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ATTAINS: A Gateway to State-Reported Water Quality Information

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Introductions

Shera Bender, Environmental Scientist, U.S. EPA
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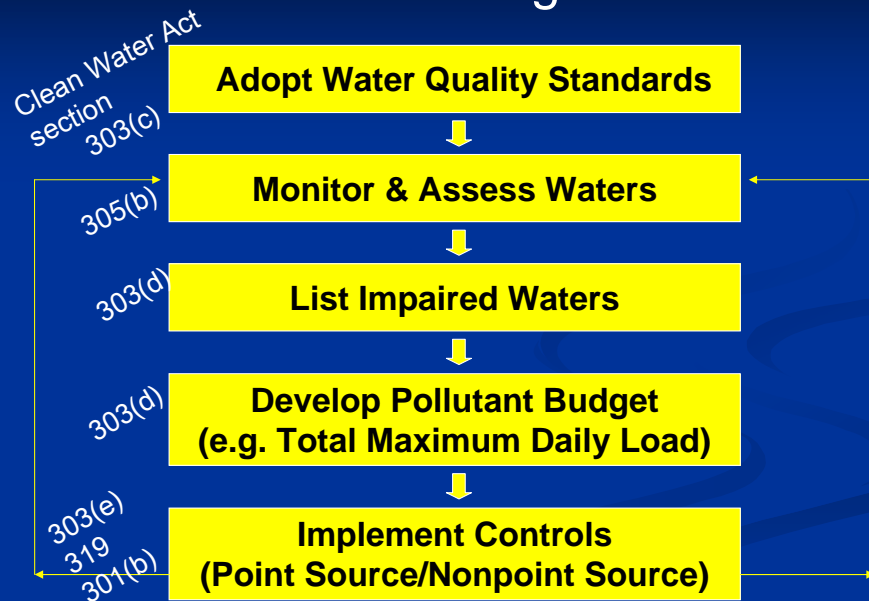
Dwane Young, IT Specialist, U.S. EPA
Monitoring Branch

Sarah Furtak, Environmental Protection Specialist,
U.S. EPA Watershed Branch

This presentation will cover...

- Overview of water quality reporting under Clean Water Act sections 305(b) and 303(d) programs
- Discussion of Integrated Reporting (IR)
- Introduction to the AT-TAINS database and Web site

Clean Water Act Framework for Restoring Polluted Waters



Clean Water Act Water Quality Reporting

■ Section 305(b)

- A biennial assessment of the quality of all navigable waters in each state
- Assessment includes whether waters support their designated uses (e.g. swimming), and causes and sources of impairment in those waters that do not support uses

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Many of you may be familiar with portions of the Clean Water Act. You are probably most familiar with Section 319 through your work with the non-point source and GRTS programs. I am going to focus on a couple of other sections, though.

Section 305(b) requires states to assess the quality of their navigable waters and submit a report on them to EPA every 2 years. EPA is to provide Congress with an analysis of those reports every 2 years.

Section 303(d) requires states to submit a List of Impaired Waters that need a TMDL to be created for them.

Clean Water Act Reporting (cont'd)

- States report assessment information to EPA
- EPA summarizes state findings in a national report to Congress (section 305(b) report)

Streamlined 305(b) Report to Congress

- Narrative report provides national summary of site-specific water quality assessment information provided in state 305(b) reports
- Web site/database provides state summary and waterbody-specific assessment results
- Narrative report and Web site are dual components of Report to Congress
- Reflects transition between traditional 305(b) reporting and 303(d)/305(b) Integrated Reporting

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NAD at <http://www.epa.gov/waters/305b/index.html> -- first time ever electronic, interactive site provides public the ability to view assessments of individual waterbodies.

Because it was a transition year for 305b/IR, states were given extended deadlines to submit reports and many failed to meet even those extensions. Plus, only 5 states provided electronic waterbody specific data using our Assessment Database or compatible format; data from remaining states had to be reformatted.

2002 reports not really integrated – not really expected until 2006.

The 2002 303d list is incomplete in that we're missing mileage (optional) info for 6-7 States:

2002 305(b) impaired river miles - 309,755 miles

2002 303(d) impaired river miles - 141,576 miles

Clean Water Act Water Quality Reporting (continued)

- Section 303(d)
 - List of waters impaired or threatened by a pollutant, and needing a Total Maximum Daily Load (TMDL)
 - Submitted biennially to EPA for approval

What is a TMDL?



A calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant's sources.

** The TMDL comes in the form of a technical document or plan.*

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A TMDL is “A calculation of the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and an allocation of that amount to the pollutant’s sources.” TMDLs must be developed at a level that meets water quality standards.

The TMDL comes in the form of a technical document or plan that includes the following components:

- Identification of Waterbody, Pollutant of Concern, Pollutant Sources, and Priority Ranking
- **Applicable WQS & Numeric Water Quality Target***
- **Loading Capacity**
- **Load Allocations and Waste Load Allocations**
- **Margin of Safety**
- **Consideration of Seasonal Variation**
- Reasonable Assurance for PS/NPS
- Monitoring Plan to Track TMDL Effectiveness
- Implementation Plan
- **Public Participation**

* **Bold = Statute and Regulations;** Normal = guidance

Regulations (40 CFR 130.7)

Each state shall identify those water quality-limited segments still requiring TMDLs within its boundaries for which:

- Technology-based effluent limitations
- More stringent effluent limitations
- Other pollution control requirements

Are not stringent enough to implement any water quality standards applicable to such waters

The first part of the 303(d) program – the list of impaired waters – is described in the regulations (40 CFR 130.7) where it states that: “Each State shall identify those water quality-limited segments still requiring TMDLs within its boundaries for which: technology based effluent limitations, more stringent effluent limitations or other pollution control requirements are not stringent enough to implement any water quality standards applicable to such waters.”

Regulations (40 CFR 130.7)

For waters identified in the 303(d) list:

- “TMDLs shall be established for all *pollutants* preventing or expected to prevent attainment of water quality standards...”
- “TMDLs shall be established at levels necessary to attain and maintain the applicable narrative and numerical WQS...”



No statutory or regulatory timeframe for TMDL development

- EPA guidance establishes 8-13 year time frame from time of initial listing

The second part of the 303(d) program is concerned with the development of TMDLs. TMDLs shall be developed for pollutants, which will be discussed further in the next slide, and at a level that will attain and maintain applicable water quality standards.

The regulations do not set a timeline by which TMDLs should be developed for impaired waters identified in the 303(d) list. However, EPA guidance establishes an 8-13 year time frame from time of initial listing.

Integrated Reporting Under the Clean Water Act

- **Integrated Reporting (IR):** Beginning with the 2002 reporting cycle, EPA has encouraged states to submit integrated reports that combine reporting under sections 305(b) and 303(d)
- **Purpose of integrating reporting requirements:** to increase data consistency, merge data from a variety of sources, provide a more informed summary of the quality of state waters

State Options for Reporting WQ

Status

Minimally
Required by
Regulations

Recommended
Reporting
Format

Integrated Reporting

Separate 305(b) & 303(d)

Integrated Report

The state's section 303(d) list is comprised of waters impaired or threatened by a pollutant, and needing a TMDL

States submit a separate 305(b) report on the conditions of all waters

A single state-developed report that integrates the reporting requirements of CWA sections 303(d), 305(b) and 314
EPA's Integrated Report Guidance (IRG) developed for 2002, 2004, 2006 and 2008 reporting cycles
(www.epa.gov/owow/tmdl/)

Both are due to EPA on April 1 of every even year. EPA approves/disapproves 303(d) list, uses 305(b) information to prepare biennial report to Congress

EPA approves/disapproves Category 5 of the Integrated Report, uses information to satisfy requirements of 305(b)

Integrated Report Categories

305 (b) Report

1. Attaining standards
2. Attaining some designated uses, and insufficient or no data and information to determine if remaining uses are attained
3. Insufficient or no data and information to determine if the standard is attained
4. Impaired or threatened for one or more designated uses but not needing a TMDL
 - a. TMDL has been completed
 - b. Already required to meet standards
 - c. Not impaired by a pollutant
5. Impaired or threatened by pollutant(s) for one or more designated uses and requiring a TMDL

} 303(d)
List

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Traditionally, the 305(b) Report of Assessed Waters contained information on both attaining and un-attaining waters, whereas the 303(d) List contained only impaired or threatened waters. Historically, these documents were submitted separately, and often contained conflicts where a water may be listed as Impaired under one document but not under the other.

Due to the close relationship between water quality assessments and water quality impairments, the Integrated Report was born. The Integrated Report places waters into 5 main categories, as shown here.

A true Integrated Report consists of a comprehensive state assessment database. It also includes the official 303(d) List of impaired waters. Since 305(b) and 303(d) information is coming from the same source (the state ADBv2 file), the Integrated Report provides consistency between all assessments.

(True Integrated Reporting States submit their 305(b) Assessment information via ADBv2, from which their 303(d) Impaired Waters information can be extracted as a subset.)

Questions?

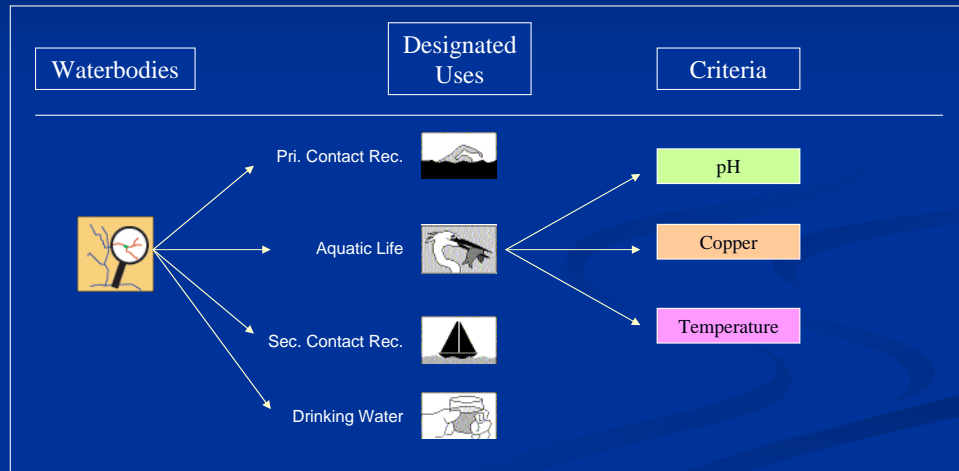


Shera Bender, USEPA's Watershed Branch

Sarah Furtak, USEPA's Watershed Branch



Basic concepts from a Water Quality Standards Perspective



These same concepts are incorporated into the Integrated Report

Assessment Units



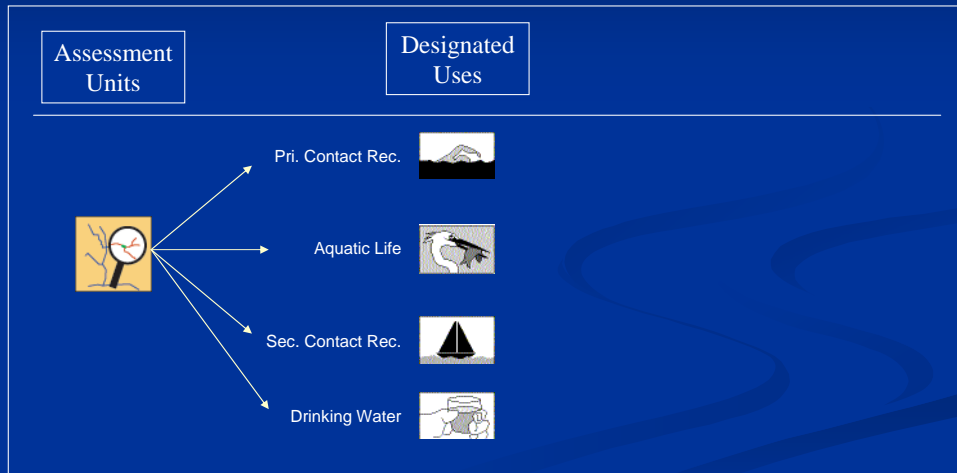
Assessment Units relate to Water Quality Standards (WQS) Waterbodies

These same concepts are included in the logic of ATTAINS.

States assess and track their surface waters in artificial units called Assessment Units (AUs), which are similar to Waterbodies in Water Quality Standards.

Assessment Units serve as artificial measurement units within State databases. They are used for assessing water quality and tracking progress. They can vary in size depending upon the needs of the State. Assessment Units can be large watersheds of any size, such as an 8-digit subbasin (HUC). Or they can be very small, such as a small section of a stream.

Designated Uses are assigned to Assessment Units

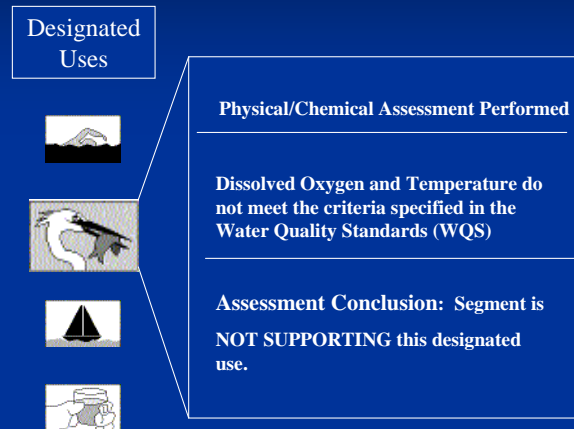


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Just like Waterbodies for Water Quality Standards, Assessment Units have Designated Uses assigned to them.

Multiple Designated Uses can be assigned to each Assessment Unit.

Designated Uses are assessed



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Each Designated Use can be assessed for attainment. The assessments are made by comparing the conditions in the Assessment Unit to the associated Water Quality Standards for the State. There are four types of attainment decisions in ATTAINS: Fully Supporting, Not Supporting, Insufficient Information, and Not Assessed.

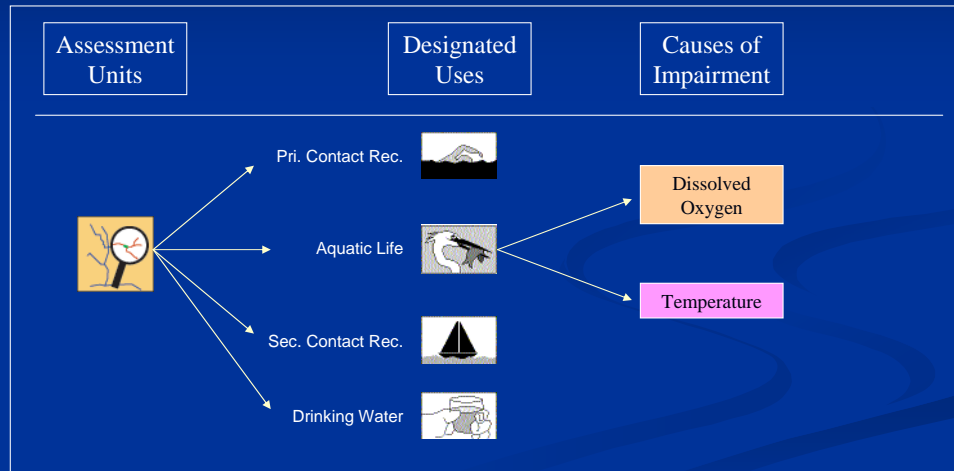
ATTAINS allows for different **Assessment Types, which are required for its metadata.*

- Pathogen Indicators*
- Physical/Chemical*
- Biological*
- Toxicological*

**each use can have its own attainment, and assessment types or even multiple assessment types*

For this example, the Aquatic Life Use was assessed by evaluating Dissolved Oxygen and Temperature. Since those characteristics did not meet the criteria specified in the Water Quality Standard for that State, the conclusion was that this Assessment Unit was NOT SUPPORTING its Aquatic Life Designated Use.

When Uses are not supporting, Causes of Impairments are assigned



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If an Assessment Unit is found to be NOT SUPPORTING one of its Designated Uses, then the Causes of Impairment are identified and assigned to that Assessment Unit/Designated Use combination.

Causes of Impairment

- Refer to the Reason a waterbody has been listed
- The Reason why an Assessment Unit is not meeting its associated Water Quality Standard
 - For example: Mercury, habitat indicators, dissolved oxygen

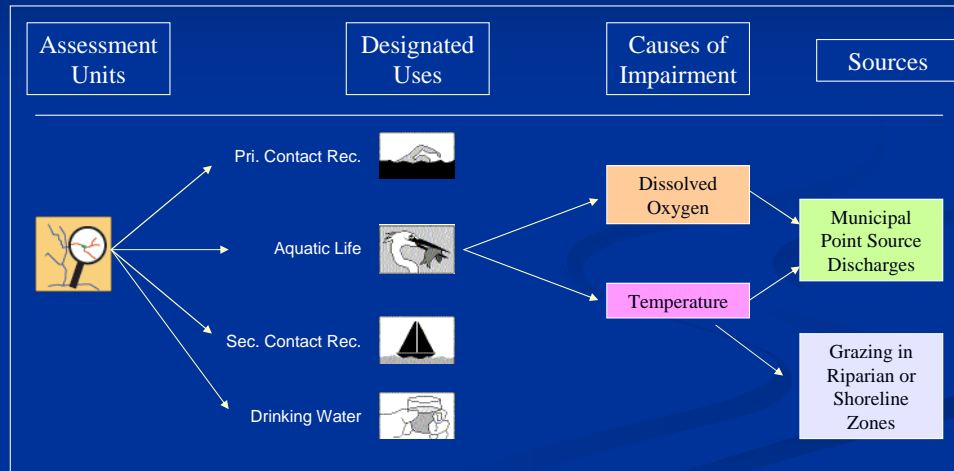
(TMDLs are written for the specific indicators of the characteristic.

- (Ex: If Cause of Impairment is DO, then TMDL would be written for Phosphorus and Nitrogen).)

Sources (of Pollution/Impairment)

- Where the impairment/pollutant comes from
- For example: permitted dischargers, abandoned mine
- The actual entity that is contributing to the impairment.

For causes identified, sources are assigned



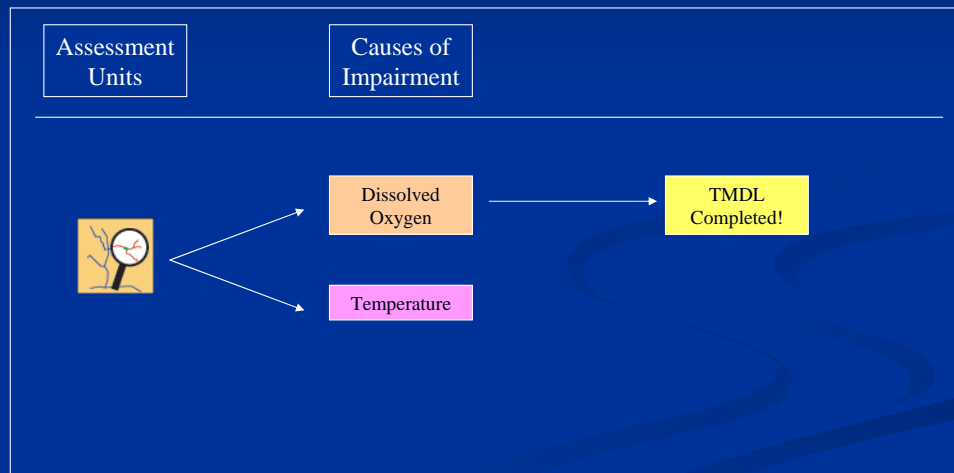
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*we can have different **Sources** for each **Cause of impairment**.

For example, a Municipal Point Source Discharger could discharge waste that increases temperature and decreases Dissolved Oxygen in a water.

Grazing in the same water could decrease cover around the water which could also increase temperature, but the grazing would not affect the Dissolved Oxygen.

Approved TMDLs are assigned to Waterbody/Impairment combinations



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Once a Cause of Impairment is identified, a TMDL can be created for an Assessment Unit.

TMDLs are assigned to the waterbody/impairment combination. For purposes of the 303(d) List, the Designated Use of an Assessment Unit no longer matters.

At this point, the Cause of Impairment becomes the important part, because focusing on that Cause can help improve the water quality of the Assessment Unit.

*Note that uses disappear at this point, you can tell the story about discussions we had with NH about how to implement TMDLs in the system. Talk about how for 303(d) purposes, uses aren't important.

ATTAINS

- Assessment TMDL Tracking And Implementation NSystem
- A national database that integrates the data from
 - the 305(b) program and
 - the 303(d) program
- The current State Assessment Databases (ADB) feed ATTAINS
 - ATTAINS is the backbone of the National Water Quality Inventory Report to Congress

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I've been talking about ATTAINS. But, what is it? It's an acronym that stands for the Assessment TMDL Tracking and Implementation System.

I've already talked about the Integrated Report. ATTAINS is the new national database that will hold the Integrated Reporting data. In other words, it will hold the assessment data from the 305(b) program and the impairment data from the 303(d) program.

This is a new effort that we've been undergoing in the past year. The database structure takes the data elements from two previously separate databases and integrates them into one national database.

Currently the database structure is in place, but the web reports are not yet online. They are scheduled to be released on the public website on December 1 of this year.

You may notice that the name includes the word Implementation. That implementation tracking capability is not yet in place, but is something we plan to work on during the next year.

How does all this apply back to your work? The Nonpoint Source program and GRTS database track implementation of on-the-ground implementation activities. So, this implementation tracking may provide opportunities to more closely link ATTAINS with your data in GRTS.

The current state Assessment Database (ADB) will feed into ATTAINS.

ATTAINS Provides:

- national summary information
- regional summary information
- state summary information
- watershed information
- waterbody specific information



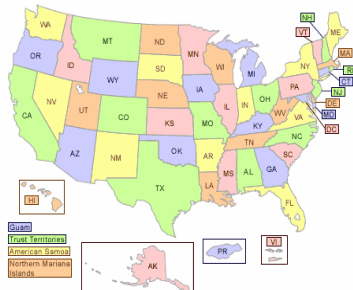
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Water Quality Assessment and Total Maximum Daily Loads Information

This site provides information reported by the states to EPA about the conditions in their surface waters. This information is required every two years under Clean Water Act Sections 305(b) and 303(d).

Because of differences in state assessment methods, the information in this site should not be used to compare water quality conditions between states or to determine water quality trends. Check out the Frequent Questions box on the right to learn more.

[Which state reports are available?](#)[National Summary of State Information](#)

Search for Water Quality Information

Click on the above map for a state's most recent data, or use the pull down boxes below to:

- Select data for a reporting cycle (e.g. most current available data, 2006, 2004)

Frequent Questions

- About This Database (Integrated Report)
- Assessing Water Quality (Questions and Answers)
- 2006 Integrated Reporting Guidance
- Previous National Water Quality Reports
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About This Database (Integrated Report)

This website provides information on water quality conditions reported by the states to EPA under Sections 305(b) and 303(d) of the Clean Water Act. EPA has issued [guidance to the states](#) recommending the submittal of 305(b) and 303(d) information in one Integrated Report, and has developed this website to display and support this reporting. Not all states have provided integrated data to EPA. Click on [Status of Available Data](#) to see whether or not Integrated Reports are available for individual states.

To guide users in using this website, we have developed two "About this Database" documents. This document, *About this Database (Integrated Report)*, applies to those States whose reports are integrated. For States that have not submitted an Integrated Report, please refer to the document *About this Database (Separate Impaired and Assessed Waters Reports)*.

This fact sheet describes the content (tables, charts, and other features) of the ATTAINS website. The items are described in the order they appear in the website.

Status of Available Data: Clickable chart that identifies available data, either integrated or separate, for each State and Territory.

National Summary of Most Current Available Data: Links to a National Summary of Assessed Waters Report using the most current available data for each state.

Map of United States: Clickable map that links to the selected states most recent Water Quality Assessment Report, for an integrated state, or the option to either select the state's Assessed Waters Report or Impaired Waters Report, for a non-integrated state.

Refine your Search: Define your own search by selecting a reporting year and state or region. To limit the results to assessment or TMDL information, select one of the buttons next to all information, threatened and impaired waters and TMDL information, or TMDL information only.

Search for a Waterbody: Enter all or part of a waterbody name (e.g. Black Creek) and select a state to retrieve available data for that waterbody (such as its location, size, and whether it is impaired).

Region Websites: Under *Refine your Search* on the ATTAINS home page, select Region. This selection will take you to a map of the EPA regions. This map is clickable, and will link to the selected regions Water Quality Assessment Report.

Water Quality Assessment Report

Water Quality Assessment Data for the State: Clickable list of all the tables and charts in the website for the state.



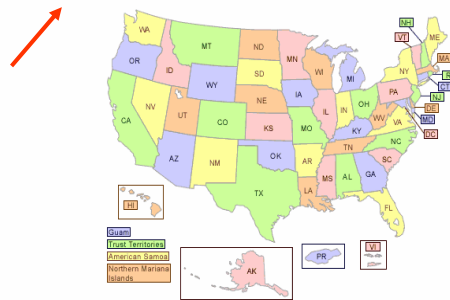
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Status of Available Data

This chart identifies available data, either integrated or separate, available for each State and Territory. Click on the links below to go to the State's report for the identified reporting year.

Click here to display the Status report by [Regions](#)

State	2002	2004	2006
Alabama	Impaired Waters report only	Separate Impaired and Assessed Waters Reports	Unavailable
Alaska	Separate Impaired and Assessed Waters Reports	Separate Impaired and Assessed Waters Reports	Unavailable
American Samoa	Unavailable	Unavailable	Unavailable
Arizona	Separate Impaired and Assessed Waters Reports	Available Integrated Report	Unavailable
Arkansas	Separate Impaired and Assessed Waters Reports	Separate Impaired and Assessed Waters Reports	Unavailable
California	Separate Impaired and Assessed Waters Reports	Separate Impaired and Assessed Waters Reports	Impaired Waters report only
Colorado	Assessed Waters report only	Separate Impaired and Assessed Waters Reports	Unavailable
Connecticut	Separate Impaired and Assessed Waters Reports	Separate Impaired and Assessed Waters Reports	Unavailable
Delaware	Separate Impaired and Assessed Waters Reports	Separate Impaired and Assessed Waters Reports	Unavailable

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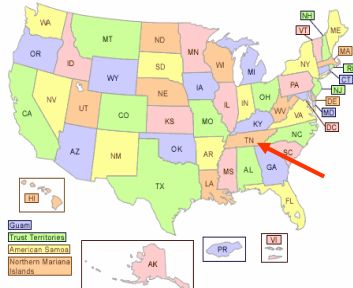
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Tennessee 2006 Water Quality Assessment Report

Assessed Waters of Tennessee by Watershed

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[Lakes, Reservoirs, and Ponds](#)

[Causes of Impairment](#)

[Probable Sources Contributing to Impairments](#)

[Previously Impaired Waters Now Attaining All Uses](#)


[TMDL Alternatives by Cause of Impairment](#)

[Cumulative TMDLs by Pollutant](#)

[Cumulative Number of TMDLs](#)

Select a watershed from the list:

or click on the map to choose a watershed:



Data are also available for these years: [2002](#) [2004](#)

[303\(d\) Listed Waters for 2006](#)

[Waterbody Changes from Prior Cycle](#)

[Comparison Summary by Reporting Year](#)

For More Information:

[State Water Quality Program](#)

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Search for a Waterbody within Tennessee

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http://aspub.epa.gov/waters10/attains_index.control?area=TN#total_assessed_waters		
Tennessee Water Quality Assessment Report WATE...		
Tennessee Assessment Summary for Reporting Year 2006		
Description of this table		
	Size of Water	
	Rivers and Streams (Miles)	Lakes, Reservoirs, and Ponds (Acres)
Good Waters	19,068	416,718
Previously impaired waters now attaining all uses	18	
Threatened Waters	30	
TMDL completed		
TMDL alternative		
Non-pollutant impairment		
TMDL needed	30	
Impaired Waters	11,118	114,324
TMDL completed	1,908	
TMDL alternative		
Non-pollutant impairment		
TMDL needed	9,210	114,324
New TMDLs completed	833	8,308
Remaining TMDLs needed	8,377	106,016
Total Assessed Waters	30,216	531,042
Total Waters	61,075	538,060
Percent of Waters Assessed	49.5	98.7
Top of page		
Summary of Water Quality Assessments for Each Waterbody Type for Reporting Year 2006		
Tennessee Assessed Waters		
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Tennessee 2006 Water Quality Assessment Report

Assessed Waters of Tennessee by Watershed

Select a watershed from the list:

or click on the map to choose a watershed:



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- [TMDL Alternatives by Cause of Impairment](#)
- [Cumulative TMDLs by Pollutant](#)
- [Cumulative Number of TMDLs](#)

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[Waterbody Changes from Prior Cycle](#)

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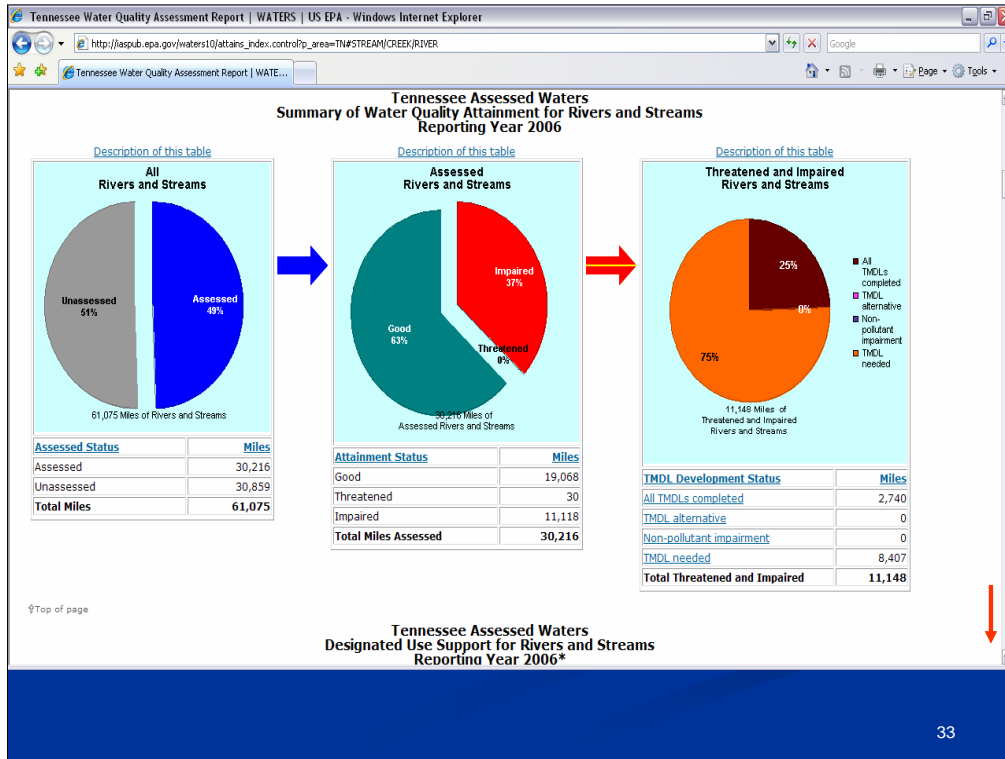
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Enter Waterbody Name:

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http://aspub.epa.gov/waters10/attains_index.control?p_area=TN#STREAM\CREEK\RIVER

Tennessee Water Quality Assessment Report | WATE...

Assessed Status	Miles
Assessed	30,216
Unassessed	30,859
Total Miles	61,075

Attainment Status	Miles
Good	19,068
Threatened	30
Impaired	11,118
Total Miles Assessed	30,216

TMDL Development Status	Miles
All TMDLs completed	2,740
TMDL alternative	0
Non-pollutant impairment	0
TMDL needed	8,407
Total Threatened and Impaired	11,148

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Tennessee Assessed Waters
Designated Use Support for Rivers and Streams
Reporting Year 2006*

* Waters assessed for more than one designated use are included in multiple designated use groups below.

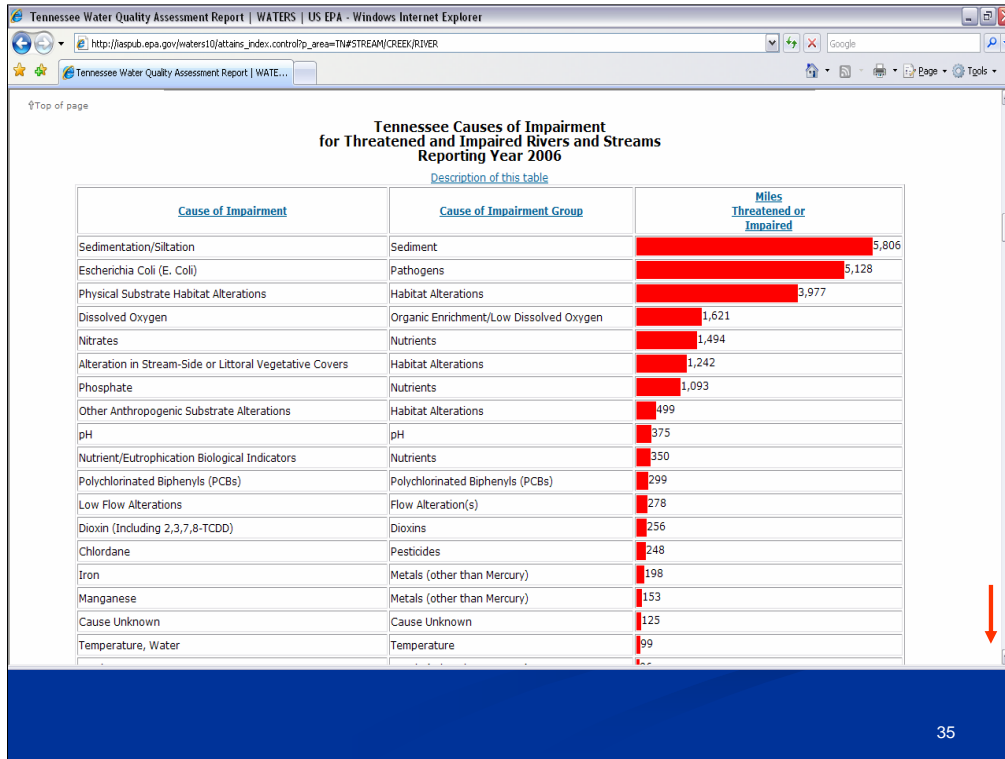
Description of this table

Designated Use	Miles Assessed	Percent Good	Percent Threatened	Percent Impaired	<div><div>% Good</div><div>% Threatened</div><div>% Impaired</div></div>
Domestic Water Supply	3,458	99.3	.0	.7	<div></div>
Fish And Aquatic Life	29,438	69.4	.1	30.5	<div></div>
Industrial Water Supply	3,322	100.0	.0	.0	<div></div>
Irrigation	30,067	100.0	.0	.0	<div></div>
Livestock Watering And Wildlife	30,015	100.0	.0	.0	<div></div>
Naturally Reproducing Trout Stream	308	100.0	.0	.0	<div></div>
Recreation	15,260	64.7	.0	35.3	<div></div>

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Tennessee Causes of Impairment
for Threatened and Impaired Rivers and Streams

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Tennessee Probable Sources of Impairments for Threatened and Impaired Rivers and Streams Reporting Year 2006

[Description of this table](#)

Probable Source	Probable Source Group	Miles Threatened or Impaired
Grazing In Riparian Or Shoreline Zones	Agriculture	4,595
Channelization	Hydromodification	2,992
Non-Irrigated Crop Production	Agriculture	2,573
Discharges From Municipal Separate Storm Sewer Systems (MS4)	Urban-Related Runoff/Stormwater	1,972
Site Clearance (Land Development Or Redevelopment)	Construction	973
Source Unknown	Unknown	820
Municipal Point Source Discharges	Municipal Discharges/Sewage	527
Sanitary Sewer Overflows (Collection System Failures)	Municipal Discharges/Sewage	509
Impacts From Abandoned Mine Lands (Inactive)	Resource Extraction	391
Sources Outside State Jurisdiction Or Borders	Other	366
Contaminated Sediments	Legacy/Historical Pollutants	336
Municipal (Urbanized High Density Area)	Urban-Related Runoff/Stormwater	322
Upstream Impoundments (E.G., PI-566 Nrcs Structures)	Hydromodification	306
Unrestricted Cattle Access	Agriculture	269
On-Site Treatment Systems (Septic Systems And Similar Decentralized Systems)	Municipal Discharges/Sewage	253
Animal Feeding Operations (Nps)	Agriculture	209
		--


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Data are also available for these years: 2002 2004

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Tennessee Causes of Impairment for Reporting Year 2006

[Description of this table](#)

NOTE: Click on the underlined Cause of Impairment Group to see a list of specific state causes of impairment making up the Cause of Impairment Group.

Cause of Impairment Group	Size of Assessed Waters with Listed Causes of Impairment	
	Rivers and Streams (Miles)	Lakes, Reservoirs, and Ponds (Acres)
Ammonia	37	
Cause Unknown	125	
Chlorine	1	
Dioxins	256	10,370
Flow Alteration(s)	278	11,444
Habitat Alterations	5,588	
Mercury	27	2,336
Metals (other than Mercury)	420	2,254
Nuisance Exotic Species		4,555
Nutrients	2,518	15,766
Oil and Grease	56	
Organic Enrichment/Low Dissolved Oxygen	1,621	17,339
Pathogens	5,128	994
Pesticides	248	13,685
pH	375	10,955
Polychlorinated Biphenyls (PCBs)	299	94,928
Radiation	14	
Salinity/Total Dissolved Solids/Chlorides/Sulfates	54	
Sediment	5,821	18,175
Taste, Color and Odor	12	45
Temperature	99	

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http://iaspub.epa.gov/tmdl_waters10/attains_state.cause_size_detail?p_state=TN&p_state_name=Ten - Windows Internet Explorer

http://iaspub.epa.gov/tmdl_waters10/attains_state.cause_size_detail?p_state=TN&p_state_name=Tennessee&p_cycle=2006&p_cause_group=AMMONIA&p_vbtype=STREA

Waters and Specific State Causes that make up the Ammonia Cause of Impairment Group for in Tennessee

[Description of this table](#)

NOTE: Sizes are in miles.

Waterbody Name	Waterbody ID	Location	Cause(s) of Impairment	Size
Dobbs Branch	TN060200011244_0100	Dobbs Branch From Chattanooga Creek To Headwaters. Ecoregion 67f Hamilton County	Ammonia, Un-ionized	5
Eagle Creek	TN06040001364_3000	Eagle Creek From McIlwain Road To Headwaters. Ecoregion 65e Benton County Decatur County	Ammonia, Un-ionized	5
East Fork Of Globe Creek	TN06040002002_0310	East Fork Of Globe Creek From Globe Creek To Headwaters. Ecoregion 71h Marshall County	Ammonia, Un-ionized	9
Frey Branch	TN05130206019_0321	Frey Branch From Empson Creek To Headwaters. Ecoregion 71e Robertson County	Ammonia, Un-ionized	7
Quality Creek	TN06040003023_0100	Quality Creek From Sugar Creek To Headwaters. Ecoregion 71h Maury County	Ammonia, Un-ionized	7
Town Creek	TN05110002027_0421	Town Creek From White Oak Creek To Headwaters. Ecoregion 71g Macon County	Ammonia, Un-ionized	4

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NOTE: Click on the underlined Cause of Impairment Group to see a list of specific state causes of impairment making up the Cause of Impairment Group.

Cause of Impairment Group	Size of Assessed Waters with Listed Causes of Impairment	
	Rivers and Streams (Miles)	Lakes, Reservoirs, and Ponds (Acres)
Ammonia	37	
Cause Unknown	125	
Chlorine	1	
Dioxins	256	10,370
Flow Alteration(s)	278	11,444
Habitat Alterations	5,588	
Mercury	27	2,336
Metals (other than Mercury)	420	2,254
Nuisance Exotic Species		4,555
Nutrients	2,518	15,766
Oil and Grease	56	
Organic Enrichment/Low Dissolved Oxygen	1,621	17,339
Pathogens	5,128	994
Pesticides	248	13,685
pH	375	10,955
Polychlorinated Biphenyls (PCBs)	299	94,928
Radiation	14	
Salinity/Total Dissolved Solids/Chlorides/Sulfates	54	
Sediment	5,821	18,175
Taste, Color and Odor	12	45
Temperature	99	


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Tennessee Probable Sources Contributing to Impairments for Reporting Year 2006		
Description of this table		
NOTE: Click on the underlined Probable Source Group to see a list of specific state Probable Sources making up the Probable Source Group.		
Probable Source Group	Size of Assessed Waters with Probable Sources of Impairments	
	Rivers and Streams (Miles)	Lakes, Reservoirs, and Ponds (Acres)
Agriculture	7,001	16,140
Aquaculture	1	
Atmospheric Deposition	12	
Construction	1,035	10,950
Habitat Alterations (Not Directly Related To Hydromodification)	180	10,950
Hydromodification	3,601	5,193
Industrial	346	5,849
Land Application/Waste Sites/Tanks	58	
Legacy/Historical Pollutants	366	97,182
Military Bases	33	
Municipal Discharges/Sewage	1,199	998
Natural/Wildlife		15,500
Other	366	383
Recreation And Tourism (Non-Boating)	1	
Resource Extraction	533	2,254
Silviculture (Forestry)	16	
Spills/Dumping	14	
Unknown	820	
Urban-Related Runoff/Stormwater	2,190	1,039
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Tennessee Previously Impaired Waters Now Attaining All Uses

[Description of this table](#)

NOTE: Click on the underlined "Number of Waters Attaining" value for a detailed list of those waters now attaining all uses.

Cycle Attaining	Number of Waters Attaining	Number of Causes of Impairment Addressed
2006	<u>3</u>	3

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Tennessee Causes of Impairment for 303(d) Listed Waters

[Description of this table](#)

NOTE: Click on a cause of impairment (e.g. pathogens) to see the specific state-reported causes that are grouped to make up this category. Click on the "Number of Causes of Impairment Reported" to see a list of waters with that cause of impairment.

Cause of Impairment Group Name	Number of Causes of Impairment Reported
Habitat Alterations	<u>417</u>
Sediment	<u>411</u>
Pathogens	<u>297</u>
Nutrients	<u>268</u>
Organic Enrichment/Low Dissolved Oxygen	<u>124</u>
Metals (other than Mercury)	<u>78</u>
Flow Alteration(s)	<u>52</u>
pH	<u>42</u>
Polychlorinated Biphenyls (PCBs)	<u>29</u>
Temperature	<u>17</u>
Pesticides	<u>15</u>
Cause Unknown	<u>15</u>
Dioxins	<u>13</u>


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Tennessee Cumulative TMDLs by Pollutant

This chart includes TMDLs since October 1, 1995.

[Description of this table](#)

NOTE: Click on the underlined "Pollutant" value to see associated listed waters for which a TMDL was developed. Click on the underlined "Number of TMDLs" value to see a listing of those TMDLs for the pollutant.

<u>Pollutant</u>	<u>Number of TMDLs</u>	<u>Number of Causes of Impairment Addressed</u>
Escherichia Coli (E. Coli)	338	339
Siltation	314	425
Fecal Coliform	62	62
Other Habitat Alteration(s)	60	61
Nitrogen, Total	24	24
Phosphorus, Total	23	23
pH	9	9
Iron	7	7
Low pH	7	7
Manganese	4	5
Polychlorinated Biphenyls (PCBs)	4	4
Carbonaceous Bod	3	4
Chlordane	3	3
Ammonia, Un-ionized	2	3
Antimony	1	1

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Tennessee TMDLs, TMDL Pollutant: Escherichia Coli (E. Coli)

[Description of this table](#)

NOTE: Click on the underlined TMDL Document Name to see a detailed TMDL report. Click on an underlined Number of Listed Waters to see applicable listed waters for the TMDL. EPA is in the process of collecting TMDL information from the states. Because these efforts are on-going, there may be additional approved TMDLs that were not included in the listings below.

State	TMDL Document Name	TMDL Date	EPA Action	TMDL Pollutant	Number of Listed Waters
TN	Little River Subwatershed Of The Ft Loudoun Lake Watershed Pathogens Tmdl	Nov-21-2005	EPA Approved	Escherichia Coli (E. Coli)	15
TN	Proposed Tmdl For Pathogens In The South Fork Holston River (Beaver Creek)	Sep-23-2004	EPA Approved	Escherichia Coli (E. Coli)	2
TN	Proposed Total Maximum Daily Load (Tmdl) For E. Coli In The Watauga River Watershed (Huc 06010103)	Apr-17-2006	EPA Approved	Escherichia Coli (E. Coli)	7
TN	Tmdl For Conasauga River Watershed (Huc 03150101)	Oct-17-2005	EPA Approved	Escherichia Coli (E. Coli)	2
TN	Tmdl For E. Coli In The Gunterville Lake Watershed (Huc 06030001) In Franklin, Grundy, And Marion Counties, Tennessee	Mar-12-2008	EPA Approved	Escherichia Coli (E. Coli)	4
TN	Tmdl For E. Coli In The Harpeth River Watershed (Huc 05130204)	Mar-24-2006	EPA Approved	Escherichia Coli (E. Coli)	10
TN	Tmdl For E. Coli In The Hatchie River Watershed (Huc 08010208) In Chester, Favette, Hardeman, Haywood, Lauderdale, Madison, And Tipton Counties, Tennessee	Mar-18-2008	EPA Approved	Escherichia Coli (E. Coli)	7
TN	Tmdl For E. Coli In The Lower Tennessee River Watershed (Huc 06020001)	Jul-06-2006	EPA Approved	Escherichia Coli (E. Coli)	13

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Tennessee Cumulative TMDLs by Pollutant

This chart includes TMDLs since October 1, 1995.

[Description of this table](#)

NOTE: Click on the underlined "Pollutant" value to see associated listed waters for which a TMDL was developed. Click on the underlined "Number of TMDLs" value to see a listing of those TMDLs for the pollutant.

Pollutant	Number of TMDLs	Number of Causes of Impairment Addressed
Escherichia Coli (E. Coli)	338	339
Siltation	314	425
Fecal Coliform	62	62
Other Habitat Alteration(s)	60	61
Nitrogen, Total	24	24
Phosphorus, Total	23	23
pH	9	9
Iron	7	7
Low pH	7	7
Manganese	4	5
Polychlorinated Biphenyls (PCBs)	4	4
Carbonaceous Bod	3	4
Chlordane	3	3
Ammonia, Un-ionized	2	3
Antimony	1	1

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Tennessee 303(d) Listed Waters for Reporting Year 2006

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NOTE: Click on the underlined "Waterbody Name" to view the Waterbody report. Click on the underlined TMDL Date to see a detailed TMDL report.

<u>Waterbody Name</u>	<u>Waterbody ID</u>	<u>Map</u>	<u>State Basin Name</u>	<u>Location</u>	<u>Cause of Impairment</u>	<u>Cycles Listed</u>	<u>Latest TMDL Date</u>
Alexander Creek	TN06010104011_0800	Waterbody Map		Alexander Creek From Holston River To U/S Boundary Of Town Of Church Hill. Ecoregion 67f & 67g Hawkins County	Cause Unknown	2004, 2006	
Alexander Creek	TN06010104011_0800	Waterbody Map		Alexander Creek From Holston River To U/S Boundary Of Town Of Church Hill. Ecoregion 67f & 67g Hawkins County	Escherichia Coli (E. Coli)	2004, 2006	
Alexander Creek	TN06010104011_0850	Waterbody Map		Alexander Creek From U/S Boundary Of Church Hill To Headwaters. Ecoregion 67f Hawkins County	Escherichia Coli (E. Coli)	2004, 2006	
Alexander Creek	TN06010108088_0200	Waterbody Map		Alexander Creek From Horse Creek To Headwaters. (Near Hwy 351) Ecoregion 67f Greene County	Physical Substrate Habitat Alterations	2006	Feb-26-2008
Alexander Creek	TN06010108088_0200	Waterbody Map		Alexander Creek From Horse Creek To Headwaters. (Near Hwy 351) Ecoregion 67f Greene County	Sedimentation/Siltation	2006	
Alexander Creek	TN06040002039_0300	Waterbody Map		Alexander Creek From North Fork Creek To Headwaters. Ecoregion 71i Bedford County Rutherford County	Sedimentation/Siltation	2006	
Alexander Creek	TN08010210021_0100	Waterbody Map		Alexander Creek From Shaws Creek To Headwaters. Ecoregion 74b Fayette County	Dissolved Oxygen	2006	
Alexander Creek	TN08010210021_0100	Waterbody Map		Alexander Creek From Shaws Creek To Headwaters. Ecoregion 74b Fayette County	Escherichia Coli (E. Coli)	2006	Aug-13-2007
				Anderson Branch From South Fork Forked Deer			


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http://aspub.epa.gov/tmdl_waters10/attains_waterbody.control?hp_list_id=TN06010108088_0200&p_state=TN&p_cycle=2006

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State: [Tennessee](#)

Waterbody ID: TN06010108088_0200

Location: Alexander Creek From Horse Creek To Headwaters. (Near Hwy 351) Ecoregion 67f Greene County

State Waterbody Type: River

EPA Waterbody Type: Rivers and Streams

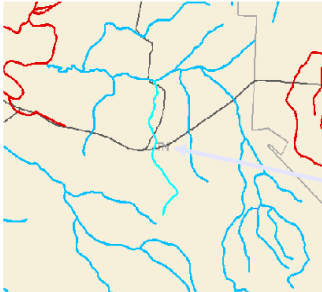
Water Size: 2.8

Units: miles

Watershed Name: [Nolichucky](#)

Data are also available for these years: [2002](#) [2004](#)

2006 Waterbody Report for Alexander Creek



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http://aspub.epa.gov/tmdl_waters10/attains_waterbody.control?b_list_id=TN06010108088_02006p_state=TN&p_cycle=2006

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Water Size: 2.8
Units: miles
Watershed Name: Nolichucky

Click on the waterbody for an interactive map

Data are also available for these years: 2002 2004

Water Quality Assessment Status for Reporting Year 2006

The overall status of this waterbody is Impaired.

Description of this table

Designated Use	Designated Use Group	Status
Fish And Aquatic Life	Fish, Shellfish, And Wildlife Protection And Propagation	Impaired
Irrigation	Agricultural	Good
Livestock Watering And Wildlife	Agricultural	Good
Recreation	Recreation	Not Assessed

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Causes of Impairment for Reporting Year 2006

Description of this table

Cause of Impairment	Cause of Impairment Group	Designated Use(s)	State TMDL Development Status
Physical Substrate Habitat Alterations	Habitat Alterations	Fish And Aquatic Life	TMDL completed
Sedimentation/Siltation	Sediment	Fish And Aquatic Life	TMDL needed

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http://aspub.epa.gov/tmdl_waters10/attains_waterbody.control?tp_list_id=TN06010108088_02008p_state=TN&p_cycle=2006

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Probable Sources Contributing to Impairment for Reporting Year 2006

Description of this table

Probable Source	Probable Source Group	Cause(s) of Impairment
Grazing In Riparian Or Shoreline Zones	Agriculture	Physical Substrate Habitat Alterations; Sedimentation/Siltation

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TMDLs That Apply to this waterbody

Description of this table

TMDL Document Name	TMDL Date	TMDL Pollutant Description	TMDL Pollutant Source Type	Cause(s) of Impairment Addressed
Tmdl For Siltation And Habitat Alteration In The Nolichucky River Watershed (Huc 06010108) In Cooke, Greene, Hamblen, Hawkins, Jefferson, Unicoi, And Washington, Counties, Tennessee	Feb-26-2008	Other Habitat Alteration(s)	Point/Nonpoint Source	Physical Substrate Habitat Alterations
Tmdl For Siltation And Habitat Alteration In The Nolichucky River Watershed (Huc 06010108) In Cooke, Greene, Hamblen, Hawkins, Jefferson, Unicoi, And Washington, Counties, Tennessee	Feb-26-2008	Siltation	Point/Nonpoint Source	Siltation

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Previous Causes of Impairments Now Attaining All Uses

No causes of impairment are recorded as attaining all uses for this waterbody.

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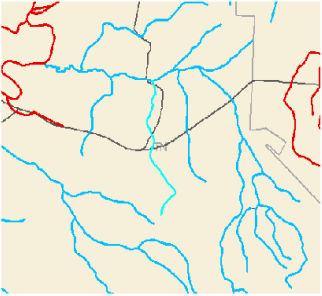
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- [Causes of Impairment](#)
- [Probable Sources Contributing to Impairments](#)
- [TMDLs That Apply to This Waterbody](#)
- [Previous Causes of Impairment Now Attaining All Uses](#)

State: [Tennessee](#)
Waterbody ID: TN06010108088_0200
Location: Alexander Creek From Horse Creek To Headwaters. (Near Hwy 351) Ecoregion 67f Greene County
State Waterbody Type: River
EPA Waterbody Type: Rivers and Streams
Water Size: 2.8
Units: miles
Watershed Name: [Nolichucky](#)

Data are also available for these years: [2002](#) [2004](#)

2006 Waterbody Report for Alexander Creek

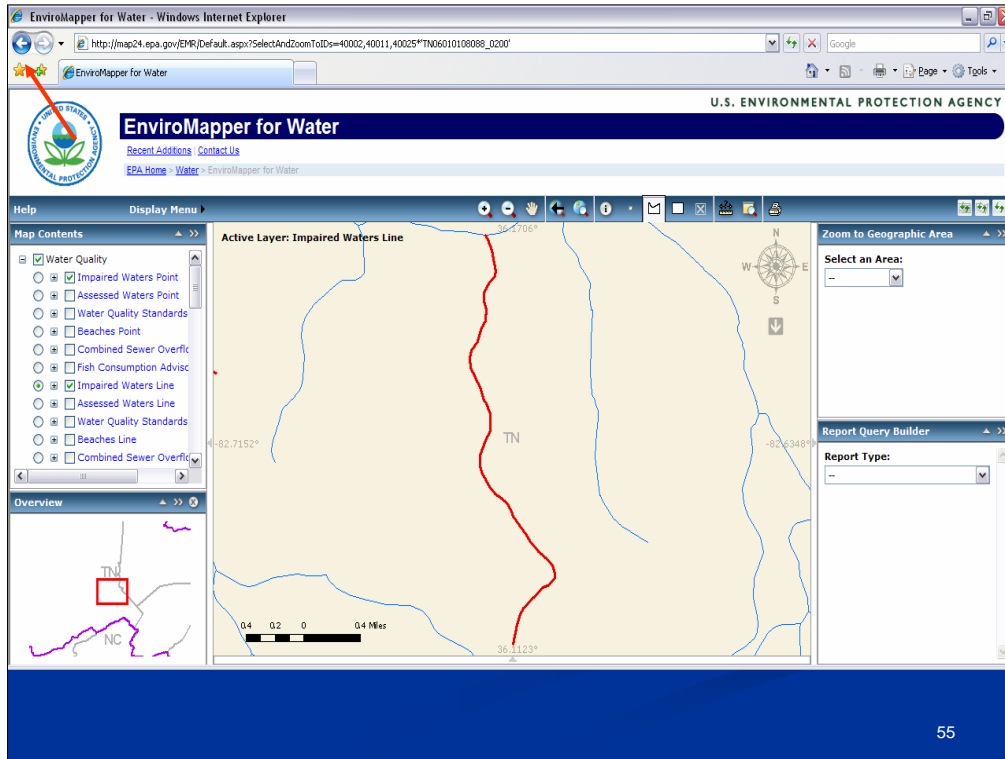


Click on the waterbody for an interactive map

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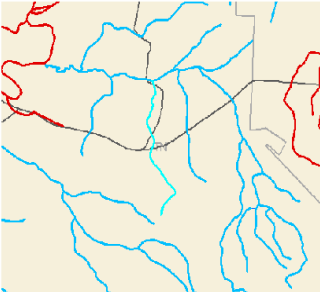
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- Water Quality Assessment Status
- Causes of Impairment
- Probable Sources Contributing to Impairments
- TMDLs That Apply to This Waterbody
- Previous Causes of Impairment Now Attaining All Uses

State: [Tennessee](#)
Waterbody ID: TN06010108088_0200
Location: Alexander Creek From Horse Creek To Headwaters. (Near Hwy 351) Ecoregion 67f Greene County
State Waterbody Type: River
EPA Waterbody Type: Rivers and Streams
Water Size: 2.8 miles
Watershed Name: Nolichucky

Data are also available for these years: [2002](#) [2004](#)

2006 Waterbody Report for Alexander Creek



Click on the waterbody for an interactive map

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Dwane Young, USEPA's Monitoring Branch



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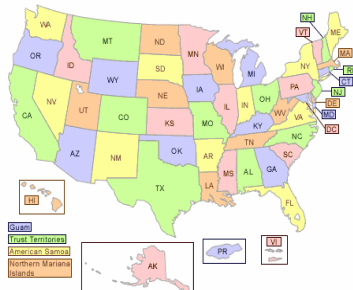
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This site provides information reported by the states to EPA about the conditions in their surface waters. This information is required every two years under Clean Water Act Sections 305(b) and 303(d).

Because of differences in state assessment methods, the information in this site should not be used to compare water quality conditions between states or to determine water quality trends. Check out the Frequent Questions box on the right to learn more.

[Which state reports are available?](#)[National Summary of State Information](#)

Search for Water Quality Information

Click on the above map for a state's most recent data, or use the pull down boxes below to:

- Select data for a reporting cycle (e.g. most current available data, 2006, 2004)

Frequent Questions

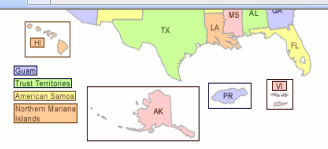
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- Select data for a reporting cycle (e.g. most current available data, 2006, 2004)
- Select data for a particular state, EPA Region, or the nation as a whole
- Select data for a particular waterbody, such as Bear River (first choose the state, then type in the name of the waterbody)

Reporting Year: Most Current Available

Nation/Region/State: South Dakota

Waterbody Name: Bad River

☒ All Information
☐ Impaired Waters and TMDL Information

Use the radio buttons on the right to limit the results of your search. (Note: Total Maximum Daily Loads, or TMDLs, are pollution "budgets" developed to restore waters that are impaired).

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Waterbodies matching search criteria: Area equals "SD" and waterbody name contains "Bad River"

Description of this table

NOTE: Click on the underlined "Waterbody Name" to view the waterbody report.

Waterbody Name	Waterbody ID	Most Current Data Available	Location	Map	Waterbody Type	Size	Unit	Status	State TMDL Development Status
Bad River	SD-BA-R-BAD_01	2004	Stanley County Line To Mouth	Waterbody Map	River	55.1	Miles	Impaired	TMDL needed
South Fork Bad River	SD-BA-R-S_FORK_BAD_01_USGS	2004	Near Cottonwood, Sd	Waterbody Map	River	32.1	Miles	Good	

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- [Previous Causes of Impairment Now Attaining All Uses](#)

State: [South Dakota](#)

Waterbody ID: SD-BA-R-BAD_01


Location: Stanley County Line To Mouth

State Waterbody Type: River

EPA Waterbody Type: Rivers and Streams

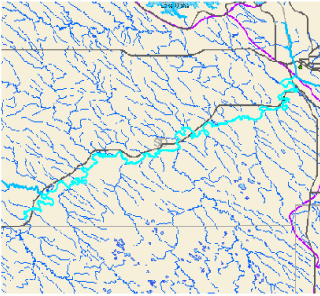
Water Size: 55.1

Units: miles

Watershed Name: [Bad](#) 

Data are also available for these years: [2002](#)

2004 Waterbody Report for Bad River



Click on the waterbody for an interactive map

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Water Quality Assessment Status for Reporting Year 2004


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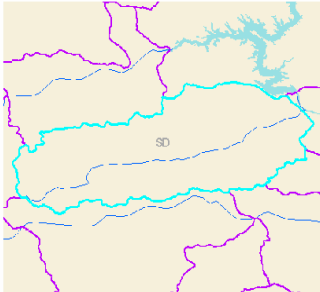
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Data are also available for these years: [2002](#)

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South Dakota, Bad Watershed



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Enter Waterbody Name:
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Assessment Summary for Reporting Year 2004
South Dakota, Bad Watershed

[Description of this table](#)

Click here to list [Threatened and Impaired Waters Only](#)

NOTE: Click on the underlined "Waterbody Name" to view a Waterbody report.

Waterbody Name	Waterbody ID	Location	Map	Waterbody Type	Size	Units	Status	State TMDL Development Status
Bad River	SD-BA-R-BAD_01	Stanley County Line To Mouth	Waterbody Map	River	55.1	Miles	Impaired	TMDL needed
Freeman Lake	SD-BA-L-FREEMAN_01	Bad River Basin	Waterbody Map	Freshwater Reservoir	54.6	Acres	Impaired	TMDL needed
Hayes Lake	SD-BA-L-HAYES_01	Stanley County	Waterbody Map	Freshwater Reservoir	61.0	Acres	Impaired	TMDL needed
Murdo Dam	SD-BA-L-MURDO_01	Jones County	Waterbody Map	Freshwater Reservoir	62.7	Acres	Good	
Plum Creek	SD-BA-R-PLUM_01_USGS	Near And Below Hayes, Sd	Waterbody Map	River	53.7	Miles	Good	
South Fork Bad River	SD-BA-R-S_FORK_BAD_01_USGS	Near Cottonwood, Sd	Waterbody Map	River	32.1	Miles	Good	
Waggoner Lake	SD-BA-L-WAGGONER_01	Haakon County	Waterbody Map	Freshwater Reservoir	97.7	Acres	Impaired	TMDL needed

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Causes of Impairment for Reporting Year 2004
South Dakota, Bad

[Description of this table](#)

NOTE: Click on the underlined "Cause of Impairment" value to see a listing of those waters with that cause of impairment.

Cause of Impairment	Size of Assessed Waters with Listed Causes of Impairment	
	Rivers and Streams (Miles)	Lakes, Reservoirs, and Ponds (Acres)
Specific Conductivity	55	
Nitrates		55

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Causes of Impairment for Reporting Year 2004

South Dakota, Bad

[Description of this table](#)

NOTE: Click on the underlined "Cause of Impairment" value to see a listing of those waters with that cause of impairment.

Cause of Impairment	Size of Assessed Waters with Listed Causes of Impairment	
	Rivers and Streams (Miles)	Lakes, Reservoirs, and Ponds (Acres)
Specific Conductivity	55	
Nitrates		55
Trophic State Index (TSI)		213
Selenium		55
Total Suspended Solids (TSS)	55	
Total Dissolved Solids (TDS)	55	

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Probable Sources Contributing to Impairments for Reporting Year 2004

South Dakota, Bad Watershed

[Description of this table](#)

Probable Source	Size of Assessed Waters with Probable Sources of Impairments	
	Rivers and Streams (Miles)	Lakes, Reservoirs, and Ponds (Acres)
Animal Feeding Operations (Nps)		98
Crop Production (Crop Land Or Dry Land)	55	213
Livestock (Grazing Or Feeding Operations)	55	116

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Data are also available for these years: [2002](#)

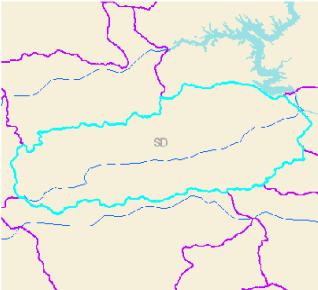
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South Dakota, Bad Watershed



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STORET Station Summary		
Organization ID: 11NPSWRD - National Park Service		
Station ID	Station Name/Summary Information	Period of Record
BADL_NGPN_L101	Bison Wapinitza Hole 1, Reach 1, Transect 01 (Get Detail) 1-7-Biological, 2-Habitat, 20-Physical	06/27/2004-05/28/2005
BADL_NGPN_L102	Bison Wapinitza Hole 1, Reach 1, Transect 02 (Get Detail) 2-Habitat, 20-Physical	06/27/2004-05/28/2005
BADL_NGPN_L103	Bison Wapinitza Hole 1, Reach 1, Transect 03 (Get Detail) 2-Habitat, 20-Physical	06/27/2004-05/28/2005
BADL_NGPN_L104	Bison Wapinitza Hole 1, Reach 1, Transect 04 (Get Detail) 2-Habitat, 20-Physical	06/27/2004-05/28/2005
BADL_NGPN_L105	Bison Wapinitza Hole 1, Reach 1, Transect 05 (Get Detail) 2-Habitat, 20-Physical	06/27/2004-05/28/2005
BADL_NGPN_L106	Bison Wapinitza Hole 1, Reach 1, Transect 06 (Get Detail) 2-Habitat, 12-Physical	06/27/2004-05/28/2005
BADL_NGPN_L107	Bison Wapinitza Hole 1, Reach 1, Transect 07 (Get Detail) 2-Habitat, 12-Physical	06/27/2004-05/28/2005
BADL_NGPN_L108	Bison Wapinitza Hole 1, Reach 1, Transect 08 (Get Detail) 2-Habitat, 12-Physical	06/27/2004-05/28/2005
BADL_NGPN_L109	Bison Wapinitza Hole 1, Reach 1, Transect 09 (Get Detail) 2-Habitat, 12-Physical	06/27/2004-05/28/2005
BADL_NGPN_L110	Bison Wapinitza Hole 1, Reach 1, Transect 10 (Get Detail) 2-Habitat, 1-Microbiological, 4-Sediment, 4-Other, 20-Physical	06/27/2004-05/28/2005
BADL_SDSM_1	SPRING RUN OF BADLANDS NP HEADQUARTERS (Get Detail) 8-Sediment, 1-Sediment, 4-Other, 6-Physical	06/28/1978-06/29/1978

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BADL_NGPN_L106	2-Habitat, 12-Physical	06/27/2004-05/28/2005
BADL_NGPN_L107	Bison/Wolverine Hold 1, Reach 1, Transect 07 (Get Details) 2-Habitat, 12-Physical	06/27/2004-05/28/2005
BADL_NGPN_L108	Bison/Wolverine Hold 1, Reach 1, Transect 08 (Get Details) 2-Habitat, 12-Physical	06/27/2004-05/28/2005
BADL_N	Bison/Wolverine Hold 1, Reach 1, Transect 09 (Get Details)	2005
BADL_N		2005
BADL_SI		1978

Organization ID: 21SDAK01 - SD Dept of Environmental & Natural Resources

Station ID	Station Name/Summary Information	
460850	WQM 29 - Bad River near Fort Pierre (Get Details) ← 264-Metal, 117-Microbiological, 548-Nutrient, 81-Other, 1450-Physical	2005
		2002
		2002

Organization ID: SDWRAP - SD Dept of Environmental & Natural Resources

Station ID	Station Name/Summary Information	
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STORET Station Details

ORGANIZATION: 21SDAK01 - SD Dept of Environmental & Natural Resources

MONITORING LOCATION	ACTIVITY	RESULTS		
		Characteristic	Measure	Status
460850 - WQM 29 - Bad River near Fort Pierre	Activity ID: 01 460850S Activity Type: Sample Medium: Water Start Date: 1996-01-25	Water appearance (text)	0	F 0
460850 - WQM 29 - Bad River near Fort Pierre	Activity ID: 01 460850S Activity Type: Sample Medium: Water Start Date: 1995-01-18	Arsenic	0	F (Actual)
		Cadmium	0	F (Actual)
		Solids, Total Suspended (TSS)	37000 (ug/l)	F (Actual)
		Zinc	0	F (Actual)
		Mercury	0	F (Actual)
		Selenium	0	F (Actual)
		Alkalinity, Carbonate as CaCO3	230000 (ug/l)	F (Actual)
		Silver	0	F (Actual)
		Solids, Total	1628000 (ug/l)	F (Actual)
		Thallium	0	F (Actual)
		Ammonia, unionized	.59 (ug/l)	F (Calculated)
		Phosphorus as P	118 (ug/l)	F (Actual)
		Solids, Dissolved	1591000 (ug/l)	F (Actual)
		Copper	.02 (ug/l)	F (Actual)
		Hardness, carbonate	445000 (ug/l)	F (Actual)
		Lead	0	F (Actual)

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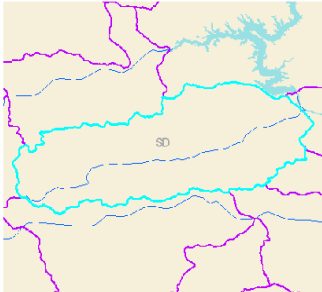
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South Dakota, Bad Watershed



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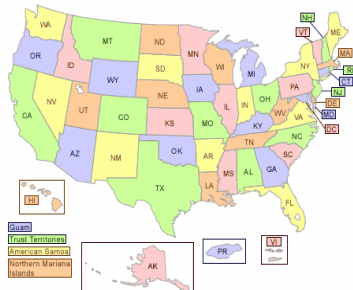
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Water Quality Assessment and Total Maximum Daily Loads Information

This site provides information reported by the states to EPA about the conditions in their surface waters. This information is required every two years under Clean Water Act Sections 305(b) and 303(d).

Because of differences in state assessment methods, the information in this site should not be used to compare water quality conditions between states or to determine water quality trends. Check out the Frequent Questions box on the right to learn more.

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Click on the above map for a state's most recent data, or use the pull down boxes below to:

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- 2006 Integrated Reporting Guidance
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☒ Stream

☐ Great Lakes

☐ Great Lakes Open Water

☐ Great Lakes Near Coastal

☐ Great Lakes Coastal

☐ Great Lakes Estuaries

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- About This Database (Separate Impaired and Assessed Waters Reports)
- Assessing Water Quality (Questions and Answers)
- 2006 Integrated Reporting Guidance
- Previous National Water Quality Reports
- EnviroMapper for Water
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Depicted below are national summary tables and charts for available water quality data reported by the States to EPA under Section 305(b) and 303(d) of the Clean Water Act.

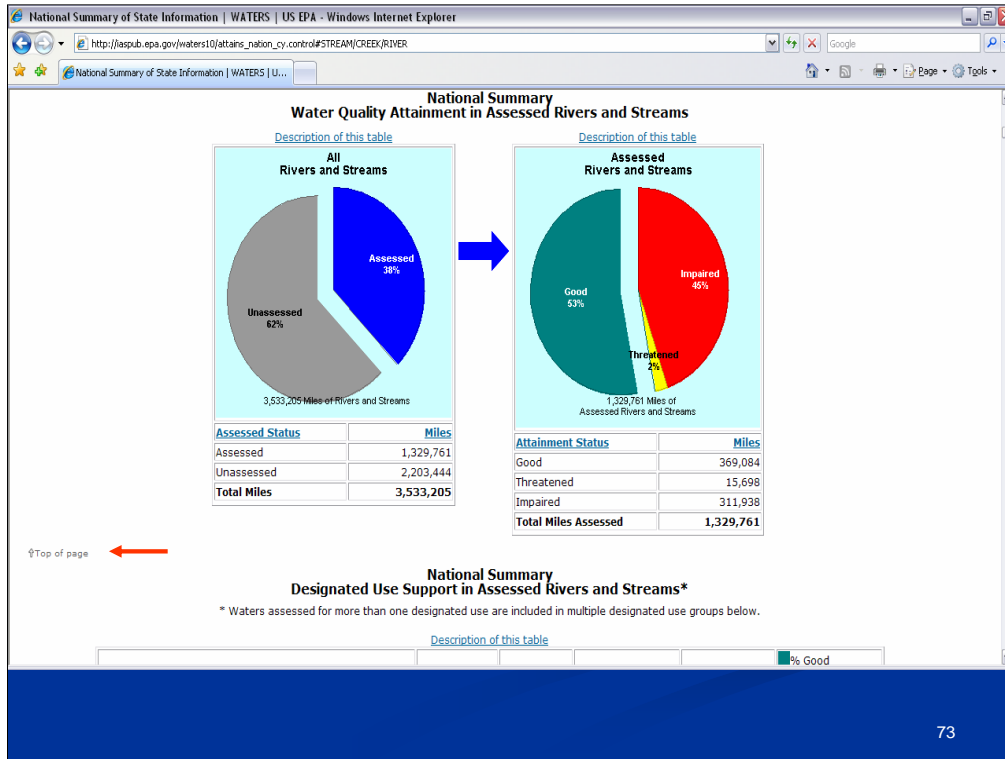
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Questions?



Dwane Young, USEPA's Monitoring Branch

Shera Bender, USEPA's Watershed Branch



Sarah Furtak, USEPA's Watershed Branch

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Resources

- ATTAINS Web site: epa.gov/waters/ir
- 305(b) National Report web site: epa.gov/305b
- 303(d) Web site: epa.gov/owow/tmdl
- 2006 Integrated Reporting Guidance:
epa.gov/owow/tmdl/2006IRG/#documents?