situations. The Federal share for stormwater projects is beyond the reach of the limitations of the Federal budget. It is, furthermore, a cost for which water quality benefits have not been sufficiently evaluated, particularly since stormwater discharges occur on an episodic basis during which water use is minimal.

Senate-proposed restrictions on new collector sewer systems and rehabilitation of existing collectors were not included in the final 1977 amendments. Like its proposal concerning stormwater sewers, the committee had contended that the costs of all such projects were excessive, while the water quality benefits were less significant than other core projects, such as constructing secondary treatment plants.

1983-1986 Allocation

P.L. 97-117, passed in 1981, contained the formula governing distribution of construction grant funds from 1982 through 1985. It was subsequently extended through 1986. These amendments included a number of eligibility restrictions, as well.

The House bill, H.R. 4503, proposed to extend the existing formula through FY1982 only. The position of the House Public Works Committee was that it would address multi-year funding issues in a comprehensive review of the Clean Water Act in 1982.

In S. 1716, the Senate adopted a new formula based on 1980 population; backlog needs for categories I, II, and IVB, as reported in the 1980 needs survey; plus a minimum state share and "hold harmless" provisions to protect states in order to alleviate disruption of state programs, by

[13] U.S. Congress. Senate. Committee on Environment and Public Works. *A Legislative History of the Clean Water Act.* 95th Cong., 2nd sess., Serial No. 95-14. p. 672.

minimizing potential loss of funds under a new formula. Backlog needs, used for the first time in connection with this legislation, were defined as facility requirements to meet the needs of the 1980 population—rather than 20 years' future growth, as had been customary in previous needs surveys and allotment formulas. The Senate formula would apply through FY1984. EPA was directed to conduct a new needs survey placing greater emphasis on public health and water quality needs; that survey would be the basis for allocation beginning in FY1985.

As enacted, P.L. 97-117 incorporated the House formula for 1982. For 1983 through 1985, the legislation used the average of the House formula and the Senate formula for 1984—which was 1980 population, backlog partial needs (for categories I, II, IVB, *and* IIIA), and a hold harmless provision that no state would receive less than 80% of what it would have received under the 1977 amendments formula. These four categories were those which were to be fully eligible for federal grants, under categorical restrictions included in the legislation (see below).

Because of delays in enacting a reauthorization bill in the mid-1980s, Congress extended this formula through 1986, as well.

Categorical Restrictions

The 1981 legislation put in place several eligibility restrictions intended to restructure the grants program. The Senate committee explained the rationale in its report on the legislation.[14]

> The members of this Committee, the Administration, and the majority of the witnesses who came before the Committee agree that the time has come to provide priority funding to those parts of the program which provide the greatest water quality benefit. The Committee bill reflects this principle. In the future, only treatment facilities and the necessary interceptor sewers associated with those plants will be eligible for Federal assistance.

Two broad points were made by those who advocated restrictions: (1) current budgetary problems made it necessary to focus limited federal resources on the highest priority environmental problems; and (2) the Administration believed that the federal government's funding responsibilities had largely been met, and remaining water quality needs were local, not national, in scope. Based on these issues, the Reagan Administration proposed a number of program changes that Congress endorsed with some modifications:

- The Administration recommended eliminating eligibility for new collector sewers, sewer rehabilitation, infiltration and inflow correction, and combined sewer overflow projects. The 1981 amendments retained full eligibility for infiltration and inflow projects, on the basis that they can reduce the need for additional sewage treatment plant capacity. The amendments made the other categories (new collector sewers, sewer rehabilitation, and combined sewer overflows) generally ineligible for federal grants, *but* allowed governors to use up to 20% of their annual allotment for such projects. The general prohibition on use of federal funds for separate storm sewer projects, established in the 1977 legislation, was continued.
- The Administration recommended eliminating eligibility for reserve capacity to meet future population growth and recommended that the allotment formula be based only on backlog needs. The legislation provided that, after October 1, 1984, no grant would be made for reserve capacity in excess of that needed when

[14] U.S. Congress. Senate. Committee on Environment and Public Works. *Legislative History of the Water Quality Act of 1987, including P.L. 97-440; P.L. 97-117, P.L. 96-483; and P.L. 96-148.* 100th Cong., 2nd sess., p. 2471. Hereinafter, Legislative History.

an actual construction grant is awarded and in no event in excess of needs existing on October 1, 1990.

- The Administration recommended eliminating "hold harmless" and minimum allocation provisions of the formula that were not related to water quality benefits. Congress did not adopt these recommendations.

Finally, although not part of the Administration's recommendations, the enacted legislation reduced the federal share for eligible projects from 75% to 55%, to extend limited federal funds to more projects.

The 1987 Revised Statutory Allotment Formula

In the 1987 amendments, P.L. 100-4, Congress adopted the allocation formula that has been in effect since then.[15] Unlike the 1981 legislation, Congress did not make fundamental changes in eligibility—there were no further limitations on types of projects eligible for federal assistance. The prohibition on federal funding for separate storm sewers was continued. The bigger policy issues debated in this legislation concerned establishing state revolving funds as the future funding mechanism, thus replacing the previous construction grants program. Congress directed that the act's statutory allotment formula would govern the new SRF program (Title VI of the act) and also would continue to govern construction grants allotment during the transition from the old funding program to the new one in 1991.

The legislative history of Congress's final action on the 1987 amendments does not include an explicit statement describing the weighting or factors that went into the final allocation formula. The conference report on the final legislation states: "The conference substitute adopts a new formula for distributing construction grant funds and the state revolving loan fund capitalization grants among states for fiscal years 1987 through 1990. The allotment formula for FY1986 is the same as under current law."[16]

It is clearer, however, where the two houses began. During consideration of the legislation, the House favored retaining the formula adopted in 1981. The Senate proposed an entirely new formula.

The Senate formula was based on partial needs (year 2000 needs—not backlog needs, as in the 1981 formula) reported in the 1984 needs survey for the 4 categories which are fully eligible for federal funds: I, II, IIIA (made eligible in 1981), and IVB. As reported by the committee, the formula was essentially based on needs for these categories. There was no *explicit* population factor—but an implicit population factor was incorporated in reverse, because 21 small states were allotted a slightly larger share in order to be able to maintain viable programs, according to the committee report.[17] In addition, the formula in the Senate-reported bill included an 80% hold

[15] In 1995, three districts of the U.S.-administered United Nations Trust Territory of the Pacific Islands, which previously had been eligible for Clean Water Act funds, completed the process of becoming Freely Associated States with status as sovereign states by adopting a Compact of Free Association. As of FY1999, the Trust Territory, which had been receiving 0.1295% of available funds, is no longer eligible for grants under the act. EPA made an administrative adjustment to allotment totals for all other recipients for FY2000 and onwards to reflect this change.

[16] Legislative History, p. 791.

[17] These 21 states were Alaska, Arkansas, Colorado, Delaware, District of Columbia, Hawaii, Idaho, Kansas, Maine, Montana, Nebraska, Nevada, New Mexico, North Dakota, Oklahoma, Oregon, Rhode Island, South Dakota, Utah, Vermont, and Wyoming. Ibid., pp. 1479-82.

harmless provision for 11 large states that were expected to experience greater changes in eligibility because of the revised formula, compared with the average.[18]

The formula adopted by the Senate was different still: it provided that the full extent of formula changes would apply to the last three of the five years covered by the reauthorization and that a modified version would govern during the first two years. The two-year modified version gave the large states an 85% hold harmless by holding down the amount of increased share that the smaller states would receive—so that large states would lose less, and smaller states would gain less, at least in the first two years.

Accordingly, the Senate formula was essentially needs-based, with an unquantifiable population factor apparently included, as well. It was merged—in ways that are not clear from available public documents—with the House formula, which had total needs, partial needs, and 1980 population factors. The revised formula is contained in CWA Section 205(c)(3) (33 U.S.C. § 1285(c)(3)).

Congressional Interest since 1987

Since 1987, Congress has on several occasions considered CWA reauthorization legislation that would have modified the allotment formula that was adopted in P.L. 100-4. In each Congress since the 107th, House and Senate committees approved legislation to reauthorize water infrastructure financing programs, including a revised allocation formula. The House has twice passed reauthorization bills (in 2007 and 2009), but none has received further action.

Allotment formula issues were again under consideration in the 111th Congress, but no legislation was enacted. H.R. 1262, passed by the House in March 2009, and S. 1005, approved by the Senate Environment and Public Works Committee in May 2009, would have revised the current allotment for clean water SRF monies, but in different ways. The House bill would have extended the current formula in full for two years. Under that legislation, beginning in the third year and thereafter, distribution would be determined under a hybrid approach: for appropriated funds up to $1.35 billion, the current formula would apply, and for appropriated funds in excess of that amount, allotment would be done in accordance with funding needs as reported in the most recent clean water needs survey conducted by EPA and states.

The Senate bill in the 111th Congress proposed a new state-by-state allotment for clean water SRF capitalization grants that was based on the 2004 needs survey (which was the survey available at the time of the committee's consideration). The revised formula in S. 1005 included certain adjustments, for example, guaranteeing small states a minimum 0.75% share (rather than 0.5% as under current law), and generally insuring that no state would "gain" more than 50% compared with its current percentage share or "lose" more than 25% compared with its current allotment.[19]

In 1996, Congress amended the Safe Drinking Water Act and established a drinking water state revolving loan fund program modeled after the clean water SRF. However, in that act (P.L. 104-182), Congress took a different approach from that in the CWA and directed that drinking water SRF capitalization grants be allotted among the states by EPA based on the proportional share of

[18] The 11 states were California, Illinois, Indiana, Maryland, Michigan, Minnesota, New York, Ohio, Pennsylvania, Virginia, and West Virginia. Ibid.

[19] For details and comparison with the current statutory formula, see CRS Report R40098, *Water Quality Issues in the 111th Congress: Oversight and Implementation*, by Claudia Copeland.

each state's needs identified in the most recent national drinking water needs survey, not according to a statutory allotment formula.[20]

While the clean water and drinking water SRFs represent significant amounts of federal financial assistance, Congress has provided other assistance, as well, in the form of grants earmarked in EPA appropriations acts for specific communities, both small and large. For a number of years, congressional appropriators had dedicated a portion of annual water infrastructure assistance as earmarked special project grants which are not subject to any statutory or other allotment formula. For example, for FY2010 (P.L. 111-88), Congress appropriated $2.1 billion for clean water SRF capitalization grants, $1.4 billion for drinking water SRF capitalization grants, and $187 million in earmarked grants for projects in 319 designated communities or areas. Since the first of these earmarks in EPA appropriations in FY1989, Congress provided $7.5 billion for special project grants. Congress imposed a moratorium on earmarking in FY2011, but could restore it in the future.

EPA Report on the Allotment Formula

In 2014, as part of CWA amendments enacted in the Water Resources Reform and Development Act of 2014 (WRRDA, P.L. 113-121), Congress directed EPA to prepare a report to Congress "to determine whether [the current allotment] formula adequately addresses the water quality needs of eligible States, territories, and Indian tribes." The EPA report, completed in May 2016, concludes that the current allotment formula does not adequately reflect reported water quality needs or current population for the majority of states. For example, EPA's analysis found that the current formula adequately reflects the water quality needs for only 17 states, compared with an allotment based on the most recent needs survey. Similarly, the current formula reflects the water quality needs for only 14 states, compared with an allotment calculated using 2010 population data.[21] The report provides several possible options for updating the allocation formula, without recommendation, based on needs survey data, population data, and other elements, such as the extent of a state's reported water quality impairment. Some of the options described in the EPA report include "hold harmless" factors that could constrain potential percentage decreases or increases in funding to individual states.

Expansion of Categorical Eligibilities in 2014

Because the CWA SRF program is the principal source of federal financial assistance for wastewater infrastructure projects, pressure has grown to expand the categories eligible under the program to include additional types needed by communities to meet a wider range of water quality objectives. Congress responded to these concerns in the CWA amendments that were included in WRRDA 2014. These amendments did not modify the existing state-by-state allotment formula or reauthorize SRF capitalization grant funds, but they revised the statutory list of SRF-eligible projects to expressly include some types of projects that have been SRF-eligible by practice (such as measures to manage, reduce, treat, or recapture stormwater; wastewater facility security projects; and reusing or recycling wastewater or stormwater), as well as a number of newly identified categories that now may be assisted by an SRF. These include—

[20] The most recent drinking water allocation formula, which will apply through FY2017 appropriations, can be seen at http://www.gpo.gov/fdsys/pkg/FR-2013-06-17/pdf/2013-14333.pdf.

[21] U.S. Environmental Protection Agency, *Review of the Allotment of the Clean Water State Revolving Fund (CWSRF), Report to Congress*, EPA-830-R-16-001, May 2016, p. 5, https://www.epa.gov/sites/production/files/2016-05/documents/review_of_the_allotment_of_the_cwrsf_report.pdf.

- decentralized wastewater treatment projects (e.g., individual onsite systems),
- measures to reduce demand for wastewater treatment works capacity through water conservation or reuse, or to reduce the energy consumption needs of wastewater treatment works,
- development and implementation of watershed projects, and
- assistance to small and medium wastewater treatment facilities to develop and obtain project financing and to assist such facilities in complying with the CWA (assistance recipients must be a nonprofit entity).

Arguably, these less-traditional types of projects could benefit water quality protection and improvement, as do traditional infrastructure investments, and supporting them through the SRF would help ensure comparatively secure funding. But expanding the scope of eligibility also arguably dilutes the historic focus of the CWA SRF program, at a time when needs for core projects—wastewater treatment facilities and sewers—are estimated to be more than $195 billion.

Conclusion

Since adoption of the allocation formula that has governed distribution of Clean Water Act assistance since 1987, EPA and the states have produced seven updated needs surveys (in 1988, 1992, 1996, 2000, 2004, 2008, and 2012).[22] In addition, updated population information became available through three subsequent decennial Censuses (in 1990, 2000, and 2010). Although population changes have occurred during that time, and needs for water quality projects also have changed (total needs increased 17% between the 2004 and 2008 surveys, but decreased 20% between the 2008 and 2012 surveys), none of this more recent information is reflected in the currently applicable distribution formula. The recent needs surveys have included estimates of needs for traditional wastewater project categories, but they also have included estimates for newer categories, such as stormwater management—now identified separately from combined sewer overflow correction—recycled water distribution, and decentralized wastewater treatment systems (e.g., onsite and clustered community systems often found in rural areas).

Crafting an allotment formula has been one of the most controversial issues debated during reauthorization of the Clean Water Act. The dollars involved are significant, and considerations of "winner" and "loser" states bear heavily on discussions of policy choices reflected in alternative formulations. This is likely to be the case again, when Congress reauthorizes the wastewater infrastructure funding portions of the act. In part because the current allocation formula is now more than 25 years old, the issue of how to allocate state-by-state distribution of federal funds remains an important topic of interest to policymakers and state and local officials.

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[22] U.S. Environmental Protection Agency, *Clean Watersheds Needs Survey 2012, Report to Congress*, Washington, January 2016, http://www.epa.gov/sites/production/files/2015-12/documents/cwns_2012_report_to_congress-508-opt.pdf.

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