

**WATER**  
**INDICATOR 5**

*“Percent of assessed waterbodies that protect public health and the environment by supporting a) fish and shellfish consumption, b) safe recreation, and c) healthy aquatic life use designations.”*

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## SCREENING RESULTS: Overview

Under the Clean Water Act (CWA), states are required to conduct water quality surveys to characterize the health of waterbodies in the state, and to determine whether or not designated uses are supported. These surveys are produced by states biennially in even years. These 305(b) reports as they are known (referring to the CWA section which requires them), serve as detailed descriptions of state's waters. They include quantitative and qualitative information about water resources, quality problems and causes of problems, as well as efforts to improve and monitor water quality.

In regulating and coordinating the state water quality surveys, "EPA has pursued a balance between flexibility and consistency in the Section 305(b) process."<sup>4</sup> Critical to this indicator, consistency is evident in the type of information reported, in particular the percent of assessed waters meeting designated uses. Each state assesses waters for their degree of support of uses designated by the state as being beneficial and desired for the particular waterbodies, such as swimming, fishing, aquatic life, or drinking water. To do this, states compare a broad range of data and information against criteria by which they define necessary characteristics waters must attain to support uses. States assess lakes, streams, rivers, coastal waters, reservoirs and other waterbodies.

The flexibility afforded to states in preparing their 305(b) reports is evident in the variability of use designations, support criteria, and methods for assessment, as well as in the selection of waters that are assessed. A significant proportion of each 305(b) report is devoted to describing in detail the specific methodologies used for assessments, the data and monitoring infrastructure used to support the assessments, and other information regarding the quality of specific waterbodies and efforts to improve water quality and evaluation. This information is far too detailed to discuss and compare here. The interview results in the following pages present some information about the coverage and emphases of individual state water quality surveys. Some general concerns for consistency and data quality among state 305(b) assessments is discussed here and in the interview results, and some examples are highlighted. For more detail on the implications of state water quality assessment data, the individual state 305(b) reports should also be consulted.

Each of the New England states, via their 305(b) assessments, reports the percent of waters supporting designated uses (number supporting/total waters assessed). These are reported by type of water (lake, river, estuary, etc.), type of use (swimming, fishing, etc.), and degree of support (fully, threatened, partial, not supporting, not attainable). All states designate and assess some waters for similar uses. However, there is variability in the definition of uses. For example, this indicator requires a percentage of waters supporting "(c) safe recreation". All of the states assess some of their waters for recreation. For some this means primarily swimming, while some include other recreational uses. Massachusetts assesses waters for primary contact (e.g., swimming) and secondary contact (e.g., boating). These categories would likely be aggregated to report the percentage of waters supporting "safe recreation".

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<sup>4</sup> US EPA, *National Water Quality Inventory, report to Congress*, 1994.

Additional concerns for the utility of an indicator based on 305(b) assessments include the percent of waters assessed within a state in a given reporting cycle, and the criteria for the selection of waters for assessment. As with most concerns regarding the quality of 305(b) data, EPA is addressing the assessed waters issue by focusing on clearer guidance, more extensive and comprehensive data collection/reporting, and consistency. Most states are able to assess only a small fraction of their total waterbodies. Following EPA guidance, some states have moved to a rotating monitoring schedule whereby different fractions of the state's waters are assessed in given years. Massachusetts has operated on cycle of assessing 1/5 of the state's waters a year. Thus in any given 305(b) reporting year since (1994,1996), some assessment data is based on information collected within the preceding 1-2 years, while other assessments reflect older information, while the total number of waters assessed is larger than would be otherwise possible. New Hampshire implemented a rotating assessment program, but suspended this in 1993 in order to focus on particular problem sites. For the 1998 reporting year, Connecticut will also be utilizing a rotating basin program. In contrast to the rotating basing method, Rhode Island has assessed all waters in the state. While most states rely on USGS 1:100,000 scale delineations of waterbodies (USGS, digital line graphs, EPA RF3) for selecting waters for assessment, Rhode Island assesses all waters apparent at 1:24,000 scale (e.g., USGS 7.5 min topo-quads).

While the indicator addresses this variable by measuring only the percent of *assessed* waters supporting uses, it cannot reconcile the variability in how representative assessed waters are. Most states target assessment efforts towards waters with known, suspected, or historical problems. Thus the set of assessed waters may be comprised of an unrepresentative proportion of unhealthy river miles, lake acres, etc. This emphasis on waters with likely pollution impacts and thus use impairments is not unique to any state. However, the move to more comprehensive monitoring has had the effect of expanding some state's assessments to more representative groups of waterbodies in recent years. Connecticut for example has measured predominantly problem sites, along with several sites representing "pristine" conditions. In moving to a rotating assessment method, many existing monitoring sites will be retained, while additional waters will be assessed, increasing the overall representation of the assessed waterbodies in the state. Rhode Island, by assessing all waterbodies within the state, including segments representing all of Narragansett Bay, paints a very different picture of designated use support than most states.

Some other general concerns regarding variability in 305(b) assessments<sup>5</sup>:

- Waters are assessed using combinations of water quality information. These sources of data range from ambient water quality parameter data collected and analyzed under strict protocols, to less reliable citizen volunteer data, to professional judgements and "windshield surveys". States are asked to describe in their reports the relative proportions of waters assessed using monitored data, and those assessed by evaluating waters based on less reliable data. These proportions and the definitions used in distinguishing the bases for assessment follow EPA guidance, yet are significantly variable from state-to-state and year-to-year.

<sup>5</sup> For more detail on 305(b) reporting issues, see US EPA. *Guidelines for Preparation of the Comprehensive State Water Quality Assessments and Electronic Updates: Report Contents*, 1997. EPA-841-B-97-002A. and *Supplement*, EPA-841-B-97-002B.

- Designations of uses for waterbodies and the criteria used for determining the support of uses are not necessarily consistent from state-to-state, or from year-to-year. Changes and improvements in EPA guidance documents may yield more accurate and consistent reporting among states, but can adversely affect consistency over time.
- In some cases, changes in criteria for use support or differences in the interpretation of other data used to determine use support, can have profound effects on the numbers of waters meeting a given use. For example, the use of fish advisories as a criteria for the support of fish consumption has been criticized as unfairly distorting the water quality “story”, especially in states with general fish advisories which cover all waters, often for one pollutant (e.g., mercury).

This indicator poses a tradeoff between reportability and consistency. Data to support this indicator is available in each of the New England state’s 305(b) reports, and is summarized by EPA in the *National Water Quality Inventory*. The percent of waters meeting designated uses can be extracted easily from these sources. Given the variability in waters chosen for assessment, definitions of uses (e.g., recreation, swimming, boating), methods for assessment, and other factors, these number may have different meaning for each state. Given this, EPA suggests that caution be used “in comparing data or determining the accuracy of data submitted by different states and jurisdictions”, and “when comparing water quality information submitted during different 305(b) periods.”<sup>6</sup>

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<sup>6</sup> US EPA. *About State Water Quality Assessments*. [www.epa.gov/indicator/about305.html](http://www.epa.gov/indicator/about305.html).

## SCREENING RESULTS: Summary Matrix

(see results of individual interviews in next section for more detail)

State/Entity	Database	Coverage			Quality/ Methodolog	Availability
		Waters	Parameters	Temporal		
<b>EPA - NE</b>	National Water Quality Inventory summarizes data from state 305(b) reports	see individual states	reports support of basic uses as percent of waters, by type (e.g., lakes, rivers, estuaries); use support is described by fully supporting, threatened, partially supporting, not supporting, and not attainable	Biennial reporting; most recent National Water Quality Inventory is for 1996	EPA issues guidelines for monitoring, assessment, and reporting, however the states are granted flexibility; guidance and consistency among states has increased over time, however significant definintional variability remains	National Water Quality Inventory in hard-copy; state fact sheets on EPA's World Wide Web site
<b>Connecticut</b>	305(b) report	Long Island Sound and coastal areas have almost 100% coverage; 15-20% of other waters are assessed	waters assessed for fish and shellfish consumption, recreation, and aquatic life	biennial reporting since 1976	monitoring targeted to problem areas, while a few "pristine" areas are sampled; many assessments utilize high-quality data from fixed stations; some assessments rely on "best professional judgement"	hard copy reports through 1996
<b>Maine</b>	305(b) report	not contacted; see EPA - New England	not contacted; see EPA - New England	not contacted; see EPA - New England	not contacted; see EPA - New England	not contacted; see EPA - New England
<b>Massachusetts</b>	305(b) report	rotating assessments since 1993, approximately 1/5 of state's waters per year; approximately 15-20% of rivers and streams assessed to date	waters assessed for primary contact, secondary contact, fish consumption (freshwater), shellfish consumption (by Marine Fisheries Div.), and aquatic life.	biennial reporting	rotating assessment schedule has increased the number of waters assessed, but efforts are still targeted towards problem areas; bases for assessment vary widely from ambient data to windshield surveys; entire state is under fish consumption advisory, precluding any waters from meeting fish consumption use	hard copy reports through 1996

<p><b>New Hampshire</b></p>	<p>305(b) report</p>	<p>rotating assessment schedule was suspended from 1993-96, and efforts were refocused on problem sites</p>	<p>see EPA - New England</p>	<p>biennial reporting</p>	<p>rely on mix of assessment methods/data: either reliable monitoring data collected within the past five years, or older data and other methods/judgement; NH uses QA/QC approved by EPA for own data, as well as data from outside sources (e.g., volunteers)</p>	<p>hard copy reports through 1996; lake and pond assessment data in database</p>
<p><b>Rhode Island</b></p>	<p>305(b) report</p>	<p>all waters in state, including Narragansett Bay, appearing at 1:24,000 scale</p>	<p>assess waters for swimming, aquatic life, drinking water (RI DOH), and shellfish consumption</p>	<p>biennial reporting</p>	<p>RI uses a combination of data sources including university and volunteer monitoring; recent improvements in calculating the total amount of waters has improved the accuracy of "percent of total waters" calculations</p>	<p>hard copy reports through 1996; assessments kept in electronic database</p>
<p><b>Vermont</b></p>	<p>305(b) report</p>	<p>small percentage of total waters</p>	<p>rivers and streams, lakes and ponds, and Lake Champlain are assessed for fish consumption, shellfish consumption, recreation, and aquatic life</p>	<p>biennial reporting, supplemented by annual electronic updates</p>	<p>relies on EPA guidance closely for assessments; assessments are targeted towards impacted, suspected, and historical problem sites; some assessments rely on data from 50-60 monitoring sites, while a large proportion of waterbodies are evaluated without ambient data</p>	<p>hard copy reports through 1996 and electronic updates to EPA</p>

## SCREENING RESULTS: Interview Results

### WATER: INDICATOR 5

EPA – New England

**Database** Under the Clean Water Act, states, tribes and other jurisdictions are required to conduct water quality surveys to assure that basic uses are being met. EPA approves various aspects of the state water quality standards and assessments and issues extensive guidance, however, states conduct their own surveys, and produce individual “305(b)” reports. EPA summarizes a subset of this information in biennial reports to Congress, called National Water Quality Inventories. Some of this information is also used to make state water quality fact sheets available on the EPA World Wide Web site.

#### Coverage

*Waters* [ See state forms.]

*Parameters* All states report the percent of waters meeting certain uses designated by the states, based upon criteria defined by the states with EPA guidance and approval. [See state forms.]

*Temporal* 305(b) reports are published biennially. [See state forms.]

EPA produces a national Water Quality Inventory report for Congress biennially, in even years. The latest report contains data for 1996. This information is used to update the fact sheets on the World Wide Web.

#### Quality/

**Methodology** EPA issues guidance and definitions for monitoring and assessment methods, as well as guidelines for selecting the waters to assess within a state.

Flexibility in reporting has often been granted at the expense of consistency from state-to-state and from year-to-year. In many cases, the waters assessed, as well as the definitions of uses, criteria for assessing, and methods for monitoring have changed over time. [See state forms.]

**Availability** State reports are available in hard copy. The National Water Quality Inventory is available in hard copy. The state fact sheets are available on the World Wide Web.

## WATER: INDICATOR 5

### CONNECTICUT

**Database** Connecticut submits a 305(b) report biennially.

#### Coverage

##### *Waters*

The extent of coverage varies in Connecticut among particular waters and among types of waters (e.g., rivers, ponds, estuaries). Due to specific programs and emphasis for example, nearly 100% of the Long Island coastal areas and near shore estuaries are assessed. On the other hand, only approximately 15-20% of rivers and streams are assessed. Of the 6,000 lakes, ponds, and reservoirs in the state, approximately 115 with the most public access are assessed. Beginning in 1998, Connecticut will be assessing 1/5 of the states waters per year in addition to existing trends sites.

*Parameters* Waters are assessed for their support of designated uses: fish and shellfish consumption, recreation, and aquatic life. These definitions follow EPA guidance.

*Temporal* Biennial reporting since 1976.

#### Quality/

**Methodology** Waters are assessed using either or a combination of environmental data and “professional judgement”. Environmental data includes physical, chemical, and biological monitoring. Most data used in the CT assessments are collected in-stream from samples taken by DEP staff. In a joint effort with USGS, approximately 30 *fixed* monitoring stations have consistently recorded long-term data. These sites are augmented with some additional special interest sites.

Most monitoring is targeted towards problem areas, particularly those with a suspected high need for point source controls. As point source problems are improved, DEP tends to move monitoring efforts elsewhere, while some monitoring may be continued to ensure that “backsliding” does not occur. Approximately 3-4 sites are used to represent “pristine” or background conditions. However such a distinction does not appear in the 305(b).

Sites maintained with the USGS are quality assured by USGS under their stringent quality protocols. CT DEP utilizes its own guidelines for assessing waters. These have been reviewed by the EPA regional office.

**Availability** Biennial hard copy 305(b) report.  
[See EPA – New England.]

**WATER: INDICATOR 5**  
MAINE

**Database** Maine submits a 305(b) report biennially.

[See EPA – New England.]

**Coverage**

*Waters* Not contacted

[See EPA – New England.]

*Parameters* Not contacted

[See EPA – New England.]

*Temporal* Not contacted

[See EPA – New England.]

**Quality/**

**Methodology** Not contacted

[See EPA – New England.]

**Availability** Not contacted

[See EPA – New England.]

## WATER: INDICATOR 5

### MASSACHUSETTS

**Database** Massachusetts submits a 305(b) report biennially.

[See EPA – New England.]

#### **Coverage**

##### *Waters*

Massachusetts uses a rotating assessment schedule. Since 1993, MA DEP has attempted to assess approximately 1/5 of the state's waters per year. In any given biennial report since (1994, 1996), some waters have been assessed in recent (1-2) years, while other represent older assessments. Approximately 15-20% of rivers and streams have been assessed to date.

##### *Parameters*

Waters are assessed by the MA DEP relative to four uses: primary contact, secondary contact, fish consumption (freshwater), and aquatic life. The Marine Fisheries Division within the state's Department of Fisheries, Wildlife and Environmental Law Enforcement provides assessments of waters for shellfish consumption.

Waters are described as supporting, supporting but threatened, partially supporting, not supporting, or not attainable.

##### *Temporal*

Report biennially.

[See EPA – New England.]

#### **Quality/**

##### **Methodology**

While Massachusetts has moved to a rotating basin assessment scheme, the selection of waters to be assessed has and continues to be "targeted" towards problem areas. The DEP has organized "watershed teams" around monitoring and assessing waters, as well as enhancing public outreach and cross-agency participation. Because these teams are typically organized around areas of particular concern, so too are the resulting water quality assessments. The assessment of rivers in particular is biased to areas likely to be affected by point sources. Another effect of targeted monitoring and assessment is that the targets move as problems are addressed and others emerge, or as the general focus of concern shifts. For example, an early emphasis on addressing conspicuous pollution such as dyes from textile plants, gave way to an emphasis on more subtle problems related to nutrients, and then to the health concerns associated with persistent toxicity in water and consumed fish tissue.

Methods for assessment also vary by waterbody. Massachusetts criteria define any waters under fish advisory as not supporting fish consumption. Fish advisories are issued by and based in part on fish tissue samples and risk assessment performed by the Department of Public Health. Because all state waters are currently under advisory, no waters are said to support fish consumption. Lakes on the other hand are assessed by individual towns using “windshield surveys”, along with some data support from DEP.

In general, the MA DEP has become more cautious in assessing waters because of the substantial requirements related to waters listed as not supporting (and included on the 303(d) list). In recent years, the DEP has been more reluctant to list waters as not-supporting.

**Availability** Biennial hard copy 305(b) report.

[See EPA – New England.]

**WATER: INDICATOR 5**  
NEW HAMPSHIRE

**Database** New Hampshire submits a 305(b) report biennially.

[See EPA – New England.]

**Coverage**

**Waters** In 1989, NH DES began a 3-year rotating watershed monitoring program. From 1993 to 1996, this program was suspended to focus on problem sites. The rotating assessments should continue in 1997 and for the 1998 reporting year. Thus the 1996 and 1994 reports include a mix of recent and older data.

**Parameters** Waters are assessed relative to several uses including fish consumption, shellfish consumption, recreation, and aquatic life.

Waters are described as supporting, supporting but threatened, partially supporting, not supporting, or not attainable.

**Temporal** Report biennially

[See EPA – New England.]

**Quality/**

**Methodology** As in other states, assessed waters are based on either reliable monitoring data, or on older, less reliable data, and/or “best professional judgement.” In New Hampshire, waters considered “monitored”, are assessed using reliable ambient water data collected within five years. Those considered “evaluated” are based on ambient data more than five years old, or no ambient data at all. Data used to assess waters is drawn from combinations of many sources, including several state and federal agencies.

New Hampshire conducts QA/QC of water quality monitoring data including that from outside sources, under a plan approved by EPA. Methods for ambient monitoring have not changed significantly over time. The designation of uses are made by state legislation, and also have not changed significantly since the late 1980s when several “class c” waters were changed to “class b”. The definitions and criteria used for assessments *have* been changed in recent years and continue to change in order to be more consistent with EPA guidelines for both monitored and evaluated waters.

**Availability** Biennial hard copy 305(b) report. Detailed data for lakes and ponds is in an electronic database.

[See EPA – New England.]

## WATER: INDICATOR 5

### Rhode Island

**Database** Rhode Island submits a 305(b) report biennially.

[See EPA – New England.]

#### Coverage

##### *Waters*

Rhode Island DEM attempts to assess all waters in the state for each biennial report. Currently all waters that are evident at 1:24,000 scale (USGS 7.5 min quad) are assessed. This includes estuaries, Narragansett Bay, coastal ponds, lakes, ponds, and rivers. The Bay is divided into segments and assessed comprehensively.

##### *Parameters*

Waters are assessed relative to several uses including swimming, aquatic life, drinking water (done by RI DOH), and shellfish consumption.

Waters are described as supporting, supporting but threatened, partially supporting, not supporting, or not attainable.

##### *Temporal*

Report biennially, 1996 available.

#### Quality/

##### **Methodology**

RI DEM relies on combinations of several data sources in assessing the state's waters, such as chemical, physical, and biological data. Lake monitoring is conducted by the University of Rhode Island and volunteers through a URI program. Additional citizen volunteer sampling is used in assessing other waters.

Monitored waters are based on current ambient monitoring data. Evaluated waters are based on data more than ten years old, and citizen data or other data that has not been through quality assurance protocols. RI DEM is becoming more stringent in its expectations for waters considered as "monitored" – using only the most current and relevant data. This will be most evident in the 1998 report.

Recent improvements in the accuracy of the numbers of miles and acres of total waters in the state have increased the accuracy of calculations of "percent of total waters impaired...etc."

##### **Availability**

Biennial reporting, 1996 available.

RI DEM maintains an electronic database of assessments.

[See EPA – New England.]

## WATER: INDICATOR 5

### VERMONT

**Database** Vermont submits a 305(b) report biennially.

[See EPA – New England.]

#### **Coverage**

*Waters* A small percentage of total waters in the state are assessed. This is particularly true of rivers and streams.

*Parameters* Assessments are listed for rivers and streams, lakes and ponds, and Lake Champlain. Waters are assessed relative to several uses including fish consumption, shellfish consumption, recreation, and aquatic life.

Waters are described as supporting, supporting but threatened, partially supporting, not supporting, or not attainable.

*Temporal* Biennial reporting, now supplemented with annual electronic updates.

#### **Quality/**

**Methodology** VT ANR utilizes EPA guidance closely in conducting waterbody assessments.  
[See EPA – New England.]

Assessment efforts are targeted towards sites impacted by water quality problems, sites with suspected problems or impacts, and sites with historical water quality problems.

Many assessments are conducted (evaluated) without ambient water data. Ambient water quality data that is used relies on combinations of long-term fixed station monitoring as well as annual synoptic and discretionary sampling often targeting the areas described above. Rivers and streams data are predominantly biological assessments of fish and macro invertebrate communities; include 10-15 reference site assessments annually. Lakes and ponds and Lake Champlain are predominantly chemical (phosphorus, pH, alkalinity) and biological (chlorophyll, macrophytes, and exotic species) with other biological communities (e.g. macro invertebrates, phytoplankton) currently being evaluated. Fish consumption advisories developed in cooperation with the Department of Health from monitored fish contaminant data using DOH risk assessment methodologies. Some citizen monitoring data used, including phosphorus, chlorophyll, and bacteriological data. Wetland assessments include analysis of

functions and values. Assessment of hydrological modifications used in some instances to evaluate aquatic life and recreational use support status.

**Availability** Biennial report, annual electronic updates to EPA.

[See EPA – New England.]

**WATER**  
**INDICATOR 6**

*“Percent of permitted surface water discharges (all, major, and/or minor) in compliance (or significant non-compliance).”*

**CONTACTS**

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## SCREENING RESULTS: Overview

Under the Clean Water Act (CWA), all point source dischargers into navigable waters are required to have a National Pollutant Discharge Elimination System (NPDES) permit. EPA issues these permits to all dischargers (including municipal wastewater treatment plants and industrial facilities) in order to set acceptable levels of pollutants in order to maintain adequate water quality. Since beginning the NPDES program, EPA has reached agreements with approximately 43 states, allowing them to administer their own NPDES permitting program. In New England, Connecticut, Rhode Island, and Vermont have been delegated responsibility for NPDES. Dischargers in Maine, Massachusetts, and New Hampshire are permitted by EPA.

NPDES permits generally set accepted levels of pollutants which may be discharged from a point source (“end-of-pipe”) into receiving waters. Permits also establish schedules for the discharger to monitor and report levels of pollutants to EPA or the state environmental protection agency (in the case of delegated responsibility). Details of these permits, as well as effluent sampling data from dischargers, are kept in a national database, the Permits Compliance System (PCS). PCS tracks major and minor facilities. EPA defines major facilities as being above a flow threshold (greater than one million gallons per day), as having a service population of 10,000 or greater, or as having a significant impact on water quality. In delegated states, the determination of “significant impact” is left to the agency administering the NPDES program, with EPA guidance. Minor facilities include those not meeting the major facility criteria.

Permit data has been tracked since the beginning of the NPDES program, and more than 15 years of data is available in PCS. Dischargers report information on effluent levels at regular intervals according to their permits. Thus data is frequently entered into PCS. By comparing permit requirements with reported information on effluent, treatment, and other factors, PCS generates lists of non-compliance quarterly. Non-compliance is determined by definitions which calculate the number, type, and severity of violations of permit-specific requirements.

In states not delegated authority for NPDES administration, EPA administers permits, and accordingly enters data into PCS. Those states administering their own NPDES programs (Connecticut, Rhode Island, Vermont) maintain their own permit databases with all relevant information (limits, compliance, etc.). In addition to maintaining electronic state databases, Connecticut submits discharge information on all major dischargers to the national PCS database. Rhode Island enters all relevant NPDES information into PCS as well, for all dischargers. Each of these three delegated states submits to EPA quarterly lists of dischargers in non-compliance, although these are not necessarily available through PCS. While variability is inevitable in the granting of individual permits, the NPDES program is administered with extensive guidance and protocols, as well as explicit statutory and regulatory standards for pollution control. State programs are approved by EPA and operate under consistent guidelines.

## SCREENING RESULTS: Summary Matrix

(see results of individual interviews in next section for more detail)

State/Entity	Database	Coverage			Quality/Methodology	Availability
		Dischargers	Pollutants	Temporal		
<b>EPA - NE</b>	PCS database tracks NPDES permits and data nationally	all NPDES permits - all direct discharges into navigable waters; does not include all data from dischargers in states with delegated responsibility	All pollutants specified in permit	updated continually since the 1970s	extensive and consistent methodology for sampling and reporting;; definitions of non-compliance are standardized, but subjectivity of limits, provisions and issuance of individual permits raises concerns over comparability	PCS is an electronic database and can be queried by request, or via the world wide web
<b>Connecticut</b>	Connecticut is delegated and maintains a NPDES database. Some data is also submitted to the federal PCS.	all NPDES dischargers, differentiated by major and minor	all NPDES parameters; database tracks and reports compliance according to EPA definitions by comparing reported to permitted quantities	continually since the 1980s	see EPA - New England	electronic database; major dischargers available in PCS, see EPA - New England
<b>Maine</b>	Maine is not delegated NPDES responsibility; see EPA - New England	see EPA - New England	see EPA - New England	see EPA - New England	see EPA - New England	see EPA - New England
<b>Massachusetts</b>	Massachusetts is not delegated NPDES responsibility; see EPA - New England	see EPA - New England	see EPA - New England	see EPA - New England	see EPA - New England	see EPA - New England
<b>New Hampshire</b>	New Hampshire is not delegated NPDES responsibility, but NH DES has tracked some NPDES information to help in the permitting process	see EPA - New England; NH DES tracks all dischargers except stormwater dischargers	see EPA - New England	see EPA - New England; NH DES has tracked major dischargers since 1994, and minor dischargers since 1996	see EPA - New England	see EPA - New England; NH DES data is available in hard copy
<b>Rhode Island</b>	Rhode Island is delegated and maintains a NPDES database. Data is also submitted to the federal PCS.	all NPDES, differentiated by major and minor, municipal and non-municipal, and general and individual permit	all NPDES parameters; database tracks and reports compliance according to EPA definitions by comparing reported to permitted quantities	data submitted continually from dischargers; RI has entered data into PCS since 1987; RI has maintained its own database since c.1995	see EPA - New England	electronic database, can be queried; see EPA - New England for PCS availability
<b>Vermont</b>	Vermont is delegated and maintains a NPDES database. Data is also submitted to the federal PCS.	all NPDES, differentiated by major and minor, municipal and non-municipal, and general and individual permit	all NPDES parameters; database tracks and reports compliance according to EPA definitions by comparing reported to permitted quantities	data submitted continually from dischargers; VT has entered data into PCS since 1993 VT has maintained its own database since c.1995	see EPA - New England	electronic database, can be queried; see EPA - New England for PCS availability

## SCREENING RESULTS: Interview Results

## WATER: INDICATOR 6

EPA – NEW ENGLAND

- Database** Nationally, EPA maintains the Permit Compliance System (PCS) which tracks NPDES dischargers.
- Coverage**
- Dischargers* PCS tracks permit requirements and compliance for all facilities with a National Pollutant Discharge Elimination System permit, *except for those in states with delegated responsibility for NPDES administration* (includes Connecticut, Rhode Island, and Vermont). However, delegated states do report lists of facilities in non-compliance quarterly. NPDES permits are required of all point source dischargers into navigable waters.
- Pollutants* Any pollutants which may impact environmental or human health via discharge into navigable waters may be covered by a NPDES permit. PCS tracks individual permit requirements (e.g., discharge limits) and reported discharges. By comparing these, PCS reports non-compliance.
- Temporal* NPDES permit data has been tracked under the Clean Water Act since the 1970s. Data is reported from facilities at varying frequencies determined by permit and statute.
- Quality/  
Methodology** EPA utilizes extensive guidelines and regulations under the CWA in administering the NPDES program and its specific provisions. Facilities follow EPA regulations in reporting information required in their permits.
- The meaning of significant non-compliance varies depending upon specific permit requirements.
- Availability** PCS data is available from EPA, and is available on the world wide web. PCS generates a list of facilities in significant non-compliance quarterly.

## WATER: INDICATOR 6

### CONNECTICUT

- Database** Connecticut has delegated responsibility for administering NPDES permits, and tracks this data accordingly. Data on major facilities is submitted to EPA’s PCS database while all relevant permit data is kept “in-house”.
- Coverage**
- Dischargers* CT DEP enters permit information for *major* dischargers into PCS. [See EPA – New England for explanation of PCS.]
- CT DEP tracks all NPDES and other state discharge permits (e.g., pretreatment) in its own database. However this system is currently being reorganized – data on minor and other dischargers is currently in “disarray”.
- Pollutants* All permitted pollutants.
- Temporal* Dischargers report continually according to permit schedules.
- CT DEP has reported to PCS since the 1980s.
- Quality/  
Methodology** See EPA – New England, description of PCS.
- Availability** CT DEP maintains an electronic permit database.
- See EPA – New England, description of PCS.

**WATER: INDICATOR 6**  
MAINE

**Database**      Nationally, EPA maintains the Permit Compliance System (PCS) which tracks NPDES dischargers in states without delegated NPDES responsibility.

**Coverage**

*Dischargers*    see EPA – New England

*Pollutants*     see EPA – New England

*Temporal*       see EPA – New England

**Quality/**

**Methodology** see EPA – New England

**Availability** see EPA – New England

**WATER: INDICATOR 6**  
MASSACHUSETTS

**Database** Nationally, EPA maintains the Permit Compliance System (PCS) which tracks NPDES dischargers in states without delegated NPDES responsibility.

**Coverage**

*Dischargers* see EPA – New England

*Pollutants* see EPA – New England

*Temporal* see EPA – New England

**Quality/**

**Methodology** see EPA – New England

**Availability** see EPA – New England

**WATER: INDICATOR 6**  
**NEW HAMPSHIRE**

**Database** Nationally, EPA maintains the Permit Compliance System (PCS) which tracks NPDES dischargers in states without delegated NPDES responsibility. New Hampshire is not a delegated state, however the NH DES has tracked some of the same discharge and permit information that is reported by dischargers to EPA, in order to work with EPA in coordinating their respective federal and state discharge permit programs.

**Coverage**

*Dischargers* NH DES tracks all dischargers except storm water dischargers.

See EPA – New England for explanation of PCS database.

*Pollutants* See EPA – New England.

*Temporal* NH DES has tracked major dischargers since 1994 and minor dischargers since 1996.

See EPA – New England for explanation of PCS database.

**Quality/**

**Methodology** See EPA – New England.

**Availability** NH DES data is available in hard copy only.

See EPA – New England for explanation of PCS database.

## WATER: INDICATOR 6

### RHODE ISLAND

**Database** Rhode Island has delegated responsibility for administering NPDES permits, and tracks this data accordingly. Data is also entered into EPA's PCS database.

#### **Coverage**

*Dischargers* All NPDES permits are tracked in the database. Dischargers are differentiated using EPA definitions of major and minor, by municipal and non-municipal, and those with general permits (issued to a category of discharger by formal review process, then to individual dischargers without formal review).

*Pollutants* Any pollutants which may impact environmental or human health via discharge into navigable waters may be covered by a NPDES permit. The Rhode Island database and EPA's PCS track individual permit requirements (e.g., discharge limits) and reported discharges. By comparing these, the database can report non-compliance based on EPA definitions.

*Temporal* Rhode Island has entered NPDES information into EPA's PCS database from 1987 to the present. Since 1995, Rhode Island has maintained its own database of NPDES permits and information. Dischargers submit data to RIDEM at intervals from monthly to annually. Thus data is continually entered into the databases.

See EPA – New England for explanation of PCS data and non-compliance lists.

#### **Quality/**

**Methodology** See EPA – New England

**Availability** Rhode Island DEM maintains an electronic database which can be queried. See EPA – New England for availability of the PCS database.

**WATER: INDICATOR 6**  
VERMONT

- Database** Vermont has delegated responsibility for administering NPDES permits, and tracks this data accordingly. Data is also entered into EPA's PCS database.
- Coverage**
- Dischargers* All NPDES permits are tracked in the database. Dischargers are differentiated using EPA definitions of major and minor, by municipal and non-municipal, and those with general permits (issued to a category of discharger by formal review process, then to individual dischargers without formal review).
- Pollutants* Any pollutants which may impact environmental or human health via discharge into navigable waters may be covered by a NPDES permit. The Vermont database and EPA's PCS track individual permit requirements (e.g., discharge limits) and reported discharges.
- Temporal* Vermont has entered NPDES information into EPA's PCS database from 1993 to the present. Since 1995, Vermont has maintained its own database of NPDES permits and information. Dischargers submit data to ANR-DEC at intervals from monthly to annually. Thus data is continually entered into the databases.
- See EPA – New England for explanation of PCS data and non-compliance lists.
- Quality/**
- Methodology** See EPA – New England
- Availability** Vermont ANR-DEC maintains an electronic database which can be queried. See EPA – New England for availability of the PCS database.

**WATER  
INDICATOR 7**

*“Population served by public surface water {break down by community, transient, and non-transient non-community} with state-approved source protection programs / population served by public surface water systems” and “population served by public ground water with state-approved wellhead protection programs / population served by public ground water systems.”*

**CONTACTS**

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CT DEP	Mike Harder
ME DOH	David Braley
MA DEP	David Gutterman
NH DES	Sarah Pillsbury
RI DOH	June Swallow
VT ANR, DEC	Jean Nicolai

## SCREENING RESULTS: Overview

This indicator requires data on the percentage of population served by surface drinking water and by groundwater drinking water sources with protection programs in place. To compute this indicator, data is required on *populations served by water suppliers with source protection* and on *total of populations served for all water suppliers*.

EPA maintains the Safe Drinking Water Information System (SDWIS), a national database of information on individual drinking water suppliers. Under the Safe Drinking Water Act, and rules and regulations promulgated by EPA, states collect information from drinking water suppliers to be reported to EPA and submitted to SDWIS. The required information emphasizes compliance with federal safe drinking water standards related to monitoring, reporting, treatment, and levels of contaminants. However, SDWIS also contains information about the infrastructure, source waters (ground or surface), type of system (community, transient, non-transient non-community), and population served by individual public water suppliers.

The SDWIS database can be used to identify the population served by water suppliers, but does **not** currently track the existence of source water protection programs for water suppliers. EPA, through its regional office is in the process of approving general state-run source protection programs. While EPA does not currently track individual protection plans approved under these state-run programs, some states have incorporated this information into their own drinking water supplier databases (most states maintain a drinking water database similar to the federal SDWIS). Each of the New England states has a source water protection program, although these are in varying stages of activity. Some have only recently become operational, while others are well established and have approved many individual source protection plans.

Massachusetts, New Hampshire, and Vermont each maintain an electronic database of water suppliers which includes the type of supplier, type of source water, the population served, and whether or not some source protection is in place. Maine has a database which tracks population and other information as well as source protection efforts for groundwater suppliers. Source protection is not tracked specifically for surface water suppliers in Maine- source protection is required in the provision of filtration waivers for these sources so the existence of source protection can be inferred from the existence of a waiver. Connecticut and Rhode Island each maintain hard copy records of individual source protection plans. Each of these states also maintain electronic databases with the supplier information required by the federal SDWIS database.

Some general concerns related to the reporting of data for this indicator (see results of individual interviews for how these vary by state):

- Source protection takes various forms, as do the definitions of source protection activities. EPA is in the process of approving state programs; this may suggest some degree of harmonization among the definitions of individual “state-approved” protection plans, but states are currently at different levels of implementation. Some states have extensive standard requirements for protection plans, while other seek varying levels of participation in their protection

programs. Some track whether or not ANY protection exists (e.g., education and outreach, assessment, land use controls), while others track the specific activities related to protecting source water.

- How suppliers/states estimate the population served by a water supply varies. Some conduct inventories of users. Others submit data to the state, from which population figures can be derived by applying factors.
- Some suppliers draw on more than one source of water, and may draw on more than one type of source (i.e., surface *and* ground). Population served from a supplier may reflect a mix of sources, some or all of which may have associated source protection. Some suppliers avert this complication by reporting a “primary” source.
- An individual may consume water at home (community supplier), at work (non-transient non-community supplier), and while at a restaurant or public place (transient supplier). This suggests a certain degree of double or triple counting in the indicator.

**SCREENING RESULTS: Summary Matrix**

(see results of individual interviews in next section for more detail)

State/Entity	Database	Coverage			Quality/Methodology	Availability
		Suppliers	Parameters	Temporal		
<b>EPA - NE</b>	SDWIS database tracks information on water suppliers nationally, but does not include source protection data	SDWIS tracks all public water suppliers	SDWIS tracks data on individual water suppliers, including the type of supplier (transient, community, non-transient non-community), source of water (ground or surface), and population served	SDWIS has tracked water supplier data for several years and includes data from an earlier system; states submit data from water suppliers such as violations of drinking water rules at least quarterly	EPA has issued extensive guidelines and regulations for monitoring contaminants and reporting information to SDWIS; data on populations served is not regulated as closely as other data	N/A; see description of SDWIS in Indicator 8
<b>Connecticut</b>	CT DOH maintains a database of water suppliers which does not include source protection data; source protection information is kept in hard copy for individual suppliers/sources	the database tracks all public water suppliers; separate records exist for suppliers with source protection programs	the database tracks standard information including population served, type of supplier, and source of water (see EPA - New England); source protection records reflect protection plans in various stages and various levels of effort	information on water suppliers goes back to 1988; information on protection plans is submitted to CT DOH continually	see EPA - New England	the electronic drinking water database can be queried for population and other information; source protection records are available in hard copy
<b>Maine</b>	ME DOH maintains a database of water suppliers which includes their source protection efforts	all public water suppliers are tracked in the database; source protection is tracked for groundwater sources only	the database tracks standard information including population served, type of supplier, and source of water(see EPA - New England), and whether or not a supplier is participating in source protection efforts	database goes back c.1992; information on source protection efforts was requested of suppliers c.1995 and has since been phased into the database gradually	source protection is reported by suppliers; database does not distinguish types of source protection or level of effort - these do vary; data on population served is provided by larger suppliers, but for most is estimated by DOH	electronic database
<b>Massachusetts</b>	MA DEP maintains a database of water suppliers, and a database of source protection which can be linked	all public water suppliers	the database tracks standard information including population served, type of supplier, and source of water(see EPA - New England); and any source protection efforts	the water supplier database goes back to 1993; source protection data is updated continually	state has guidelines for source protection plan approval, and the database tracks how these are met	electronic database

<p><b>New Hampshire</b></p>	<p>NH DES maintains a database of water suppliers which includes their source protection efforts</p>	<p>all public water suppliers</p>	<p>the database tracks standard information including population served, type of supplier, and source of water(see EPA - New England), and any source protection efforts</p>	<p>database goes back to 1994 electronically and further in hard copy for standard supplier information; source protection information is updated continually</p>	<p>type/level of source protection efforts vary dramatically; data on population served is not considered reliable in all cases</p>	<p>electronic database</p>
<p><b>Rhode Island</b></p>	<p>RI DOH maintains a database of water suppliers which does not include source protection data; source protection information is kept in hard copy for individual suppliers/sources</p>	<p>all public water suppliers are tracked in the database</p>	<p>the database tracks standard information including population served, type of supplier, and source of water(see EPA - New England); hard copy files contain information on individual source protection efforts/plans</p>	<p>database goes back to 1988; information on source protection efforts is collected continually in hard copy</p>	<p>data on population served is reported by suppliers and is verified during DOH inspections</p>	<p>electronic database includes standard information such as population served; paper files document source protection and are available at RI DOH</p>
<p><b>Vermont</b></p>	<p>VT ANR maintains a database of water suppliers which includes their source protection efforts</p>	<p>all public water suppliers</p>	<p>the database tracks standard information including population served, type of supplier, and source of water(see EPA - New England); also tracks whether or not a source protection plan is in place</p>	<p>database goes back to 1994; source protection data is updated continually</p>	<p>source protection plans are approved by VT ANR using EPA-approved state program guidelines; ANR considers population data for suppliers to be reliable</p>	<p>electronic database</p>

## SCREENING RESULTS: Interview Results

## WATER: INDICATOR 7

EPA – New England

**Database** Nationally, EPA maintains the SDWIS database of public water suppliers, but does not track source protection programs. Regionally, EPA approves general state source protection programs, but does not maintain a database of individual protection efforts in the states.

**Coverage***Suppliers* N/A*Parameters* N/A*Temporal* N/A**Quality/****Methodology** N/A**Availability** N/A

## WATER: INDICATOR 7

### CONNECTICUT

<b>Database</b>	CT DEP and CT DOH work together to administer source protection program. CT DOH keeps hard copy records of this program. CT DOH also maintains an electronic database of other water supplier information.
<b>Coverage</b> <i>Suppliers</i>	CT DOH tracks all public water suppliers in a database to track compliance with regulated contaminant levels, and treatment and other rules.
<i>Parameters</i>	The DOH database tracks suppliers by type, as well as populations. It does not track the implementation of source protection programs. Records of source protection programs exist, but not in a formal database. Source protection efforts are in place in various stages, and at various levels of effort.
<i>Temporal</i>	N/A
<b>Quality/ Methodology</b>	N/A
<b>Availability</b>	Hard copy records of source protection efforts are kept by CT DOH. The Department's primary electronic drinking water database can be queried for population served and other information.

**WATER: INDICATOR 7**  
MAINE

**Database** Maine DOH maintains a database of water suppliers, which includes their source protection efforts.

**Coverage**  
*Suppliers* Database tracks all public water suppliers and their sources. Source protection efforts are tracked for groundwater suppliers. Surface water suppliers are required to implement source protection as conditions of filtration waivers. For surface water suppliers, counting those with waivers would represent those implementing source protection.

*Parameters* Along with population served, and testing and compliance data (for regulated contaminants), the DOH database notes whether or not a supplier is participating in source water protection efforts.

*Temporal* Suppliers were asked in 1995 to submit information to DOH on their protection efforts. This information has been gathered gradually from suppliers since the initial request.

**Quality/**  
**Methodology** Because information has been gathered gradually over the last three years, it does not necessarily represent protection efforts in “real time”.

DOH has emphasized participation in source protection over the extent of protection efforts. The database does not distinguish varying levels or types of source protection effort, only whether or not a supplier participates in any protection.

Population data is currently submitted by larger suppliers, but is estimated for most suppliers by DOH, based on other data and applied factors (e.g., population derived by multiplying factor by the number of restaurant seats to estimate population served).

**Availability** Information is kept in an electronic database by ME DOH.

## WATER: INDICATOR 7

### MASSACHUSETTS

- Database** MA DEP maintains a database of public water suppliers, and a separate but linkable database on source protection programs.
- Coverage**
- Suppliers* All public water suppliers.
- Parameters* The primary DEP drinking water database tracks water suppliers by type, source water, and other infrastructure information.
- DEP maintains a separate database containing information on water suppliers who have met state requirements for source water protection planning, how they have met state requirements, and when requirements were met.
- Temporal* The primary database goes back to 1993. The source protection database is updated continually.
- Quality/**
- Methodology** The state has established a program for approving source protection plans. The database tracks how water suppliers have met state requirements.
- Availability** MA DEP maintains a primary database of water suppliers, and a database of source protection plans which may be linked to extract other information such as population served for suppliers with approved protection plans.

**WATER: INDICATOR 7**  
NEW HAMPSHIRE

**Database** NH DES maintains a database of water suppliers which includes information on source water protection programs.

**Coverage**

*Suppliers* All public water suppliers.

*Parameters* The DES database includes information on the type of supplier, source of water, population served, and any source water protection activities.

*Temporal* The database contains information on water suppliers back to 1994, and is updated continually. Data goes back farther in hard copy.

**Quality/**

**Methodology** Data provided on the populations served by water suppliers is self reported and checked every three years during sanitation surveys. Figures are not considered reliable in all cases.

Source protection efforts can vary dramatically from delineating sources or land uses, to providing education to local land users.

Some suppliers may rely on more than one source, each potentially having a source protection plan in place.

**Availability** DES maintains the database electronically.

## WATER: INDICATOR 7

### RHODE ISLAND

<b>Database</b>	RI DOH maintains a database of water suppliers, but source protection efforts are not tracked. Hard copy records of individual source protection plans do exist.
<b>Coverage</b>	
<i>Suppliers</i>	All public water suppliers.
<i>Parameters</i>	The DOH database tracks suppliers by type, population served, source waters and other information. Source protection plans are kept separately in hard copy for those suppliers that have submitted plans.
<i>Temporal</i>	N/A
<b>Quality/</b>	
<b>Methodology</b>	Population data in primary drinking water database are submitted by suppliers and verified by DOH during inspections.
<b>Availability</b>	Hard copy records of source protection plans are kept by RI DOH. Primary electronic drinking water database can be queried for population served and other information.

**WATER: INDICATOR 7**  
VERMONT

**Database** VT ANR maintains a database of water suppliers, including information on source water protection efforts.

**Coverage**  
*Suppliers* All public water suppliers.

*Parameters* Suppliers are broken out by type. Database also includes information on source waters, population served, compliance with contaminant standards, and whether or not a source protection program is in place.

*Temporal* The drinking water database is updated continually. It contains data back to 1994.

**Quality/**  
**Methodology** Population data is inventoried and submitted by suppliers, and is considered reliable by ANR.

ANR approves source protection plans based on guidelines approved by EPA. However, plans are designed to address varying types and severity of problems.

**Availability** VT ANR maintains the database electronically.

**WATER**  
**INDICATOR 8**

*“Number and percent of public water systems and population served meeting health-based regulations.”*

**CONTACTS**

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RI DEM	June Swallow
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## SCREENING RESULTS: Overview

The EPA regulates public water suppliers by administering the Safe Drinking Water Act. Regulations and rules under the Act mandate a complex system of treatment, monitoring, reporting, and other drinking water protection requirements, depending upon factors related to the individual suppliers. Data from approximately 175,000 individual water suppliers is collected by states and reported to EPA and entered into the national Safe Drinking Water Information System (SDWIS).

SDWIS data includes basic information on each system such as the type of system (community, transient, non-transient non-community), source of water (ground or surface), and the population served by the system. SDWIS also includes records of violations of drinking water rules – these include treatment, monitoring, and reporting rules – and violations of maximum contaminant levels (MCLs). Suppliers are required to sample and report to states the concentrations of various contaminants which have been identified as threats human health. Schedules for sampling and reporting vary by pollutant, type of supplier, and waivers and exemptions based on other activities such as source water protection or filtration. These schedules can vary from daily monitoring for bacteriological contaminants, to every nine years for asbestos. Violations of these contaminant levels are reported to EPA and recorded in SDWIS. Using established criteria such as the number of violations in a specified period, SDWIS automatically generates a list of suppliers in non-compliance. This list is generated quarterly.

States are allowed to maintain their own database of water suppliers in any fashion such that they can report the required information to the federal SDWIS database at least quarterly. Many states maintain nearly identical systems as SDWIS.

SDWIS is able to report the total number and percent of public water suppliers not in compliance with regulations. Non-compliance can be due to the exceedence of health-based standards, or can be due to violations of treatment, reporting and other requirements. Violations of health-based standards can be queried from the SDWIS database by EPA, or through the state databases. SDWIS can also report the populations served by those suppliers violating standards.

While SDWIS can report the data necessary to support this indicator, there are some differences in the quality and collection of data by states from suppliers, and thus reported to SDWIS. Every New England state maintains its own drinking water database and collects information to be reported to SDWIS. In every state, water suppliers report information frequently, varying according to their required monitoring schedules and method of data submittal. All states distinguish water suppliers by type according to EPA guidelines for community, transient, and non-transient non-community suppliers. All state databases track and report to the federal SDWIS violations of MCLs for all pollutants required by suppliers' individual schedules. Suppliers vary not only in the frequency of reporting, but also in the specific pollutants reported. For example, transient systems are often required to report only bacteriological and nitrate/nitrite contaminants because long-term exposures (for which other contaminants are of concern) are not likely to occur with these systems.

All states maintain electronic databases of drinking water information which, like SDWIS, can be queried for the necessary information.

Some issues raised during the data screening interviews:

- The reliability of population data for water system users varies by state and by type of supplier. In most states, suppliers report population served by conducting inventories of users. In others, or for some (often smaller) suppliers, the population served is estimated by applying factors to other known data (such as number of seats per restaurant, or number of housing units). Only one state reported actual skepticism about population figures, yet others suggested that issues of accuracy exist.
  
- An individual may consume water at home (community supplier), at work (non-transient non-community supplier), and while at a restaurant or public place (transient supplier). This suggests a certain degree of double or triple counting in the indicator.

The relationship between violations of drinking water regulations and actual risks to human health has been drawn into question. For example, a supplier may be issued an interim standard in working towards water that is of acceptable quality. This interim standard may not ensure a level of safety as high as that which is ultimately desired. Thus, a supplier meeting such an interim standard will not be in violation, but is not necessarily achieving the level of health protection ultimately desired.

## SCREENING RESULTS: Summary Matrix

(see results of individual interviews in next section for more detail)

State/Entity	Database	Coverage			Quality/Methodology	Availability
		Suppliers	Pollutants	Temporal		
<b>EPA - NE</b>	national SDWIS database	all public water suppliers by community, transient, and non-transient non-community	SDWIS tracks violations of MCLs; SDWIS reports contaminant test results when MCLs are exceeded; SDWIS includes violations of other treatment and reporting rules, as well as other information such as population served; not all contaminants are reported for all suppliers; SDWIS generates a list of suppliers in non-compliance	states report violations and other data to SDWIS quarterly, or more frequently; actual monitoring frequency varies by contaminant, supplier, and source, based upon regulations and waivers or exemptions; SDWIS generates a quarterly list of suppliers in non-compliance; states/EPA have entered drinking water data into SDWIS for several years, and earlier data has been incorporated	EPA has promulgated extensive regulations and guidelines for sampling and reporting, as well as criteria for non-compliance, under the SDWA; suppliers utilize state labs or state-approved labs; the required frequency of monitoring varies dramatically; violations include exceedences of health standards (MCLs) as well as non-compliance with monitoring and treatment rules	EPA maintains the electronic SDWIS database; SDWIS can be queried by EPA, or via the internet on EPA envirofacts; hard copy reports can be requested
<b>Connecticut</b>	state database and reporting to SDWIS	see EPA-NE	monitoring results on MCLs and other information are reported to the CT DOH; regulations and waivers determine which contaminants are reported	see EPA-NE; CT has reported drinking water data to EPA since 1986	see EPA-NE	state maintains electronic database and reports violations, etc. to SDWIS
<b>Maine</b>	state database and reporting to SDWIS	see EPA-NE	monitoring results on MCLs and other information are reported to the ME DOH; regulations and waivers determine which contaminants are reported	see EPA-NE; Maine's drinking water database goes back c.1992	see EPA-NE; most suppliers use state public health lab for testing; data on population served is provided by larger suppliers, but for most is estimated by DOH by applying factors to other data	state maintains electronic database and reports violations, etc. to SDWIS
<b>Massachusetts</b>	state database and reporting to SDWIS	see EPA-NE	monitoring results on MCLs and other information are reported to the MA DEP; regulations and waivers determine which contaminants are reported; state database reports suppliers out of compliance	see EPA-NE	see EPA-NE; suppliers use any of approximately 200 approved labs, including the state lab	state maintains electronic database and reports violations, etc. to SDWIS
<b>New Hampshire</b>	state database and reporting to SDWIS	see EPA-NE	monitoring results on MCLs and other information are reported to the NH DES; regulations and waivers determine which contaminants are reported	see EPA-NE	see EPA-NE; data on population served is not considered reliable in all cases	state maintains electronic database and reports violations, etc. to SDWIS
<b>Rhode Island</b>	state database and reporting to SDWIS	see EPA-NE	monitoring results on MCLs and other information are reported to the RI DOH; regulations and waivers determine which contaminants are reported	see EPA-NE; RI DOH drinking water database goes back to 1988	see EPA-NE; data on population served is reported by suppliers and is verified during DOH inspections	state maintains electronic database and reports violations, etc. to SDWIS; RI DOH also prepares an annual report on public water which summarizes info such as violations
<b>Vermont</b>	state database and reporting to SDWIS	see EPA-NE	monitoring results on MCLs and other information are reported to the VT ANR; regulations and waivers determine which contaminants are reported	see EPA-NE	see EPA-NE; test data is submitted electronically from state lab, or in hard copy from other approved labs; ANR considers population data for suppliers to be reliable	state maintains electronic database and reports violations, etc. to SDWIS

## SCREENING RESULTS: Interview Results

### WATER: INDICATOR 8

EPA – NEW ENGLAND

<b>Database</b>	Nationally, EPA maintains the Safe Drinking Water Information System (SDWIS), a database of information from drinking water suppliers.
<b>Coverage</b>	
<i>Suppliers</i>	States report information gathered from all public water suppliers in their jurisdiction to SDWIS. This information includes population served, type of system, and source of water (ground or surface).
<i>Pollutants</i>	<p>States report to the federal SDWIS database any violations of maximum contaminant levels (MCLs), as well as violations of treatment, monitoring, or reporting requirements, and enforcement actions. Actual pollutant monitoring results are reported only when MCLs are exceeded.</p> <p>Reported contaminants vary based on the type of supplier as well as on individual waivers or exemptions. Transient non-community suppliers, for example, are not required to monitor for contaminants posing long-term health risks, due to the fact that the same users are not repeatedly exposed to this water. These TNC suppliers do however report bacteriological contaminants, which can infect a user in one exposure. Other suppliers receive monitoring waivers and exemptions for various contaminants.</p> <p>SDWIS automatically generates a list of suppliers in non-compliance quarterly, by comparing reported violations with specific criteria for non-compliance (i.e., a certain number of exceedences for a particular contaminant in a given period of time).</p>
<i>Temporal</i>	Drinking water information is required quarterly from states at a minimum, although some report more frequently, or as violations occur. The schedules on which suppliers are required to sample water vary dramatically, by supplier, and by pollutant. Monitoring frequencies can vary from daily or weekly for bacteria, to once-in-nine year cycles for asbestos. Monitoring requirements also vary according to exemptions and waivers granted to suppliers for treatment or source protection efforts. Drinking water information in SDWIS is available for the last 3-4 years. Older data has been incorporated from SDWIS's predecessor, the Federal Reporting Data System (FRDS).

**Quality/**

**Methodology** Suppliers follow extensive protocols and regulations in submitting information to the states. Suppliers use state run or state approved laboratories for sample analysis. Monitoring schedules are determined by regulations under the Safe Drinking Water Act and are affected by exemption and waiver programs for which guidelines exist. States follow guidelines in reporting required information to SDWIS. State contacts suggest that SDWIS represents nearly all water suppliers meeting the reporting criteria.

In terms of SDWIS information and the given indicator this data may support, contacts raised concerns about the inclusion of monitoring and reporting violations – violations which do not necessarily reflect any increased risk to human health.

**Availability** Data from SDWIS can be reported by EPA electronically, and can be acquired via the World Wide Web through EPA's Envirofacts.

## WATER: INDICATOR 8

### CONNECTICUT

<b>Database</b>	Connecticut maintains a database of drinking water suppliers, and reports required information to the national SDWIS database. [See EPA – New England]
<b>Coverage</b> <i>Suppliers</i>	All public water suppliers, broken out by community, transient non-community, and non-transient non-community.
<i>Pollutants</i>	Water suppliers report monitoring data, and other information to the CT Department of Health for all regulated pollutants, according to the SDWA and waiver provisions.  [See EPA – New England]
<i>Temporal</i>	Water suppliers report monitoring information continuously to CT DOH according to the provisions of their required monitoring schedules.  Connecticut has reported data to SDWIS and previously to FRDS since 1986.
<b>Quality/ Methodology</b>	[See EPA – New England]
<b>Availability</b>	State drinking water data is kept in an electronic database and is reported to SDWIS.  Since 1996, CT DOH has prepared annual compliance reports detailing the performance of public water suppliers in the state.  [See EPA – New England]

**WATER: INDICATOR 8**

## MAINE

- Database** Maine maintains a database of drinking water suppliers, and reports required information to the national SDWIS database.  
[See EPA – New England]
- Coverage**  
*Suppliers* All public water suppliers, broken out by community, transient non-community, and non-transient non-community.
- Pollutants* Water suppliers report monitoring data, and other information to the ME Department of Health for all regulated pollutants, according to the SDWA and waiver provisions.  
  
[See EPA – New England]
- Temporal* Water suppliers report monitoring information continuously to ME DOH according to the provisions of their required monitoring schedules.  
  
Maine’s drinking water database goes back to 1992.
- Quality/**  
**Methodology** Approximately 80% of suppliers use the state public health laboratory for testing of samples. Others use state-approved labs.  
  
Population data reported for suppliers were previously based on actual inventories of users. Currently, the larger suppliers report population served, while other report data (such as seats/restaurant or number of housing units served) from which the DOH estimates population served using standard factors.  
  
[See EPA – New England]
- Availability** State drinking water data is kept in an electronic database and is reported to SDWIS.  
  
[See EPA – New England]

**WATER: INDICATOR 8**

## Massachusetts

<b>Database</b>	Massachusetts maintains a database of drinking water suppliers, and reports required information to the national SDWIS database. [See EPA – New England]
<b>Coverage</b> <i>Suppliers</i>	All public water suppliers, broken out by community, transient non-community, and non-transient non-community.
<i>Pollutants</i>	Water suppliers report monitoring data, and other information for all regulated pollutants, according to the SDWA and waiver provisions. The DEP database is ‘exceptions-based’, in that it identifies those suppliers out of compliance with regulations by comparing violations with non-compliance definitions.  Massachusetts has an extensive waiver program , so pollutants monitored vary dramatically by supplier.  [See EPA – New England]
<i>Temporal</i>	Water suppliers report monitoring information continuously to MA DEP according to the provisions of their required monitoring schedules.  Massachusetts has an extensive waiver program , so monitoring schedules vary dramatically.  [See EPA – New England]
<b>Quality/</b> <b>Methodology</b>	Suppliers use the state lab, or any of approximately 200 approved labs.  [See EPA – New England]
<b>Availability</b>	State drinking water data is kept in an electronic database and is reported to SDWIS.  [See EPA – New England]

## WATER: INDICATOR 8

### NEW HAMPSHIRE

<b>Database</b>	New Hampshire maintains a database of drinking water suppliers, and reports required information to the national SDWIS database. [See EPA – New England]
<b>Coverage</b> <i>Suppliers</i>	All public water suppliers, broken out by community, transient non-community, and non-transient non-community.
<i>Pollutants</i>	Water suppliers report monitoring data, and other information for all regulated pollutants, according to the SDWA and waiver provisions.  [See EPA – New England]
<i>Temporal</i>	Water suppliers report monitoring information continuously to NH DES according to the provisions of their required monitoring schedules.  Monitoring schedules vary by supplier, contaminant, and by source (ground or surface).  [See EPA – New England]
<b>Quality/ Methodology</b>	Data provided on the populations served by water suppliers is self reported and checked every three years during sanitation surveys. Figures are not considered reliable in all cases.  [See EPA – New England]
<b>Availability</b>	State drinking water data is kept in an electronic database and is reported to SDWIS.  [See EPA – New England]

**WATER: INDICATOR 8**

## RHODE ISLAND

<b>Database</b>	Rhode Island maintains a database of drinking water suppliers, and reports required information to the national SDWIS database. [See EPA – New England]
<b>Coverage</b> <i>Suppliers</i>	All public water suppliers, broken out by community, transient non-community, and non-transient non-community.
<i>Pollutants</i>	Water suppliers report monitoring data, and other information for all regulated pollutants, according to the SDWA and waiver provisions.  [See EPA – New England]
<i>Temporal</i>	Water suppliers report monitoring information continuously according to the provisions of their required monitoring schedules.  The state database contains data from 1988 on.  [See EPA – New England]
<b>Quality/</b> <b>Methodology</b>	Population data is reported by suppliers and is verified during RI DOH inspections.  [See EPA – New England]
<b>Availability</b>	State drinking water data is kept in an electronic database and is reported to SDWIS.  RI DOH also prepares an annual report on public water, which summarizes information such as drinking water violations.  [See EPA – New England]

## WATER: INDICATOR 8

### VERMONT

**Database** Vermont maintains a database of drinking water suppliers, and reports required information to the national SDWIS database.  
[See EPA – New England]

**Coverage**  
*Suppliers* All public water suppliers, broken out by community, transient non-community, and non-transient non-community.

*Pollutants* Water suppliers report monitoring data, and other information for all regulated pollutants, according to the SDWA and waiver provisions.  
  
[See EPA – New England]

*Temporal* Water suppliers report monitoring information continuously to VT ANR according to the provisions of their required monitoring schedules.  
  
[See EPA – New England]

**Quality/**  
**Methodology** Monitoring data is reported to ANR electronically from the state DOH lab, or is entered from hard copy submitted via other approved labs.  
  
Population data is inventoried and submitted by suppliers, and is considered reliable by ANR.  
  
[See EPA – New England]

**Availability** State drinking water data is kept in an electronic database and is reported to SDWIS.  
  
[See EPA – New England]