

Clean Watersheds Needs Survey – 2004 Data Dictionary

The data dictionary includes definitions for all of the data entry fields that were included in the CWNS 2004. The data entry fields are in these general categories:

- [Facility Description](#) defines the name, location, permit, effluent, and discharge data elements
 - [Needs Categories](#) define the various types of wastewater, storm water, and nonpoint source (NPS) projects and their associated costs
 - [Natures](#) define the basic components of a CWNS facility and its present and/or projected status
 - [Population Data](#) describes the number of people present or planned to be present in the facility's service area
 - [Flow Data](#) describes the quantity of wastewater moving through a facility
 - [Location Data](#) defines the data elements describing a facility's geographic location
 - [Unit Process](#) describes the unit processes or best management practices (BMPs) present or proposed for a facility
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Facility Description

Facility. A project and location involved in water quality management. A facility can be a wastewater treatment plant, municipal storm sewer system, or a nonpoint source (NPS) pollution control project.

CWNS Number. Data in the CWNS are organized by "facility." Every facility has a unique name and a unique 11-digit identification number assigned by the state. It can be referred as Facility ID or Authority/Facility (A/F) Number. Breakdown of CWNS Number is:

- First 2 digits - State's two digit Federal Information Processing Standards (FIPS) code
- Third and fourth digits - Currently not in use. All facilities are currently assigned '00'
- Fifth to eighth digits - Authority number
- Ninth to eleventh digits - Facility number

Facility Name. Name of wastewater management or NPS pollution project. The Facility Name must be unique within each state.

Authority Name. Also known as System Name. Name of the system to which the facility has been assigned. An Authority Name is used to relate a group of facilities.

County Name. Name of a county where a facility or a project is located (FIPS).

Location Code. State abbreviation (FIPS).

Watershed Name. The Watershed Name is determined using the US Geological Survey's 8-digit Hydrological Unit Code (HUC) system.

Permits Numbers and Types. This information describes the types of environmental permits the facility holds, as well as the associated permit numbers. Common permit types include municipal wastewater treatment plant (WWTP) discharge, Combined Sewer Overflows (CSOs), and storm water. The National Pollutant Discharge Elimination System (NPDES) permit number is an important link to other databases such as the Permit Compliance System (PCS). The facility should have a Permit Number if it has a nature of **Treatment Plant** and a discharge of **Outfall to Surface Waters, Ocean Discharge**, or **Overland Flow with Discharge**. Type is listed as:

Combined Sewer Overflow (CSO)

Discharge

General

Ground Water

Storm Water

Out of State Discharge

Land Application

Other

State

Permit Compliance System. (PCS) is EPA's official repository of locational data for permitted discharges. EPA is transitioning to a new system called the Integrated Compliance Information System (ICIS).

Review Status. Indicates the point that the facility has reached in the CWNS review cycle.

HA - Headquarters Accepted

HR - Headquarters Rejected

HI - Headquarters Interim

SH - State Happy

SI - State Interim

SC - State Corrected

SX - State Changed

DE - Deleted

Effluent data. Description of the quality of wastewater discharged from the facility. Treatment levels are further clarified by the state's indicating whether the plant has nutrient removal. Effluent data is reported in the *CWNS Report to Congress* and is also essential for use in the wastewater treatment cost curve needs. Data is available in all facilities with a facility nature of **Treatment Plant, Decentralized Treatment System, or Facility Classified as Other.**

The **Present Design Level of Effluent** and **Projected Design Level of Effluent** describe the general level of effluent quality that the facility is currently designed and projected to discharge. Below is a summary of possible treatment levels:

Raw Discharge. Wastewater discharged without receiving any form of treatment. Pollutant concentrations in a raw discharge can vary depending on the source of the pollutant(s).

Primary Treatment. Wastewater discharged after receiving some preliminary and/or primary treatment (e.g., screening, grit removal, primary settling). A wastewater treatment plant with a 5-day biochemical oxygen demand (BOD5) concentration greater than 45 mg/l (30-day average) in its NPDES permit is considered to be providing primary treatment.

Advanced Primary Treatment. Wastewater discharged after receiving extensive primary treatment (e.g., screening, grit removal, primary settling). A wastewater treatment plant with a BOD5 concentration greater than 30 mg/l but less than or equal to 45 mg/l (30 day average) in its NPDES permit is considered to be providing advanced primary treatment.

Secondary Treatment. Wastewater discharged after receiving biological and/or physical/chemical treatment, including lagoons and trickling filters. A wastewater treatment plant using biological and/or physical/chemical treatment other than lagoons or trickling filters with a BOD5 concentration greater than or equal to 20 mg/l but less than or equal to 30 mg/l (30 day average) in its NPDES permit is considered to be providing secondary treatment. A wastewater treatment plant using lagoons or trickling filters as the main means of treatment might have actual permitted BOD5 concentrations greater than 30 mg/l, but is still considered to be providing secondary treatment.

Advanced Treatment I. Wastewater discharged after receiving biological and/or physical/chemical treatment. A wastewater treatment plant with a BOD5 concentration greater than or equal to 10 mg/l but less than 20 mg/l (30 day average) in its NPDES permit is considered to be providing Advanced Treatment I.

Advanced Treatment II. Wastewater discharged after receiving biological and/or physical/chemical treatment. A wastewater treatment plant with a BOD5 concentration less than 10 mg/l (based on 30 day averages) in its NPDES permit is considered to be providing

Advanced Treatment II. To further clarify the treatment level, the state should indicate whether the facility currently uses any processes to remove nutrients (nitrogen or phosphorus) from its effluent. Note that the addition of nutrient removal is considered to be an improvement in effluent quality (e.g., secondary effluent with nutrient removal represents higher quality effluent than secondary effluent without nutrient removal).

Discharge Method(s) and Location(s). Discharge data for the facility describe details of the method(s) used to discharge water or wastewater from the facility, as well as the geographic location of the discharge(s). One or more of the following methods of disposal may be selected depending on the type of facility:

Combined Sewer Overflow (CSO) Discharge

Deep Well

Reuse: Ground Water Recharge

Reuse: Industrial

Reuse: Irrigation

Reuse: Other Non-Potable

Reuse: Indirect Potable

Reuse: Potable

Outfall to Surface Waters

Overland Flow With Discharge

Overland Flow, No Discharge

Spray Irrigation

Discharge to Another Facility

Discharge to Ground Water

Evaporation

Ocean Discharge

Other

No Discharge, Unknown

Discharge Method Name. The name of the disposal methods. For example: Outfall to Surface Waters.

Primary Discharge Method. The method (e.g. outfall to surface waters, spray irrigation, ocean discharge) most often used to discharge water or wastewater from the facility, as well as the geographic location of the discharge point.

Primary Method Flag. This flag indicates which discharge method is the primary discharge method for the facility. Note: The primary discharge must have an assigned discharge point.

Primary Discharge Facility. The CWNS number of the receiving facility for the primary discharge method "Discharge to Another Facility."

Primary Discharge River Reach. The river reach number (the reach number and mile point) and name of the receiving river reach for the primary discharge method of "Outfall to Surface Waters."

Primary Discharge River Reach AF Number. The CWNS number of the primary discharge river reach.

Primary Discharge Watershed. The name of the drainage basin or watershed to which a facility's water or wastewater is most often discharged.

Primary Discharge Watershed AF Number. The CWNS number of the primary discharge watershed.

Primary Discharge Point (Latitude). The latitude of the primary discharge location.

Primary Discharge Point (Longitude). The longitude of the primary discharge location.

Primary Discharge Polygon First Point (Latitude). Defines the "first point" latitude of a facility's polygon boundary.

Primary Discharge Polygon First Point (Longitude). Defines the "first point" longitude of a facility's polygon boundary.

In Use Flag. This indicates whether the discharge method is in current use at the specific facility.

Values - Y - Yes, this method is in use

Values - N - No, this method is proposed

Combined Sewer Flag. The flag indicates whether the facility is combined sewer system.

Out of State Flag. The flag indicates whether the discharge facility is from out of state.

Discharge CWNS Number. This is the CWNS number of the receiving facility for the discharge method **Discharge to Another Facility**.

Needs Categories

A **Need** is a project with associated costs that addresses a water quality or public health problem.

Present. The amount of the 20-year project cost that is needed to serve existing workloads.

Projected. Also known as Design Year Needs or Future. The cost estimate for building publicly owned wastewater treatment facilities eligible for assistance under the Clean Water Act to serve the population expected within 20 years. For the CWNS 2004, the design year is 2024. Also can be defined as facility currently in operation if all documented needs are met.

I. Secondary Wastewater Treatment

This category includes needs necessary to meet the minimum level of treatment that must be maintained by all treatment facilities, except those facilities granted waivers of secondary treatment for marine discharges under section 301(h) of the Clean Water Act. Treatment levels are specific in terms of the concentration of conventional pollutants in the wastewater effluent discharged from a facility after treatment. Secondary treatment typically requires a treatment level that will produce an effluent quality of 30 mg/l of both BOD5 and total suspended solids, although secondary treatment levels required for some lagoon systems may be less stringent than this. In addition, the secondary treatment must remove 85 percent of BOD5 and total suspended solids from the influent wastewater.

II. Advanced Wastewater Treatment

This category includes needs reported are necessary to attain a level of treatment that is more stringent than secondary treatment or produce a significant reduction in nonconventional or toxic pollutants present in the wastewater treated by a facility. Advanced treatment may include additional process units to increase the level of treatment to the level of potable, or less than potable but greater than that normally associated with surface discharge needs. This category may also include additional process units to increase level of treatment to allow for water reuse.

III-A. Infiltration / Inflow Correction

This category includes costs for correction of sewer system infiltration/inflow problems such as: control of the problem of penetration into a sanitary or combined sewer system of water from the ground through such means as defective pipes or manholes (infiltration) or from sources such as drains, storm sewers, and other improper entries into the system (inflow). Costs are also reported for preliminary sewer system analysis and detailed sewer system evaluation surveys.

III-B. Sewer Replacement / Rehabilitation

This category includes cost estimates for the maintenance, reinforcement or reconstruction of structurally deteriorating sanitary or combined sewers. Costs are reported if the corrective actions are necessary to maintain the structural integrity of the system.

IV-A. New Collector Sewers and Appurtenances

This category includes the costs of new pipes used to collect and carry wastewater from a sanitary or industrial wastewater source to an interceptor sewer that will convey the wastewater to a treatment facility.

IV-B. New Interceptor Sewers and Appurtenances

This category includes costs for constructing new interceptor sewers and pumping stations necessary for conveying wastewater from collection sewer systems to a treatment facility or to another interceptor sewer. Costs for relief sewers are included in this category.

V. Combined Sewer Overflow (CSO) Correction

This category includes measures used to achieve water quality objectives by preventing or controlling periodic discharges of a mixture of storm water and untreated wastewater (combined sewer overflows) that occur when the capacity of a sewer system is exceeded during a wet weather event. This category does not include costs for overflow control allocated to flood control or drainage improvement, or treatment or control of storm water in separate storm and drainage systems.

VI. Storm Water Management Programs

Storm water is defined as runoff water resulting from precipitation. This needs category includes activities to plan and implement municipal storm water management programs pursuant to National Pollutant Discharge Elimination System (NPDES) permits for discharges from municipal separate storm sewer systems. These include structural and nonstructural measures that control storm water pollution from diffuse sources by (1) reducing pollutants from runoff from commercial and residential areas that are served by the storm sewer, (2) detecting and removing illicit discharges and improper disposal into storm sewers, (3) monitoring pollutants in runoff from industrial facilities that flow into municipal separate storm sewer systems, and (4) reducing pollutants in construction site runoff discharged to municipal separate storm sewers.

VII. Nonpoint Source (NPS)

Nonpoint sources of water pollution are not regulated as a point source. NPS pollution sources are diffuse. They do not have a single point of origin and/or are not introduced into a receiving stream from a specific outlet. NPS pollutants may be a result of runoff, precipitation, atmospheric deposition, drainage, seepage, or hydrological modification. NPS pollution includes runoff from agriculture, silviculture, urban development, mining, hydromodification, construction, dams and channels, inappropriate land disposal of waste, marinas and saltwater intrusion.

VII-A. NPS Control: Agriculture (Cropland)

This category includes all costs that address NPS pollution control needs associated with agricultural activities such as plowing, pesticide spraying, irrigation, fertilizing, planting and harvesting. Some

typical best management practices (BMPs) used to address agriculture (cropland) needs are conservation tillage, nutrient management, irrigation water management, and structural (e.g., terraces, waterways) BMPs.

VII-B. NPS Control: Agriculture (Animals)

This category includes all costs that address NPS pollution control needs associated with agricultural activities related to animal production such as confined animal facilities and grazing. Some typical BMPs used to address agriculture (animal) needs are animal waste storage facilities, animal waste nutrient management, composting facilities, and planned grazing. If the facility has a NPDES permit, these needs are classified as Category VIII, Confined Animal Point Source.

VII-C. NPS Control: Silviculture

This category includes all costs that address NPS pollution control needs associated with forestry activities, such as removal of streamside vegetation, road construction and use, timber harvesting, and mechanical preparation for the planting of trees. Some typical BMPs used to address silviculture needs are pre harvest planning, streamside buffers, road management, revegetation of disturbed areas and structural practices, and equipment (e.g., sediment control structures, timber harvesting equipment).

VII-D. NPS Control: Urban

This category includes all costs that address NPS pollution control needs associated with new or existing development in urban or rural settings, such as erosion, sedimentation and discharge of pollutants (e.g., inadequately treated wastewater, oil, grease, road salts and toxic chemicals) into water resources from construction sites, roads, bridges, parking lots and buildings. Some typical BMPs used to address urban needs are wet ponds, construction site erosion and sediment controls, sand filters and detention basin retrofit. Needs related to Federal or state highways generally reported under this category, because state and Federal highways are state owned. Needs associated with the portions of a road that go through an Municipal Separate Storm Sewer Systems (MS4) reported in Category VI, Storm Water Management Program. Costs associated with managing urban runoff in areas not covered by applicable Phase I or Phase II storm water NPDES permits should be reported in this category.

VII-E. NPS Control: Ground Water Protection (Unknown Source)

This category includes all costs that address ground water protection NPS pollution control needs such as wellhead and recharge area protection activities. Any need that can be attributed to a specific cause of ground water pollution, such as leaking storage tanks, soil contamination in a brownfield, or leachate from a sanitary landfill, is reported in that more specific category.

VII-F. NPS Control: Marinas

This category includes all costs that address NPS pollution control needs associated with boating and marinas, such as poorly flushed waterways, boat maintenance activities, discharge of sewage from boats, and the physical alteration of shoreline, wetlands, and aquatic habitat during the construction and operation of marinas. Some typical BMPs used to address needs at marinas are bulk heading, pump out systems, and oil containment booms.

VII-G. NPS Control: Resource Extraction

This category includes all costs that address NPS pollution control needs associated with mining and quarrying activities. Some typical BMPs that used to address resource extraction needs are detention berms, adit (mine entrance) closures, and seeding or revegetation. Any costs associated with facilities or measures that address point source discharges from mining and quarrying activities that have an identified owner should be included in Category IX, Mining Point Source.

VII-H. NPS Control: Brownfields

This category includes all costs that address NPS pollution control needs associated with land that was developed for industrial purposes and then abandoned, which might have residual contamination. All costs for work at brownfields should be included in Category VII-H regardless of the activity. Some typical BMPs used to address needs at brownfields are ground water monitoring wells, in situ treatment of contaminated soils and ground water, and capping to prevent storm water infiltration.

VII-I. NPS Control: Storage Tanks

This category includes all costs that address NPS pollution control needs associated with tanks designed to hold gasoline or other petroleum products or chemicals. The tanks may be located above or below ground level. Some typical BMPs used to address storage tank needs are spill containment systems; in situ treatment of contaminated soils and ground water; and upgrade, rehabilitation or removal of petroleum/chemical storage tanks. If these facilities or measures are part of addressing NPS needs at abandoned, idle, or under used industrial sites (brownfields), the costs go in Category VII-H, Brownfields.

VII-J. NPS Control: Sanitary Landfills

This category includes all costs that address NPS pollution control needs associated with sanitary landfills. Some typical BMPs used to address needs at landfills are leachate collection, on-site treatment, gas collection and control, capping and closure.

VII-K. NPS Control: Hydromodification

This category includes costs that address NPS pollution control needs associated with BMPs for any alteration of the hydrological characteristics of coastal and non-coastal waters, which in turn could cause degradation of water resources. Examples of such activities include channelization and channel modification, dams, and stream bank and shoreline erosion. In the case of a stream channel, hydromodification is the process whereby a stream bank is eroded by flowing water, typically resulting in the suspension of sediments in the watercourse. Some typical BMPs used to address hydromodification needs are conservation easements, swales, filter strips, shore erosion control, wetland development or restoration, and bank or channel (grade) stabilization. Any work involving wetland or riparian area protection or restoration is included under this category.

VII-L. NPS Control: Individual / Decentralized Sewage Treatment

This category includes costs associated with the rehabilitation or replacement of individual or community sewage disposal systems and the treatment portion of other decentralized sewage disposal technologies. Costs related to the development and implementation of on-site management districts are included (but not the costs of ongoing operations of such districts). If a publicly owned centralized

collection and treatment system is constructed or if sewers are installed to connect the service area to an existing collection system, the costs are separately reported in Categories I and IV-A, respectively. Public ownership is not required for decentralized systems. Costs could include the limited collection systems associated with the decentralized system.

VIII. Confined Animal Point Source

This category includes costs that address a combination of unit processes or BMPs designed to address water quality or public health problems caused by point source pollution from animal production activities that are subject to the concentrated animal feeding operations (CAFO) regulations.

IX. Mining Point Source

This category includes costs that address a combination of unit processes or BMPs designed to address water quality and/or public health problems caused by point source pollution from mining and quarrying activities.

X. Recycled Water Distribution

This category includes costs associated with conveyance of the recycled water (wastewater reused after removal of waste contributed by humans) and any associated rehabilitation/replacement needs. Example are costs for pipes to convey treated water from the wastewater facility to the property of the drinking water facility (either the drinking water distribution system or the drinking water treatment facility) and the purchase of the equipment for effluent application if the land on which it is to be applied is publicly owned. The costs associated with additional process units to increase the level of treatment to the level of potable, or less than potable but greater than that normally associated with surface discharge needs, are reported in Category II.

XI. Estuary Management

This category is only be used for management activities in the study areas of the twenty-eight National Estuary Programs (NEPs) designated under section 320 of the Clean Water Act. It includes costs associated with a limited number of estuary management activities that may not be appropriately included in other needs categories. Some typical estuary BMPs are habitat protection for aquatic species, fisheries, oyster bed, and shellfish restocking and restoration, fish ladders, rejuvenation of submerged aquatic vegetation, artificial reef establishment, control of of invasive vegetative and aquatic species, and water control structures for flow regime and salinity. Most activities included in the NEP's Comprehensive Conservation and Management Plans are considered point or NPS technologies and should be included in the appropriate category.

Facility Natures (Present and/or Projected)

Facility Natures define the basic components of a CWNS facility (e.g., Treatment Plant, Large Municipal Separate Storm Sewer System (MS4), or Agriculture-Croplands). Each nature is classified as to currently existing (Present), existing in the future (Projected), or both (Present and Projected).

Example: A proposed treatment plant would have a nature of Treatment Plant (Projected)

Example: An enlargement to an existing collection system would have a nature of Collection: Separate Sewers (Present and Projected)

Example: Abandoning a treatment plant would have a nature of Treatment Plant (Present)

Best Management Practices (BMPs). Methods that have been determined to be the most effective, practical means of preventing or reducing pollution from a specific source category. Although a BMP can have standards associated with its installation, operation, or maintenance, it generally does not impose effluent limits for specific substances.

All applicable Facility Natures for the CWNS 2004 are described below.

Treatment Plant. A combination of unit processes or BMPs designed to receive and treat wastewater and then discharge the treated wastewater (effluent) into the environment. Included in this nature are unit processes or BMPs intended solely to remove pollutants from CSOs prior to discharge of the overflow to the environment. This nature does not include unit processes or BMPs intended to thicken, stabilize, dewater, or store biosolids. They should be designated as Biosolids Handling Facilities.

Collection: Combined Sewers. A combination of unit processes or BMPs designed to collect and transport a combination of wastewater and storm water. This nature does not include sewers that were designed to carry only wastewater and infiltration/inflow, which should be designated as Collection: Separate Sewers.

Collection: Separate Sewers. A combination of unit processes or BMPs designed to collect and transport only wastewater. This nature includes sewer systems that might collect and transport infiltration and inflow (I/I) as well as wastewater. This nature does not include sewers that were designed to carry both storm water and wastewater, which should be designated as Collection: Combined Sewers.

Biosolids Handling Facility. A combination of unit processes or BMPs designed to thicken, stabilize, dewater, or store biosolids prior to disposal. This nature does not include the following:

Unit processes or BMPs designed to receive and treat wastewater and then discharge the treated wastewater (effluent) into the environment. These should instead be designated as Treatment Plants

Unit processes or BMPs intended solely to remove pollutants from CSOs prior to discharge of the overflow to the environment. These should instead be designated as Treatment Plants

Individual On-site System Area. A combination of unit processes or BMPs designed to receive, treat, and dispose of wastewater from individual structures (e.g., homes, businesses). Septic tanks and holding tanks are examples.

Decentralized Treatment System. A combination of unit processes or BMPs designed to collect, receive, treat, and dispose of wastewater from groups of structures (e.g., homes, businesses). Some examples are septic tanks with multiple unit leach fields and septic tanks followed by community mound systems.

Large Municipal Separate Storm Sewer System (for populations of greater than 250,000). A combination of unit processes or BMPs designed to collect and transport only storm water for entities regulated under the Phase I or Phase II storm water programs. Only processes or practices that address water quality or public health problems are included in the CWNS.

Medium Municipal Separate Storm Sewer System (for populations between 100,000 and 249,999). A combination of unit processes or BMPs designed to collect and transport only storm water for entities regulated under the Phase I or Phase II storm water programs. Only processes or practices that address water quality or public health problems are included in the CWNS.

Small Municipal Separate Storm Sewer System (for populations of fewer than 100,000 people). A combination of unit processes or BMPs designed to collect and transport only storm water for entities regulated under the Phase I or Phase II storm water programs. Only processes or practices that address water quality or public health problems are included in the CWNS.

Urban. A combination of unit processes or BMPs designed to address water quality or public health problems associated with urban settings, such as erosion, sedimentation, and discharge of pollutants (e.g., oil, grease, road salts, and toxic chemicals) into urban streams from construction sites, roads, bridges, parking lots, and buildings. Storm water projects not covered by an NPDES permit under the Phase I or Phase II storm water regulations are classified as Urban. Urban runoff management practices prevent or reduce the availability, release, or transport of substances that adversely affect surface water and ground water. They act generally to diminish the generation of pollutants from specific sources, in this case, urban/storm water runoff.

Agriculture-Cropland. A combination of unit processes or BMPs designed to address water quality or public health problems caused by agricultural activities such as plowing, pesticide spraying, irrigation, fertilizing, planting, and harvesting. The primary agricultural nonpoint source pollutants are nutrients, sediment, animal wastes, salts, and pesticides. Agricultural activities also have the potential to directly affect the habitat of aquatic species through physical disturbances of adjacent land caused equipment, or water management activities (e.g., dams, irrigation).

Agriculture-Animals. A combination of unit processes or BMPs designed to address water quality or public health problems caused by agricultural activities related to grazing and animal production such as animal feeding operations that are **not** subject to the concentrated animal feeding operation (CAFO) regulations. Animal waste includes the fecal and urinary wastes of livestock and poultry; process water (such as that from a milking parlor); and the feed, bedding, litter, and soil with which they become intermixed. Pollutants such as organic solids, salts, bacteria, viruses, and other microorganisms, and sediments might be contained in animal waste transported by runoff water and process wastewater.

Silviculture. A combination of unit processes or BMPs designed to address water quality or public health problems caused by forestry activities such as removal of streamside vegetation, road construction and use, timber harvesting, and site preparation for the planting of trees. Silvicultural activities can cause degradation of water quality and habitat quality if care is not taken to prevent adverse effects. Sediment from erosion due to tree harvesting activities and access road construction, temperature increases due to riparian shade removal, and pesticides and fertilizer used during timber operations are some of the major pollutants from timber harvesting sites. Silviculture BMPs include measures that control erosion from access roads, maintain the stability of stream banks, ensure the

revegetation of harvested areas, and control the introduction of pesticides and fertilizers into waterways.

Marinas. A combination of unit processes or BMPs designed to address water quality or public health problems associated with boating and marinas, such as poorly flushed waterways, boat maintenance activities, discharge of sewage from boats, storm water runoff from marina parking lots, and the physical alteration of shoreline, wetlands, and aquatic habitat during the construction and operation of marinas.

Resource Extraction. A combination of unit processes or BMPs designed to address water quality or public health problems caused by mining and quarrying activities. Resource extraction management practices can prevent or reduce the availability, release, or transport of substances that adversely affect surface and ground waters. Resource Extraction includes mining and quarrying activities that are not identified under Mining Point Source.

Brownfields. A combination of unit processes or BMPs designed to address water quality or public health problems at abandoned, idle, or under used industrial and commercial sites. Brownfields can be urban, suburban, or rural areas.

Storage Tanks. A combination of unit processes or BMPs designed to address water quality or public health problems caused by tanks designed to hold gasoline or other petroleum products or chemicals. The tanks may be located above or below ground level.

Sanitary Landfills. A combination of unit processes or BMPs designed to address water quality or public health problems at sanitary landfills. Sanitary landfills are landfills designed as disposal sites for nonhazardous solid wastes rather than hazardous solid waste or biosolids.

Ground Water Unknown Source. A combination of unit processes or BMPs designed to address ground water protection needs from an unknown or otherwise undefined source. Any need that can be attributed to a specific cause of ground water pollution should be indicated with a more specific nature, such as storage tanks, brownfields, or sanitary landfills.

Hydromodification. A combination of unit processes or BMPs designed to address water quality or public health problems associated with channelization and channel modification, dams, and stream bank and shoreline erosion.

Confined Animal Source. A combination of unit processes or BMPs designed to address water quality or public health problems caused by **point source** agricultural activities related to animal production that are subject to the CAFO regulations. Animal waste includes the fecal and urinary wastes of livestock and poultry, process water (such as that from a milking parlor), and the feed, bedding, litter, and soil with which they become intermixed. Pollutants such as organic solids, salts, bacteria, viruses, and other microorganisms, and sediments might be contained in animal waste transported by runoff water and process wastewater.

Mining Point Source. A combination of unit processes or BMPs designed to address water quality or public health problems caused by **point source** mining and quarrying activities. Mining management practices can prevent or reduce the availability, release, or transport of substances that adversely affect surface and ground waters.

Facility Classified as "Other." A designation that can be used for a combination of unit processes or

BMPs when no other natures adequately describe the activities the facility is designed to conduct. If this designation is used, **an explanation must be included** by the state. The explanation must include a reason why the facility was classified as "Other" and not in some other category.

Population Data

Population data describe the number of people present (or potentially present) within the service area of the facility, or the planned number of people in that service area. Population data are reported in the CWNS Report to Congress and are also essential for use in the wastewater treatment and sewer cost curve needs estimates.

The population data are likely to be available if the facility has a Present and/or Projected Nature of **Treatment Plant, Collection: Combined Sewer, Collection: Separate Sewers, Decentralized Treatment System, Individual On-site System Area**, and/ or **Facility Classified as Other**.

CWNS has fields for the following five categories of population:

Not Receiving Collection

Receiving Collection (i.e., sewer)

Upstream

Total Receiving Treatment

Individual Sewage Disposal System (ISDS)

Not Receiving Collection describes the total population within the service area of the facility who are not connected to a sewer system nor served by acceptable ISDSs (e.g., septic tanks). This includes population connected to sewers that do not discharge to a wastewater treatment plant (WWTP) (i.e., a raw discharge) and does not include populations served by acceptable ISDSs. For reporting purposes, population included in this category is not considered to have its wastewater disposed of in an acceptable manner.

Receiving Collection describes the total population within the service area of the facility who are connected to a sewer system which empties into a WWTP. By definition, this population is being served by a WWTP plant somewhere. This does not include populations served by acceptable ISDSs, or populations connected to sewers that do not discharge to a WWTP. For reporting purposes, population included in this category is considered to have its wastewater disposed of in an acceptable manner.

The **Upstream Total** describes the total population whose wastewater is discharged to this facility from other facilities upstream in the sewershed. The total is calculated from the population Receiving

Collection of all facilities which discharge to the selected facility, directly or indirectly. The **Upstream Total** is added to the **Receiving Collection** population for the facility to generate the **Total Receiving Treatment** population.

Total Receiving Treatment describes the total population (in this Facility and upstream) receiving wastewater treatment at this facility. This value is the sum of **Receiving Collection** population for the facility and the **Upstream Total**. This does not include populations served by acceptable ISDSs.

Individual Sewage Disposal System (ISDS) describes the total population within the service area of the facility not connected to a sewer system but served by acceptable Individual On-site Systems (e.g., septic tanks). For reporting purposes, any population included in this category is considered to have its wastewater disposed of in an acceptable manner.

The total CWNS population for a state is equal to the sum of the **Not Receiving Collection**, **Receiving Collection**, and **ISDS** populations of the state's facilities.

For each of the five categories listed above, facilities in the CWNS database can hold information for both **Present** and **Projected**, as well as **Resident** and **Non resident** populations. They are:

Present population totals describe the population currently associated with the selected facility

Projected (or future) population totals describe the population that is forecasted to be associated with the facility during the design year

Projection Year identifies the basis for the future population values

Resident population applies to the population that lives within the service area of the facility

Non Resident applies to the portion of population that do not live within the service area of the selected facility, but that still utilize or are served by the associated sewers, treatment plants, or ISDSs. This population includes persons such as transient, seasonal, and commuter workers, as well as tourist populations

Note that:

The Present and Projected Not Receiving Collection data is only collected if the facility has a Present or Projected Nature of Treatment Plant, Collection: Combined Sewers, Collection: Separate Sewers, Decentralized Treatment System, Individual On-site System Area, and/or Facility Classified as Other

The Present and Future Receiving Collection data is only collected if the facility has a Present or Projected Nature of Collection: Combined Sewers, Collection: Separate Sewers, Decentralized Treatment System, or Facility Classified as Other

The Upstream Totals are only calculated if there are facilities present in the sewershed that are upstream of the current facility which have Present and/or Future Receiving Collection data

The Present and Future Total Receiving Treatment are only calculated if the facility has a Present or Projected Nature of Treatment Plant, Decentralized Treatment System, or Facility Classified as Other

Individual Sewage Disposal System Present and Future data is only collected if the facility has a Present or Projected Nature of Individual On-site system Area or Facility Classified as Other

The following population data elements are available in the Population Report:

- 1.R_Pop_PTotal - Resident Population Present Total
- 2.R_Pop_FTotal - Resident Population Future Total
- 3.RP_NRCollection - Resident Present Not Receiving Collection Population
- 4.NF_NRCollection - Resident Future Not Receiving Collection Population
- 5.RP_RCollection - Resident Present Receiving Collection Population
- 6.RF_RCollection - Resident Future Receiving Collection Population
- 7.RP_ISDS - Resident Present Individual Sewage Disposal System Population (ISDS)
- 8.RF_ISDS - Resident Future Individual Sewage Disposal System Population
- 9.RP_RColl_Upstream - Resident Present Receiving Collection Upstream Population
10. RF_RColl_Upstream - Resident Future Receiving Collection Upstream Population
11. RP_RTreatment - Resident Present Receiving Treatment Population
12. RF_RTreatment - Resident Future Receiving Treatment Population
13. NRP_NRCollection - Non Resident Present Not Receiving Collection Population
14. NRF_NRCollection - Non Resident Future Not Receiving Collection Population
15. NRP_RCollection - Non Resident Present receiving Collection Population
16. NRF_RCollection - Non Resident Future receiving Collection Population
17. NRP_ISDS - Non Resident Present Population ISDS

18. NRF_ISDS - Non Resident Future Population ISDS
 19. NRP_RColl_Upstream - Non Resident Present Receiving Collection Upstream Population
 20. NRF_RColl_Upstream - Non Resident Future Receiving Collection Upstream Population
 21. NRP_RTreatment - Non Resident Present Receiving Treatment Population
 22. NRF_RTreatment - Non Resident Future Receiving Treatment Population
-

Flow Data

The flows in the Discharge Report are:

Municipal Flows (existing, present design, and future design)

Industrial Flows (existing, present design, and future design)

Infiltration Flows (existing, present design, and future design)

Wet Weather Flows (Peak) (existing, present design and future design)

The total flows can be calculated as:

Total Existing Flow (municipal+industrial+infiltration flows)

Present Design Flow (municipal+industrial+infiltration flows)

Future Design Flow (municipal+industrial+infiltration flows)

Flow Data Basics

Flow data describe the quantity of wastewater moving through the facility, or the present or planned design capacity of that facility. These data are measured in units of million gallons per day (MGD). Flow data are reported in the CWNS Report to Congress and are essential for use in the wastewater treatment cost curve needs estimates.

Municipal Flow describes the portion of the wastewater flows generated by residential, commercial and/or institutional sources within the service area of the facility.

Industrial Flow describes the portion of the wastewater flows generated by industrial sources within the service area of the facility. This should include all industrial sources greater than 0.025 MGD (25,000 gallons per day).

Infiltration Flow describes the estimated portion of the wastewater flow that is entering the collection system via defective joints, connections, or manhole walls (as a result of infiltration and inflow, or I&I).

Total Flow is the sum of the **Municipal Flow**, **Industrial Flow**, and **Infiltration Flow**.

Wet Weather Flow (Peak) describes the peak flow that the treatment plant either can or does treat. This is an optional field and is not included in the calculation of Total Flow.

For each of the five categories listed above, facilities in the CWNS database provide information for **Existing**, **Present Design**, and **Future Design** flows.

Existing Flow refers to the calculated average flow for a recent 12-month period

Present Design Flow refers to the current designed hydraulic capacity of the existing treatment plant

Future Design Flow refers to the planned hydraulic capacity of the plant in the design year

The Flow Data are available if the facility has a Present and/or Projected Nature of Treatment Plant, Decentralized Treatment System, or Facility Classified as Other.

Primary Discharge Data. This information is found in Facility Description and Location Data sections.

Location Data

Point of Record (POR). The latitude and longitude that define the physical position of a facility.

Polygon. Defines the location of the facility using a series of three or more of connected coordinate points. The main points of the polygon are First Point, Next Point, Prior Point, and Last Point.

Sequence Number. The number which represents the order a particular point is in a series of boundary points.

Latitude Degree Measurement. The measure of the degree portion of a latitude measurement (00 to 90 degrees), indicating angular distance North or South of the equator. One degree of latitude equals 111.1 Kilometers or approximately 60 Nautical Miles.

Latitude Minute Measurement. The measure of the minute portion of a latitude measurement (0 to 59 minutes), indicating angular distance North or South of the equator.

Latitude Second Measurement. The measure of the seconds portion of a latitude measurement (0 to 59 degrees), indicating angular distance North or South of the equator.

Latitude Direction Code. The direction of the latitude measurement. North (N) denotes a positive value of the latitude. South (S) denotes a negative value.

Longitude Degree Measurement. The measure of the degree portion on longitude (000 to 180 degrees), indicating angular distance West or East of the prime meridian drawn from pole to pole around the Earth and passing through Greenwich, England. Note: This is always expressed as three digits including the leading zero.

Longitude Minute Measurement. The measure of the minutes portion on longitude (00 to 59 degrees), indicating angular distance West or East of the prime meridian.

Longitude Second Measurement. The measure of the seconds portion on longitude (00 to 59 degrees), indicating angular distance West or East of the prime meridian.

Longitude Direction Code. The direction of the longitude measurement. East denotes a positive value of the longitude. West denotes a negative value.

GPS Latitude Degree Measurement. The measure of the degree portion of a latitude measurement (0 to 90 degrees), indicating angular distance North or South of the equator. One degree of latitude equals 111.1 Kilometers or approximately 60 Nautical Miles.

GPS Latitude Minute Measurement. : The measure of the minutes portion of latitude (00 to 59 minutes), indicating angular distance North or South of the equator.

GPS Longitude Degree Measurement. The measure of the degree portion of longitude (000 to 180 degrees), indicating angular distance West or East of the prime meridian drawn from pole to pole around the Earth and passing through Greenwich, England.

GPS Longitude Minute Measurement. The measure of the minutes portion of longitude (00 to 59 minutes), indicating angular distance West or East of the prime meridian.

Last Point Flag. This flag designates whether this is the last absolute location point.

Geopositioning Name. The name that represents an acknowledged standard reference scheme of known coordinates from which calculations or measurements may be taken.

Unit Process

Unit Process or Best Management Practice (BMP) data are available on the EPA's CWNS Website. They are very old and are most likely unreliable. Most of the facilities have not been updated since 1988 or 1992. A lot of changes may have happened since then.

Name. Name of an unit process.

Status describes whether the related unit process or BMP is currently **In Use** or is **Proposed** to be built or put into place at some time in the future.

Change is similar to the Facility Change assigned to Facility Natures, and it indicates what is proposed to be done (e.g., modifications, improvements) to the individual unit process/BMP in the future.