

Chapter 2

Methods for Documenting Needs

This chapter describes the approach used to review the documentation of needs reported in the CWNS 2000. EPA and the States worked together to determine the specific requirements and criteria for the documentation submitted. The needs reported by the States in the CWNS 2000 had to be eligible for funding under the CWSRF. In addition, the CWNS 2000 eligibility requirements developed by the CWNS National Workgroup included specific needs category definitions, six documentation criteria, and 36 documentation types. Descriptions of the needs categories and document types are provided in Appendices G and H.

What is the definition of a need?

As used in the CWNS 2000, a *need* is a water quality or public health problem and an associated abatement cost eligible for funding under the CWSRF. Needs that were not eligible for Federal assistance under Title VI of the CWA, such as operation and maintenance (O&M) costs, house connections to sewers, and costs to acquire land that is not used as part of the treatment process, were not reported as eligible needs in the CWNS 2000. The CWNS 2000 also did not include needs for American Indian reservations because the Indian Health Service conducts a separate survey and provides a report to Congress annually under Public Law 86-121.

What were the Clean Watersheds Needs Survey 2000 needs categories?

The CWNS 2000 used nine categories to describe and report the needs for water pollution control projects. Table 2-1 lists the nine categories. Categories I through IV were used for wastewater treatment and collection

Table 2-1. CWNS 2000 Needs Categories

Category I: Secondary Wastewater Treatment
Category II: Advanced Wastewater Treatment
Category III-A: Infiltration/Inflow Correction
Category III-B: Sewer Replacement/Rehabilitation
Category IV-A: New Collector Sewers and Appurtenances
Category IV-B: New Interceptor Sewers and Appurtenances
Category V: Combined Sewer Overflow Correction
Category VI: Storm Water Management Programs
Category VII-A: NPS Control: Agriculture (Cropland)
Category VII-B: NPS Control: Agriculture (Animals)
Category VII-C: NPS Control: Silviculture
Category VII-D: NPS Control: Urban
Category VII-E: NPS Control: Ground Water Protection (Unknown Source)
Category VII-F: NPS Control: Marinas
Category VII-G: NPS Control: Resource Extraction
Category VII-H: NPS Control: Brownfields
Category VII-I: NPS Control: Storage Tanks
Category VII-J: NPS Control: Sanitary Landfills
Category VII-K: NPS Control: Hydromodification
Category VIII: Confined Animal–Point Source ^a
Category IX: Mining–Point Source ^a

^a Categories VIII and IX were generally not CWSRF-eligible and were recorded as SSEs.

needs; Categories V and VI were for wet weather needs; and Category VII, which was divided into 11 subcategories, was for NPS needs. For the CWNS 2000, Category VII was expanded (since the 1996 Clean Water Needs Survey) to better capture needs associated with NPS pollution. These changes are highlighted in Table 2-2. Category VIII, Confined Animal–Point Source, and Category IX, Mining–Point Source, were

Table 2-2. A Comparison of the 1996 Clean Water Needs Survey and CWNS 2000 NPS Pollution Control Needs Categories

Category	1996 Clean Water Needs Survey Category	CWNS 2000 Category
Category VII-A	NPS Control: Agriculture (Cropland)	Same as in 1996
Category VII-B	NPS Control: Agriculture (Animals)	Same as in 1996
Category VII-C	NPS Control: Silviculture	Same as in 1996
Category VII-D	NPS Control: Urban	Same as in 1996
Category VII-E	NPS Control: Ground Water Protection (Unknown Source)	Same as in 1996
Category VII-F	NPS Control: Estuaries	NPS Control: Marinas
Category VII-G	NPS Control: Wetlands Protection	NPS Control: Resource Extraction
Category VII-H	Not present in 1996	NPS Control: Brownfields
Category VII-I	Not present in 1996	NPS Control: Storage Tanks
Category VII-J	Not present in 1996	NPS Control: Sanitary Landfills
Category VII-K	Not present in 1996	NPS Control: Hydromodification

recorded as SSEs in the CWNS 2000 database because those facilities were not CWSRF-eligible unless they were publicly owned. More detailed descriptions of the CWNS 2000 needs categories are provided in Appendix G, Table G-1.

What time period was covered?

The CWNS 2000 took a snapshot in time, compiling short-term and long-term needs that could be documented in accordance with nationally uniform standards. All needs reported in the CWNS 2000 existed as of January 1, 2000, and were eligible for CWSRF assistance under the CWA. Unlike wastewater infrastructure planning during the 1970s and 1980s, which used a 20-year planning horizon (as a result of the Title II Construction Grants Program), current wastewater infrastructure planning horizons vary considerably across the United States. After the CWSRF program was established, communities began to plan and estimate their wastewater infrastructure projects over a shorter period of time. Now this planning horizon is often only 5 or 10 years. A few States, however, project their needs for up to a 20-year period. As a result, the CWNS 2000 cannot provide a comprehensive estimate of national or State wastewater needs in a uniform planning horizon. Other recent studies, such as the Water Infrastructure Network

Report and EPA's Gap Analysis (see Chapter 3), have been developed to provide a more comprehensive picture of the Nation's needs. It should be noted that the aggregate capital expenditures contained in this report represent a simple summation of expenditures that might be made at different points in time over a multiyear planning horizon. No attempt has been made to predict the time pattern of these expenditures or to discount them to arrive at a present value sum.

What are documented needs?

For the CWNS 2000, States were required to justify an existing water quality or public health problem for a facility by providing EPA with written studies, plans, or other information describing a solution to the identified problem. Such documentation had to meet criteria that EPA and the CWNS National Workgroup had established to ensure the national consistency and credibility of the data included in this report. In addition, the documentation could include a cost estimate, although submission of separate documentation for cost data was acceptable. Similar to the requirements for needs documentation, cost estimates had to meet certain criteria to ensure national consistency and the credibility of the data. These requirements are summarized under "What costs were considered eligible?" later in this chapter. The CWNS

National Workgroup also developed the following criteria for redocumentation of outdated needs: for documenting needs greater than \$20 million (January 2000 dollar base), the documentation date had to be January 1, 1994, or later; for all other needs, the documentation date had to be January 1, 1990, or later. The redocumentation requirement applied to both the cost data and justification of a water quality or public health problem.

What were the documentation requirements?

For conducting the CWNS 2000, it was necessary to have consistent documentation criteria for accepting and reporting a facility's needs. For each facility, the water quality or public health problems had to be current, and the documentation had to include project-specific data. EPA, in consultation with the CWNS National Workgroup, established six documentation criteria, adopted from the CWSRF Program, that the States were required to use to justify the needs for a facility in the CWNS 2000:

1. A description of the water quality impairment and information on the potential source. The problem description should include specific pollutant source information; a general statement about water quality impairment does not meet this criterion.
2. The location of the problem, which should be included as a latitude/longitude point; in the case of a watershed (for NPS projects), it may be entered as a polygon.
3. One or more specific pollution control measures or BMPs used to address the problem.
4. The cost to implement each pollution control measure or BMP. General estimates for the problem area are not permitted; only site-specific data may be used to generate the costs.
5. The source of the costs (e.g., an engineer's estimate, facility plan, cost of comparable practices, estimates from equipment suppliers) for each solution.

Facility

A project and location involved in water quality management, such as a wastewater treatment plant or sewer system, a municipal separate storm sewer system, or an NPS pollution control project. Although the term *facility* is typically thought of as wastewater treatment facility or some other structure, for NPS pollution control it refers to a place. Data in the CWNS 2000 were collected and organized by facility for all types of water pollution control.

6. The total costs for all pollution control measures and BMPs documented for a facility. (All costs are converted to January 1, 2000, dollars for the *CWNS 2000 Report to Congress*.)

The documentation submitted for all types of facility needs in the CWNS 2000, including storm water management program and NPS pollution control needs, was required to meet the six criteria. Meeting the criteria could be demanding on the States' resources and resulted in the submission of many types of documents for review.

What types of documentation were accepted?

To maintain consistency in documentation of needs from State to State, the CWNS National Workgroup approved a list of 36 acceptable types of documentation. Table H-1 in Appendix H lists and describes the approved types of documentation for the CWNS 2000. Generally, if a document was one of the approved document types, EPA accepted it for needs justification as long as it included sufficient details concerning the proposed project—a definition of the problem and a description of the solution to the problem.

Once a State adequately documented a water quality or public health problem, EPA accepted the documentation for the purposes of the CWNS 2000, regardless of whether a documented cost estimate was available. States could use a separate document to

justify cost estimates. This approach allowed States to use a wide variety of documents to justify needs rather than being restricted to only those containing cost data. Nationally derived and EPA-approved construction cost curves were available in the CWNS 2000 database system to calculate a cost when information was insufficient to support and document a cost estimate. The cost curves were available to calculate costs for Categories I, II, IV, and V, which include new treatment plants, increased treatment plant capacity, increased level of treatment, new collector sewers, new interceptor sewers, septic tank upgrades, and CSO abatement. The cost curves in the CWNS 2000 were unchanged from those available in the 1996 Clean Water Needs Survey except for the adjustment for the base year.

What costs were considered eligible?

The Clean Water State Revolving Fund Funding Framework, which EPA issued in October 1996, requires that all projects must be “capital” projects, such as constructing wastewater treatment facilities to meet water quality or NPDES permit requirements, or planting trees and shrubs, purchasing equipment, and conducting environmental cleanups for projects that control nonpoint sources of pollution (USEPA, 1996). O&M costs, ineligible for CWSRF funding, were not included in the CWNS 2000 needs.

Eligible costs for municipal storm water management programs (Category VI) included the CWSRF-eligible portions of both the Phase I and Phase II storm water programs. Phase II MS4s were not required to be covered by an NPDES storm water permit until March 10, 2003. The documentation submitted for those facilities had to include evidence that the municipality was identified in the regulation or was potentially designated based on being in an urbanized area.

Eligible costs for the NPS pollution control cost categories (in Category VII) were specifically related to the types of NPS pollution sources. For a cost estimate to be accepted into the CWNS 2000, the documentation had to clearly indicate the types of BMPs used, the

number of BMPs used per facility, the cost for each BMP, and the specific location of the NPS pollution. Typical NPS pollution control projects entered into the CWNS 2000 include implementing agriculture BMPs, replacing leaking underground storage tanks, and replacing privately owned failed septic systems and installing new on-site systems.

What is the difference between documented needs and Separate State Estimates?

In cases where documentation for the needs did not meet all six basic criteria or where the needs could not be estimated using the cost curves, EPA reported the documented needs as SSEs with the concurrence of the States. For the purposes of this report, SSE needs are not reported in the total needs displayed in the key results (Chapter 3); however, SSEs are reported separately in Chapter 3, and at the State level in Tables A-11 through A-13 in Appendix A. SSE designation implies only that the documented needs were not available (or did not meet the CWNS 2000 eligibility criteria) for a particular project. In addition, designating cost information as an SSE for a facility did not prevent the reporting of other technical data (e.g., population, flow, effluent) associated with the facility. States were permitted to report any needs estimates they deemed justified in the CWNS as SSEs without EPA review.

How did documentation requirements differ for small communities?

Small communities tend to have fewer resources available for monitoring and facility evaluations, which form the basis of the reports—facility plans, engineer reports, and capital improvement plans—used as documentation for the CWNS 2000. As a result, national small community needs tend to be underestimated in this report because small communities often did not have acceptable documentation of their needs.

To more fully capture the needs of small communities, EPA and the CWNS National Workgroup established

guidelines to allow small communities to use alternative forms of documentation that were not acceptable from larger communities. Small communities with a January 2000 population of fewer than 3,500 people were allowed to use alternative documentation when standard documentation was not available.¹ In general, alternative documentation for small communities required a description of the proposed project, an explanation of

why the project was necessary (e.g., public health or water quality problem), and a statement of how the project would benefit the community. This information was submitted on a standardized survey form that required signatures from suitable community and State officials. As with standard documents, if cost estimates were not provided, the State could use construction cost curves for Categories I, II, IV, and V to estimate the costs.

¹ Standard document types are listed in Appendix H, Table H-1, document types 1 through 27. Alternative documents available for communities with current populations of fewer than 3,500 people are listed as document types 28 through 31 in the same table.

