



# Better Monitoring Program Management through the ATTAINS System

National Water Monitoring Conference April 29, 2010

Charles Kovatch

USEPA Office of Wetlands, Oceans, and Watersheds

# HAPPY 40<sup>TH</sup> ANNIVERSARY



# Overview

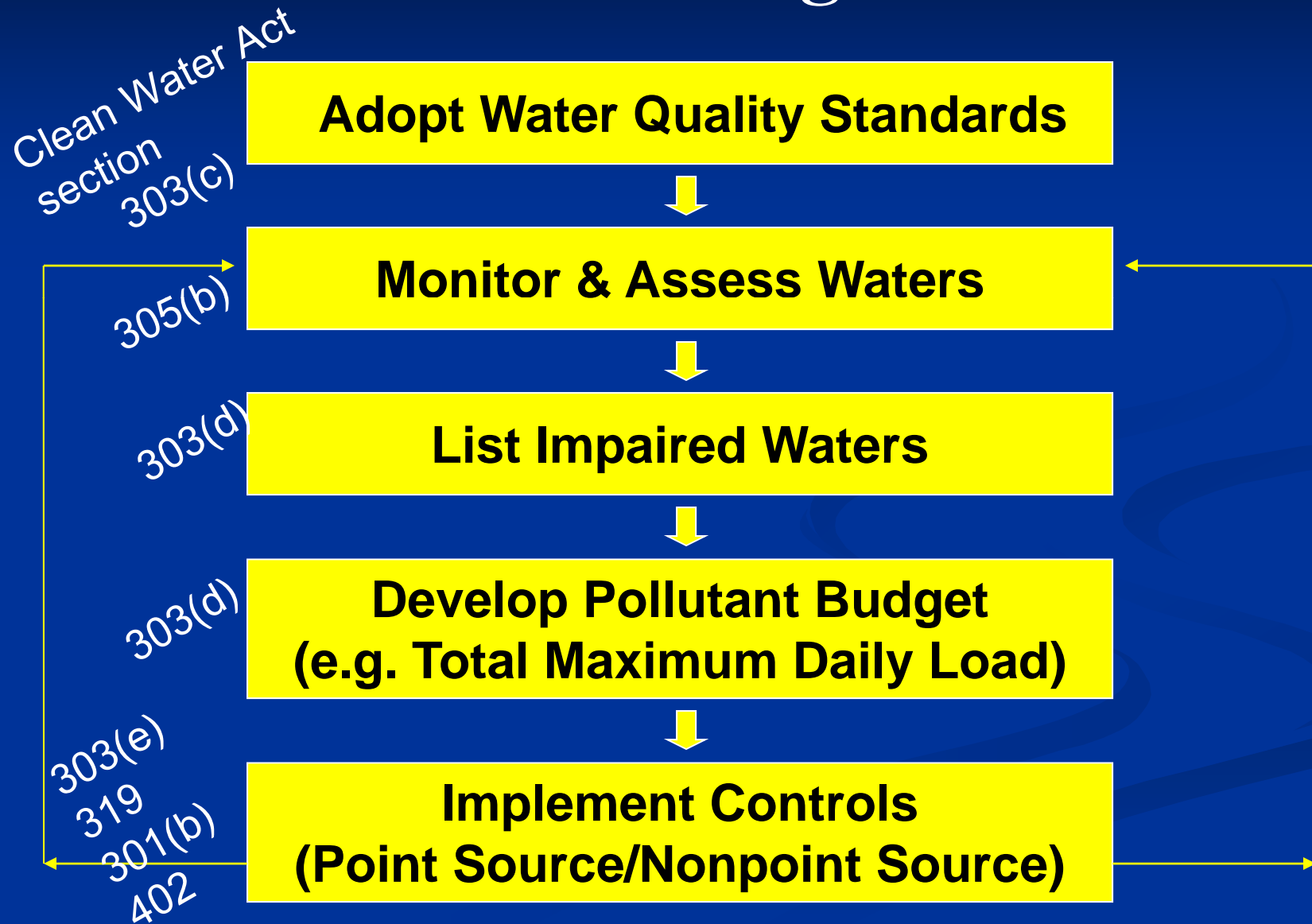
- Overview of Clean Water Act and Water Assessment and Listing Program under sections 305(b) and 303(d)
- What is ATTAINS
- Flowing data through ATTAINS
- EPA Water management tools

# Who benefits from this presentation?

- Data owners
- IT specialists
- Watershed managers
- Non-profit and volunteer groups
- Program managers for permits, enforcement, and compliance
- EPA HQ and Regions

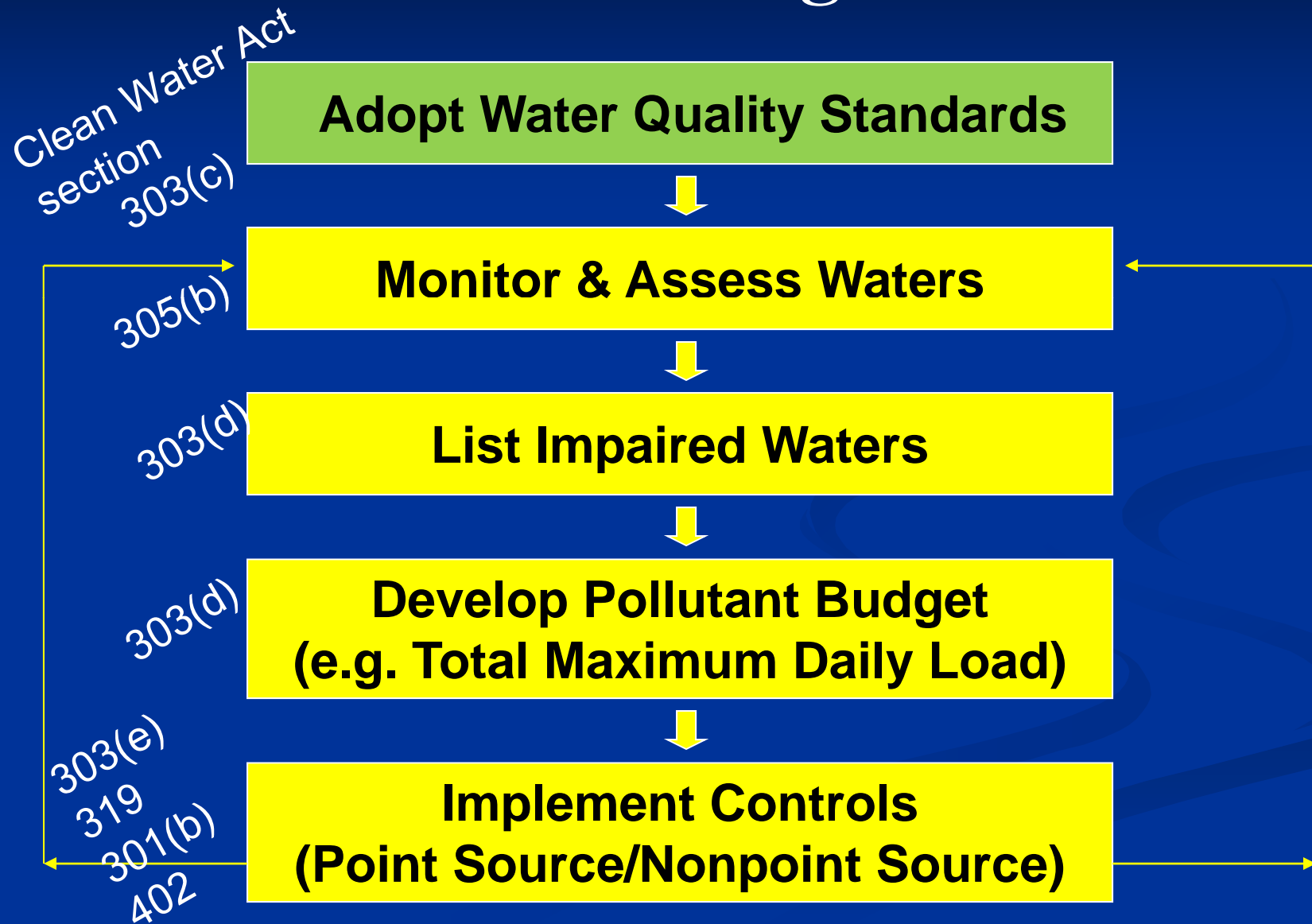
# Clean Water Act

## Framework for Restoring Polluted Waters

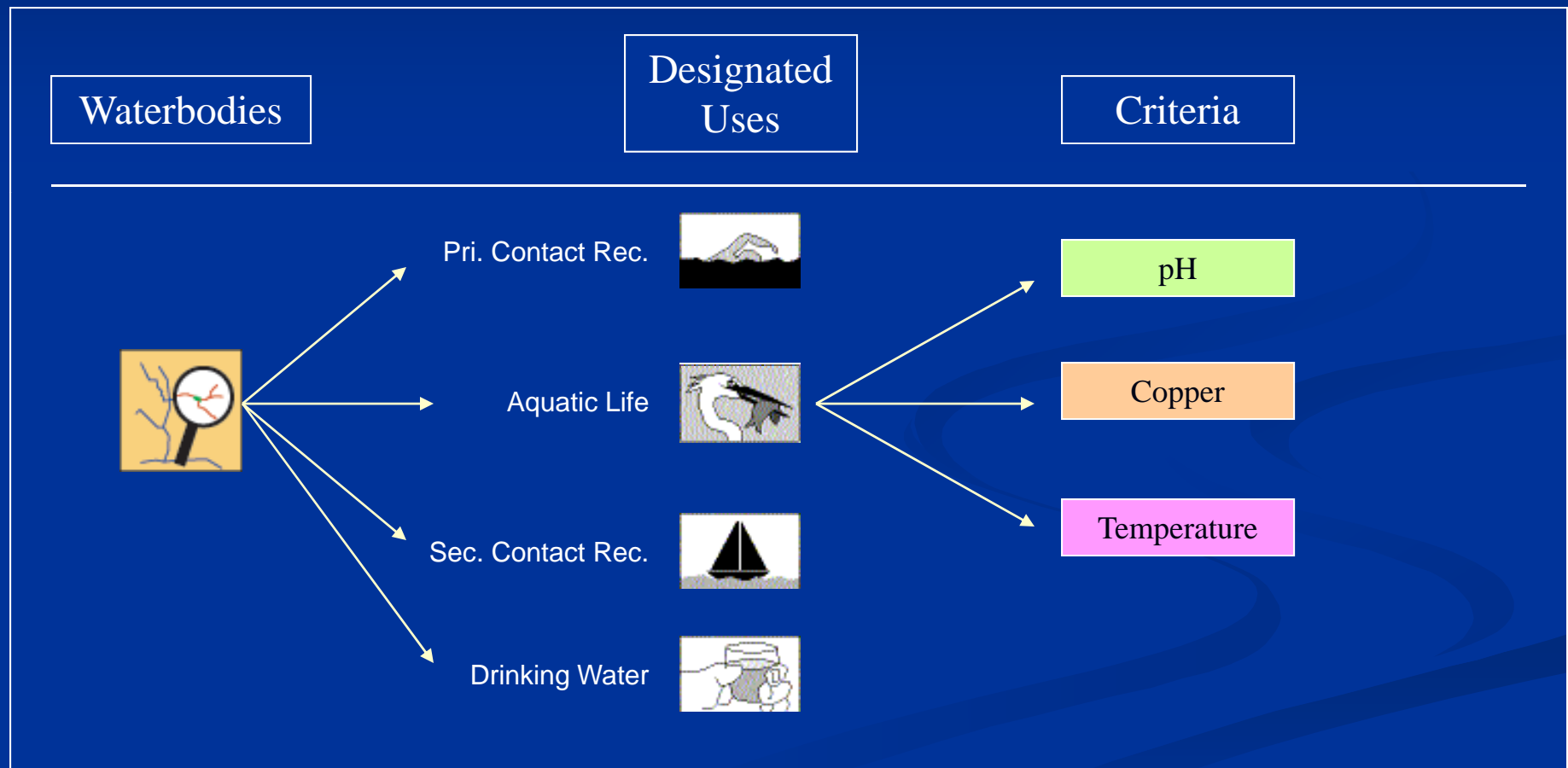


# Clean Water Act

## Framework for Restoring Polluted Waters

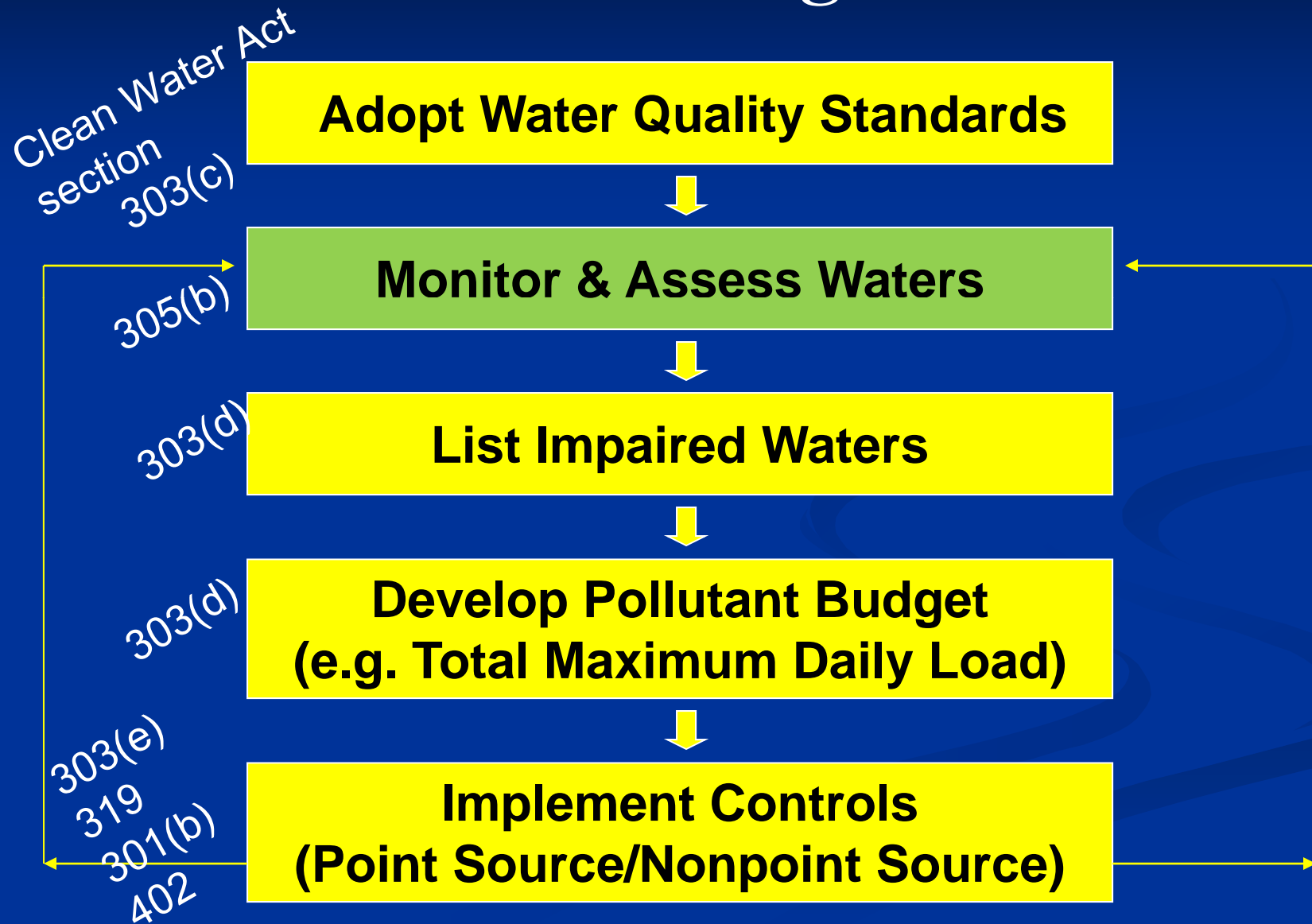


# Water Quality Standards Basics



# Clean Water Act

## Framework for Restoring Polluted Waters





# Monitor Waters and Store Data

- Organization – who collected the data
- Project – why was the data collected
- Monitoring location – where was the data collected
- Activity – when and how was the data collected
- Results – the data itself (e.g. parameter concentrations, toxicity test results)
- STORET / WQX [www.epa.gov/storet](http://www.epa.gov/storet)



# Display Data from STORET / NWIS

USGS National Water Information System (NWIS) Water Quality Web Services - Windows Internet Explorer provided by EPA

U.S. ENVIRONMENTAL PROTECTION AGENCY

## STORET/ WQX

Search:  All EPA

**Location Parameters**

Bounding Box Z  
North:   
West:  East:   
South:

Distance within Z  
miles from:   
Latitude:   
Longitude:   
State:   
County:

**Site Parameters**

Site Type:   
Organization ID:   
Site ID:   
HUC:

**Result Parameters**

Sample Media:   
Characteristic Group:   
Characteristic:   
Activity ID:   
Start Date (mm-dd-yyyy):   
after  and before

**File Format**

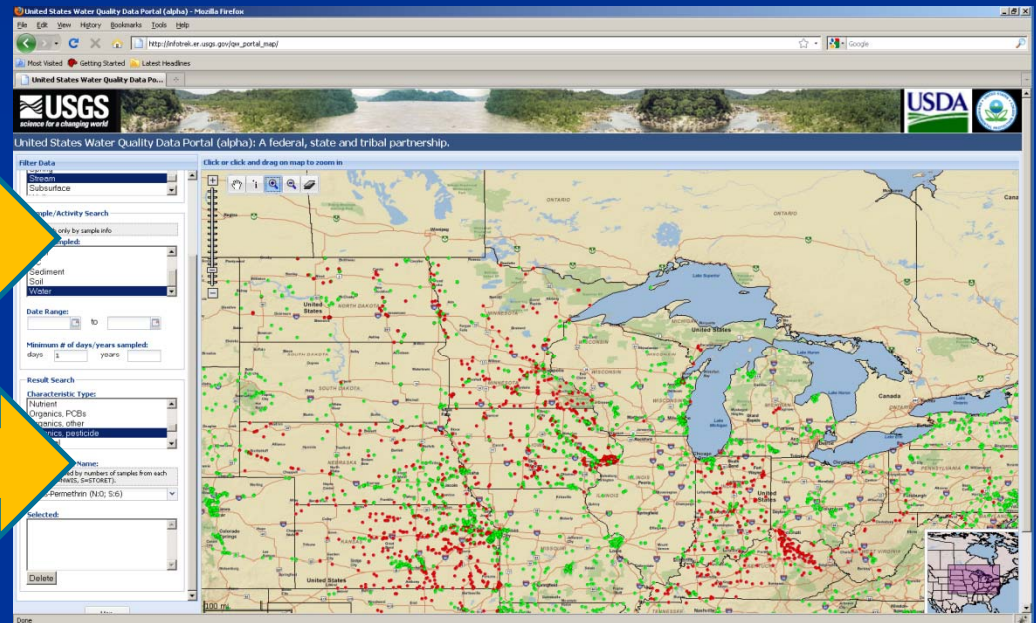
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☐ WQX-XML 2  
☐ Comma-separated  
☐ Tab-separated  
☒ MS Excel  
Excel 2003 and earlier versions have a limit of 65,536 rows. If your download file exceeds this limit, only the first 65,536 rows will open.

map  
☐ Keyhole Markup Language (KML)  
KML output is available for the "Download Sites Only" option.

Compress  
☒ zip

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## NWIS

science for a changing world

### National Water Information System (NWIS) Water-Quality Web Services

**Location Parameters**

Bounding Box Z  
North:   
West:  East:   
South:

Distance within Z  
miles from:   
Latitude:   
Longitude:   
State:   
County:

**Site Parameters**

Site Type:   
Organization ID:   
Site ID:   
HUC:

**Result Parameters**

Sample Media:   
Characteristic Group:   
Characteristic:   
NWIS PCODE:   
Activity ID:   
Start Date (mm-dd-yyyy):   
after  and before

**File Format**

data  
☐ WQX-XML 2  
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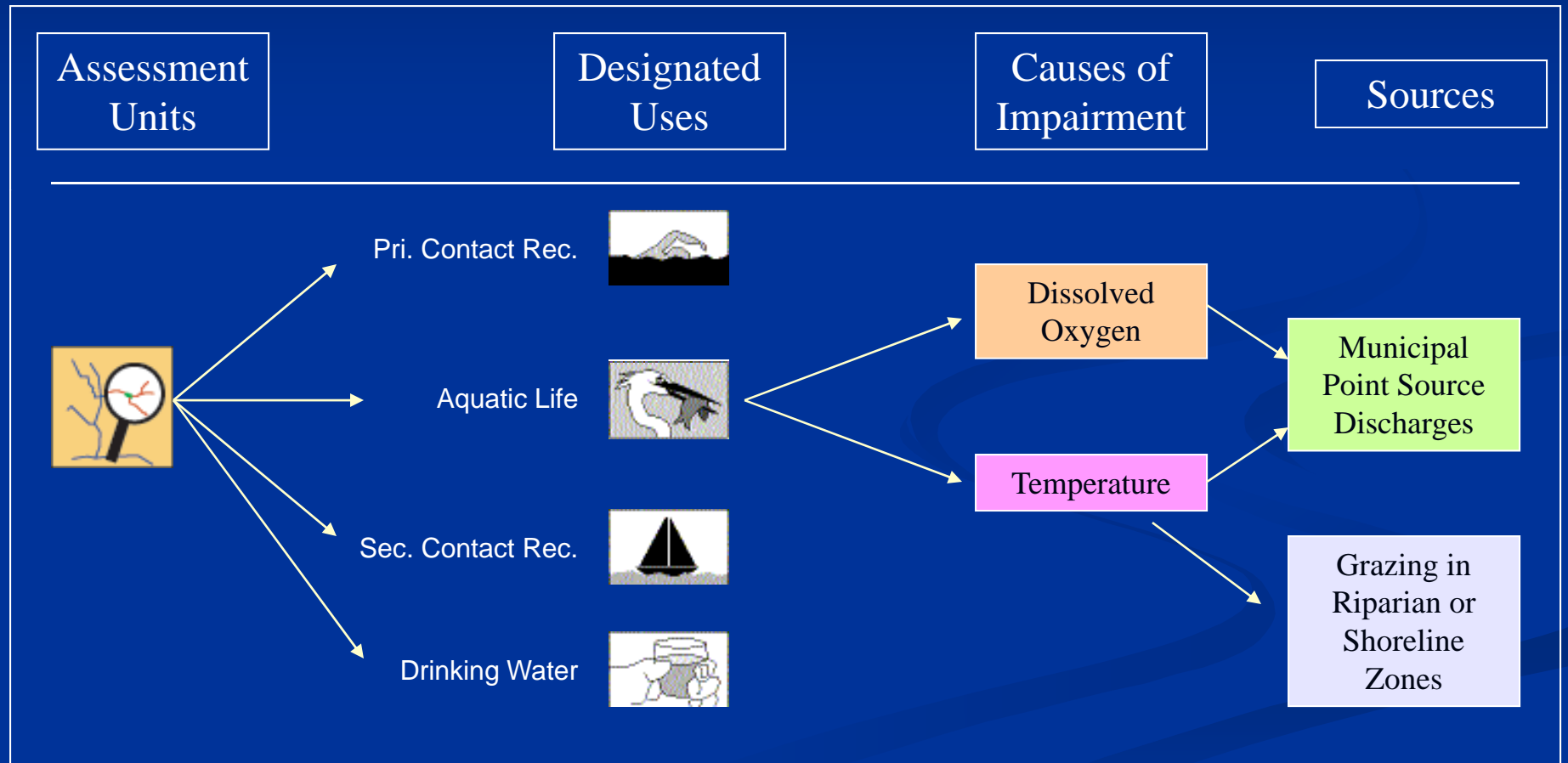
Accessibility FOIA Privacy Policies and Notices

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URL: <http://qwwebervices.usgs.gov/portal.html>  
Page Contact Information: [GS-W-QWWebServicesHelp@usgs.gov](mailto:GS-W-QWWebServicesHelp@usgs.gov)  
Page Last Modified: Fri Apr 9 13:26:10 EDT 2010

# Assessing Waters

- 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

# Assessment Data Elements



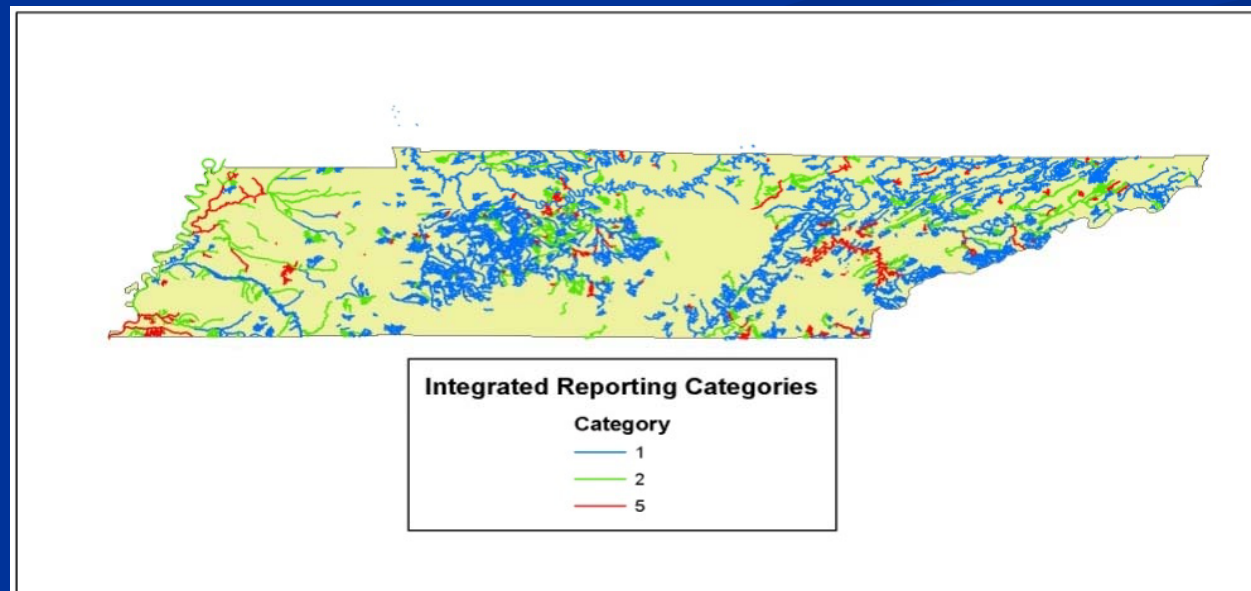
# Water Types

## ■ Water body types

- Rivers and Streams (Miles)
- Lakes, Reservoirs and Ponds (Acres)
- Bays and Estuaries (Square Miles)
- Coastal Shoreline (Miles)

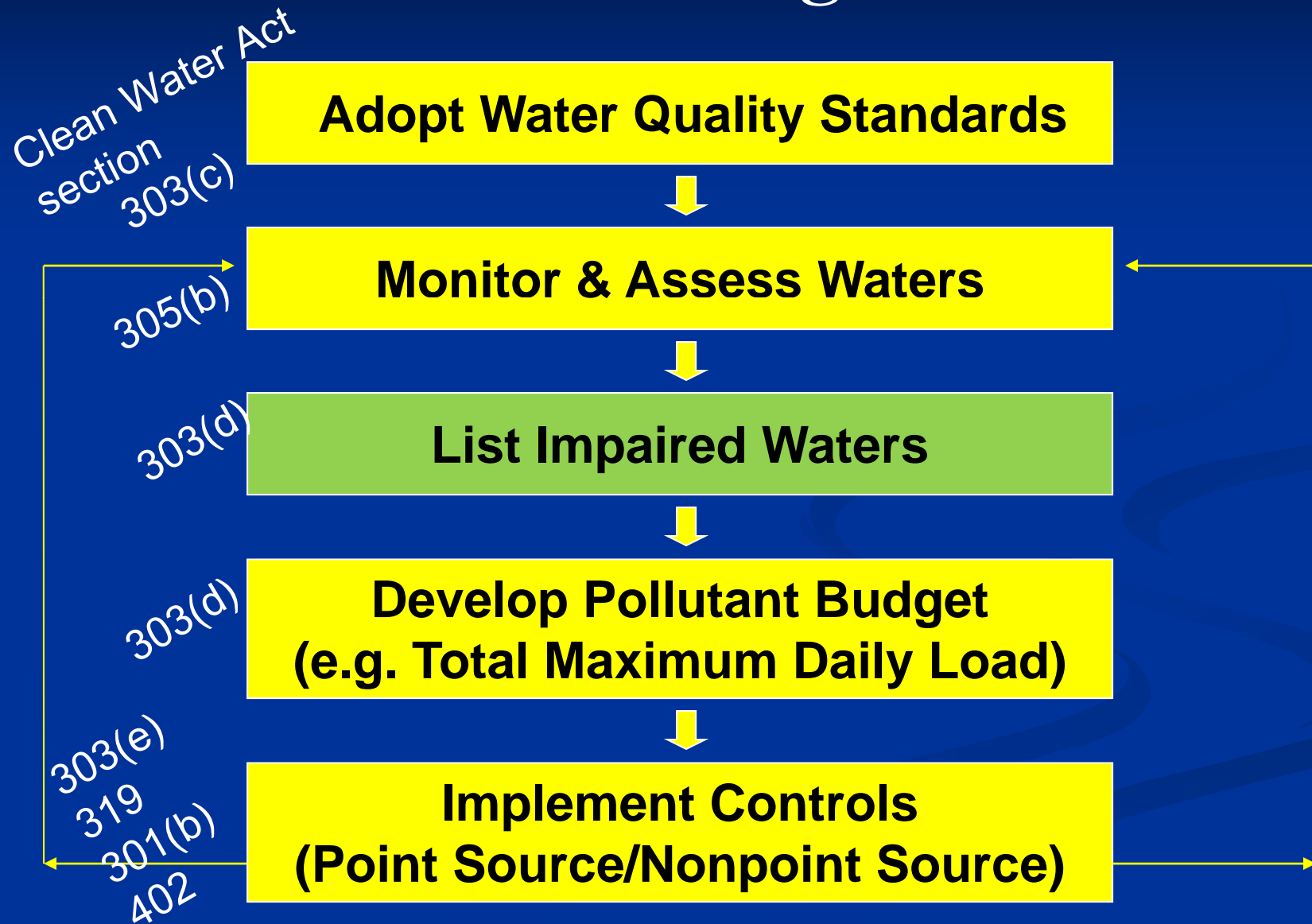
## ■ Water body types

- Ocean and Near Coastal Waters (Square Miles)
- Wetlands (Acres)
- Great Lakes Shoreline (Miles)
- Great Lakes Open Water (Square Miles)



# Clean Water Act

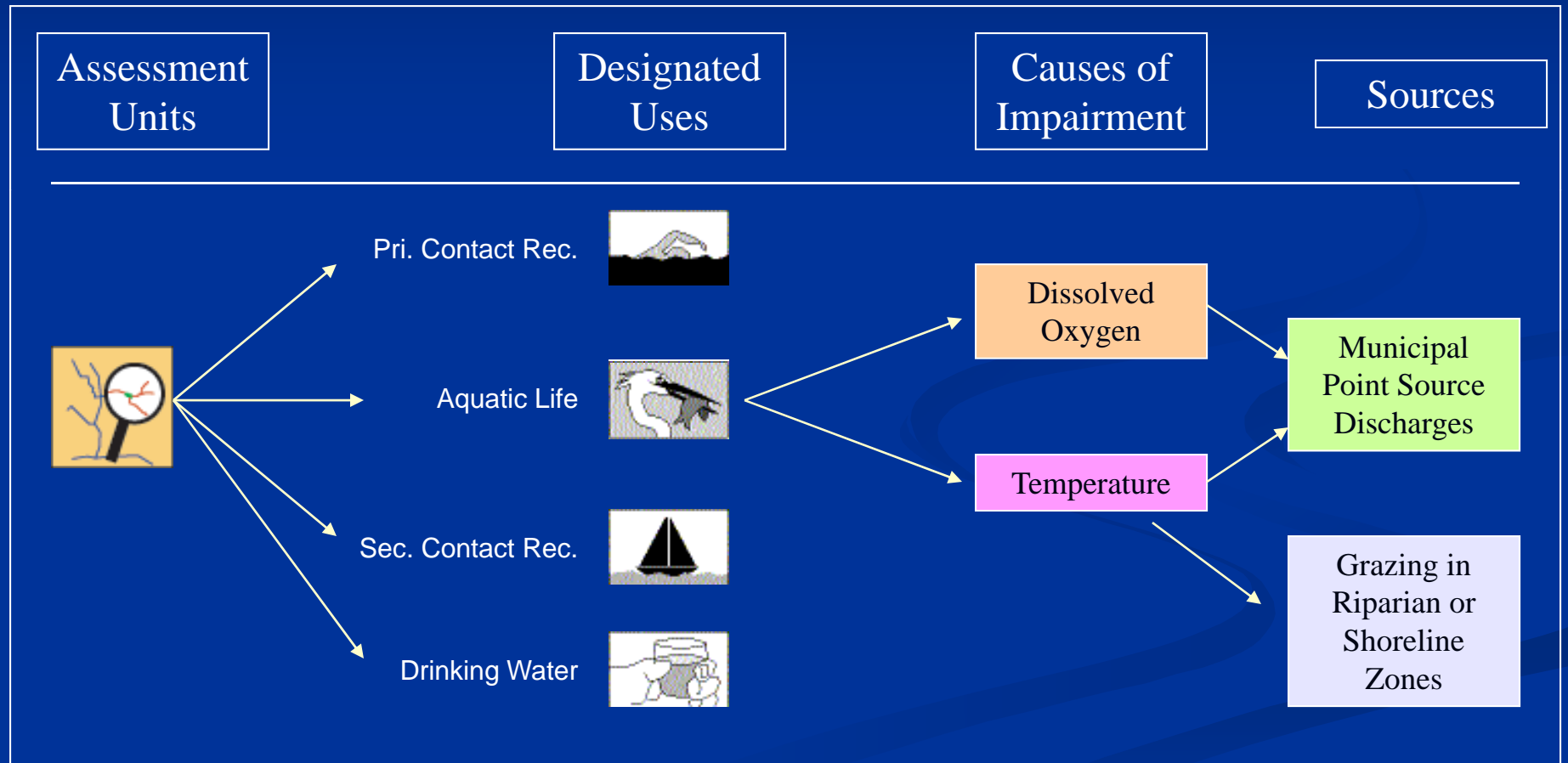
## Framework for Restoring Polluted Waters



# Assessing and Listing Waters

- Section 305(b)
  - List of waters impaired or threatened by a pollutant, and needing a Total Maximum Daily Load (TMDL)
  - Submitted biennially to EPA for approval

# Listing Data Elements

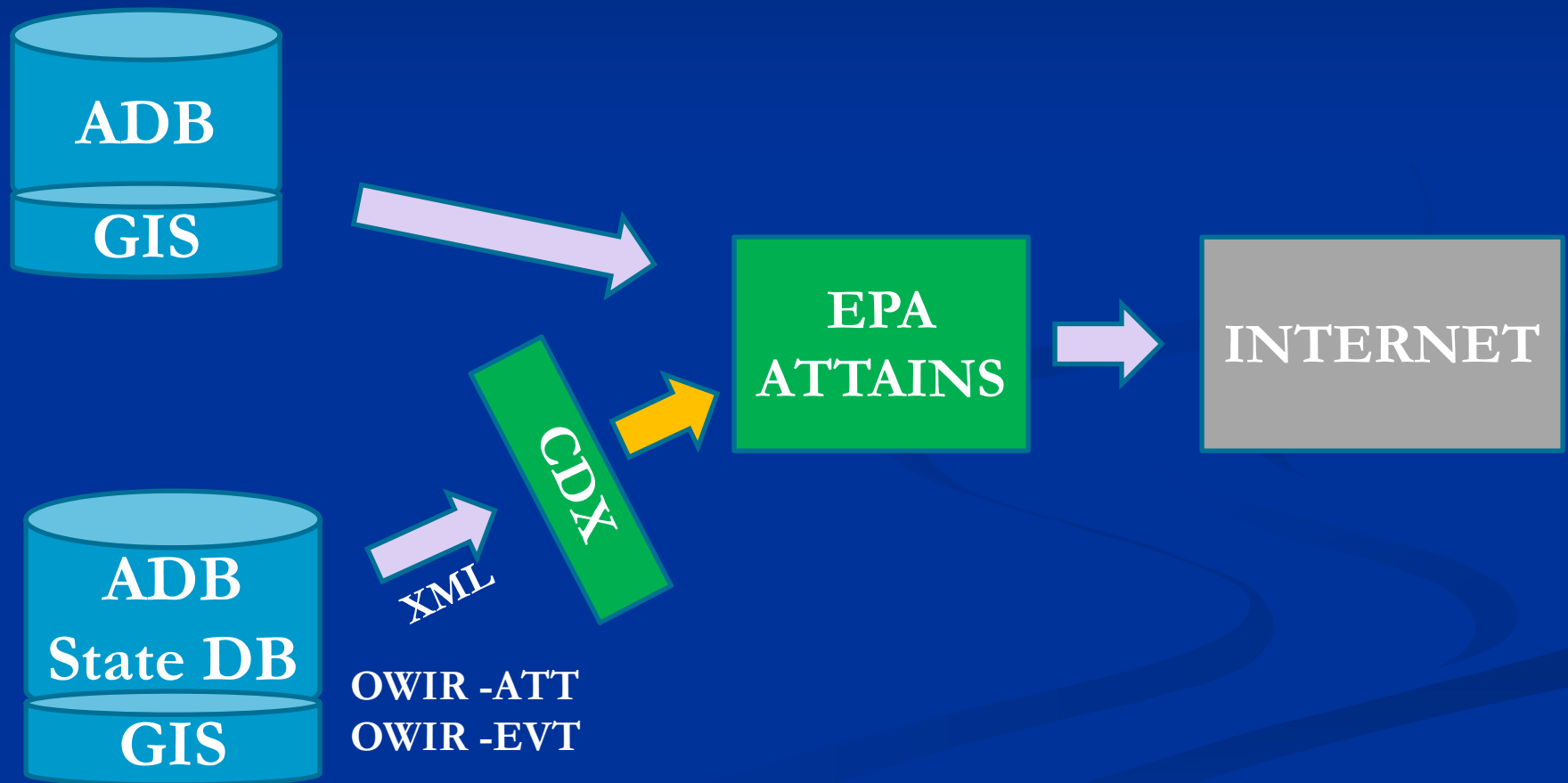




# Integrated Reporting Under the Clean Water Act

- **Integrated Reporting (IR):** Encouraged states to submit integrated reports that combined 305(b) & 303(d) to increase program consistency and data efficiency
- **Assessment Database (ADB):** A free database to help states compile assessment and listing decisions and format for sending to EPA
- **Assessment TMDL Tracking And Implementation NSystem (ATTAINS)**
  - A national database that integrates the data from the 305(b) program and the 303(d) program
  - Information from ADB feeds ATTAINS
  - Display the information on Agency website

# ATTAINS Data Flow



Exchange Network Grant Recipients – MN, IA, UT

# Data Sharing Challenges

- Program and IT integration
- States only use ADB to submit data
- Assessment Unit IDs change with every cycle
- Geospatial data needs to link with the Assessment Units
- Geospatial data is multi-scale resolution
- CDX data flow is not complete





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Reporting

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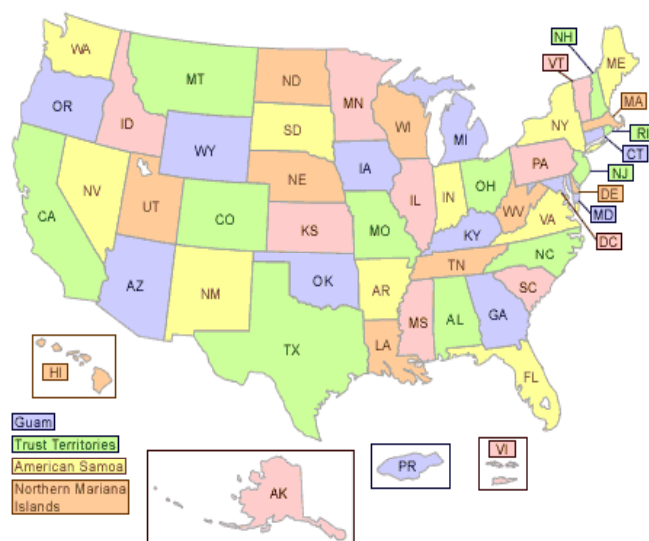
### Water Quality Assessment and Total Maximum Daily Loads Information

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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- [Cumulative TMDLs by Pollutant](#)
- [Cumulative Number of TMDLs](#)

Data are also available for these years: [2002](#) [2004](#) [2006](#)

[303\(d\) Listed Waters for 2008](#)

[Waterbody Changes from Prior Cycle](#)

### For More Information:

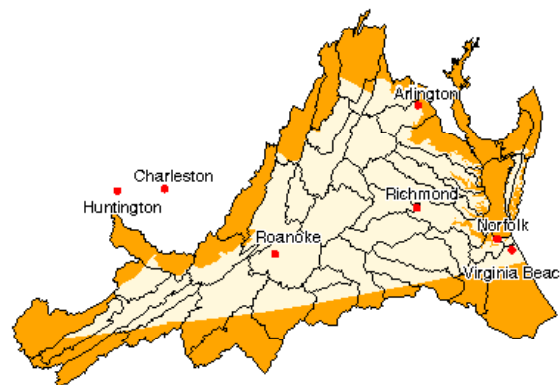
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## Virginia 2008 Water Quality Assessment Report

### Assessed Waters of Virginia by Watershed

Select a watershed from the list:    
or click on the map to choose a watershed:



### Search for a Waterbody within Virginia

Enter Waterbody Name:

☐ Display impaired waters and TMDL information only

### Frequent Questions

- [About This Database \(Integrated Report\)](#)
- [Assessing Water Quality \(Questions and Answers\)](#)
- [Integrated Reporting Guidance](#)
- [Previous National Water Quality Reports](#)
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Virginia Water Quality Assessment Report | WATERS | US EPA - Windows Internet Explorer provided by EPA

http://iaspub.epa.gov/waters10/attains\_index.control?p\_area=VA

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Download GIS Information

### Virginia Assessment Summary for Reporting Year 2008

[Description of this table](#)

	Size of Water		
	<a href="#">Rivers and Streams (Miles)</a>	<a href="#">Lakes, Reservoirs, and Ponds (Acres)</a>	<a href="#">Bays and Estuaries (Square Miles)</a>
<a href="#">Good Waters</a>	5,330.6	18,125.1	123.1
<a href="#">Previously impaired waters now attaining all uses</a>			
<a href="#">Threatened Waters</a>			
<a href="#">TMDL completed</a>			
<a href="#">TMDL alternative</a>			
<a href="#">Non-pollutant impairment</a>			
<a href="#">TMDL needed</a>			
<a href="#">Impaired Waters</a>	10,542.8	94,043.7	2,181.7
<a href="#">TMDL completed</a>	1,608.1		
<a href="#">TMDL alternative</a>			
<a href="#">Non-pollutant impairment</a>	590.6	691.4	
<a href="#">TMDL needed</a>	8,344.2	93,352.3	2,181.7
<a href="#">New TMDLs completed</a>	147.8	.0	8.4
<a href="#">Remaining TMDLs needed</a>	8,196.4	93,352.3	2,173.3
<a href="#">Total Assessed Waters</a>	15,873.4	112,168.8	2,304.8
<a href="#">Total Waters</a>	50,414.9	149,982.0	2,500.0
<a href="#">Percent of Waters Assessed</a>	31.5	74.8	92.2

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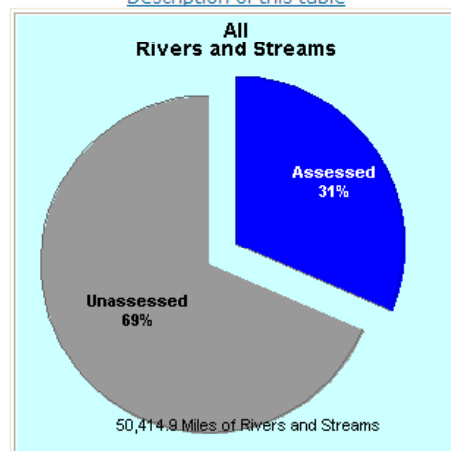
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## Summary of Water Quality Assessments for Each Waterbody Type for Reporting Year 2008

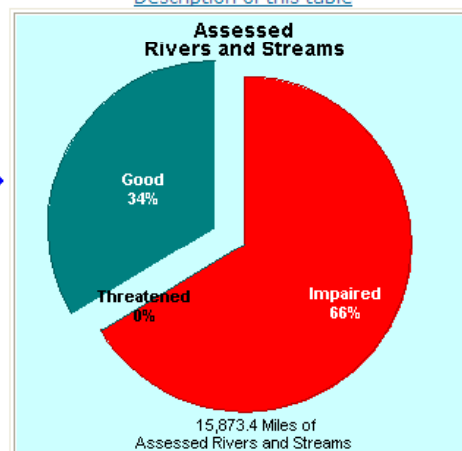
### Virginia Assessed Waters Summary of Water Quality Attainment for Rivers and Streams Reporting Year 2008

[Description of this table](#)



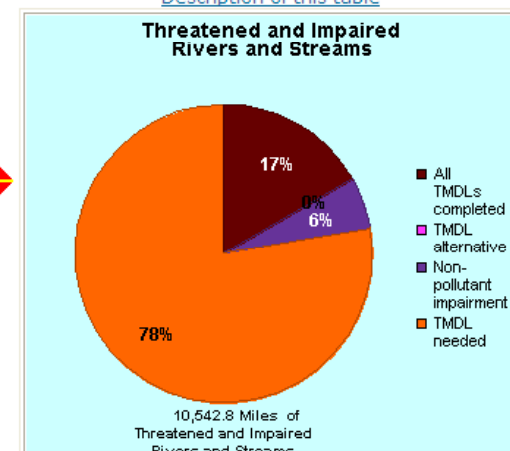
<a href="#">Assessed Status</a>	<a href="#">Miles</a>
Assessed	15,873.4
Unassessed	34,541.5
<b>Total Miles</b>	<b>50,414.9</b>

[Description of this table](#)



<a href="#">Attainment Status</a>	<a href="#">Miles</a>
Good	5,330.6
Threatened	.0
Impaired	10,542.8
<b>Total Miles Assessed</b>	<b>15,873.4</b>

[Description of this table](#)



<a href="#">TMDL Development Status</a>	<a href="#">Miles</a>
<a href="#">All TMDLs completed</a>	1,755.9
<a href="#">TMDL alternative</a>	.0
<a href="#">Non-pollutant impairment</a>	590.6
<a href="#">TMDL needed</a>	8,196.4
<b>Total Threatened and Impaired</b>	<b>10,542.8</b>

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## Virginia Causes of Impairment for Threatened and Impaired Rivers and Streams Reporting Year 2008

[Description of this table](#)

<a href="#">Cause of Impairment</a>	<a href="#">Cause of Impairment Group</a>	<a href="#">Miles Threatened or Impaired</a>
Escherichia Coli (E. Coli)	Pathogens	5,979.2
Fecal Coliform	Pathogens	2,183.4
Benthic Macroinvertebrates Bioassessments	Cause Unknown - Impaired Biota	1,683.1
Dissolved Oxygen	Organic Enrichment/Oxygen Depletion	1,509.5
Mercury in Fish Tissue	Mercury	1,344.4
pH	pH/Acidity/Caustic Conditions	1,289.6
PCB(s) in Fish Tissue	Polychlorinated Biphenyls (PCBs)	1,018.2
Temperature, Water	Temperature	384.4
Chloride	Salinity/Total Dissolved Solids/Chlorides/Sulfates	41.6
DDE	Pesticides	19.4
DDT	Pesticides	19.4
Heptachlor Epoxide	Pesticides	14.2
Lead	Metals (other than Mercury)	12.6
Copper	Metals (other than Mercury)	10.2
Zinc	Metals (other than Mercury)	9.0
Aldrin	Pesticides	6.1
Cadmium	Metals (other than Mercury)	5.4
Polychlorinated Biphenyls (PCBs)	Polychlorinated Biphenyls (PCBs)	2.9
Ammonia, Un-ionized	Ammonia	2.6



EPA - Expert Query Tool - Windows Internet Explorer provided by EPA

US EPA http://www.epa.gov/waters/tmdl/expert\_query.html

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US EPA - Expert Query Tool

Step 1: Start by selecting one view to be the focus of your query.

### 303(d) Listing & TMDL Information

<a href="#">Current 303(d) Listed Impaired Waters</a>	Waters identified as impaired from the current approved 303(d) lists submitted by states.
<a href="#">Current 303(d) Listed Impaired Waters and their Causes of Impairment</a>	Waters identified as impaired as well as their associated causes of impairment from the current approved 303(d) lists submitted by states.
<a href="#">303(d) Listed Impaired Waters and their Causes of Impairment from All Years</a>	Waters identified as impaired as well as their associated causes of impairment from <b>all</b> approved 303(d) lists submitted by the states. Includes all approved biyearly 303(d) lists starting in 1998.
<a href="#">Detailed information from Approved TMDL Documents</a>	Information from Approved and Established TMDL Documents as well as TMDLs that have been Withdrawn. This includes the pollutants identified in the TMDL Document, the 303(d) Listed Water(s) that the TMDL Document addresses and the associated Cause(s) of Impairment.
<a href="#">Information from Approved TMDL Documents</a>	Information from Approved and Established TMDL Documents as well as TMDLs that have been Withdrawn. This includes the pollutants identified in the TMDL Document and the 303(d) Listed Water(s) that the TMDL Document addresses. This view generates TMDL "counts" according to the new algorithm put in place in August 2007.
<a href="#">Detailed Information from All TMDL Documents including Draft TMDLs</a>	Information from Approved, Established, Proposed, Submitted, Withdrawn, and Draft TMDL documents. This includes the pollutants identified in the TMDL Document, the 303(d) Listed Water(s) that the TMDL Document addresses and the associated Cause(s) of Impairment.
<a href="#">Approved TMDL Documents with linked PCS NPDES Permits.</a>	Information from Approved and Established TMDL Documents. This includes detailed information in the TMDL Document including a link from the Waste Load Allocations to the associated PCS NPDES permits and other point sources.

### 305(b) Water Assessments

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Selection of Columns for Expert Query | WATERS | US EPA - Windows Internet Explorer provided by EPA

http://iaspub.epa.gov/waters10/ez\_column.list?table\_name=V\_WO\_CURRENT\_LISTS\_WATER\_BODY

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### Selection of Columns for Expert Query

table\_name:V\_WO\_CURRENT\_LISTS\_WATER\_BODY TABLEOWNER:TMDL

#### Selection of Columns

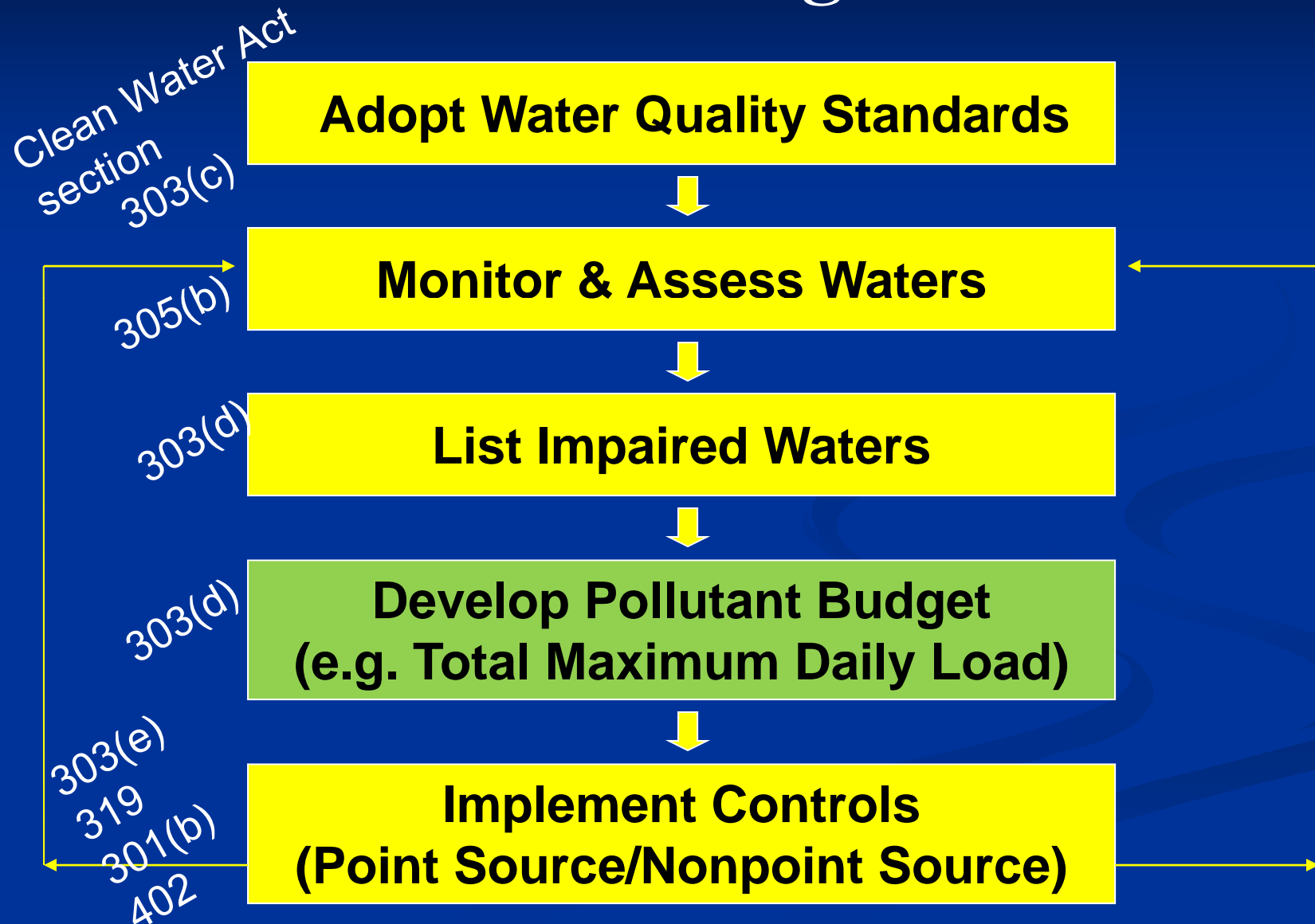
**STEP 2:** Select **one or more** column(s) for your output by clicking on the square box next to the column name. When you are finished selecting columns, click on the "STEP 3: Enter Search Criteria" button at the bottom of this page.

TABLE NAME: V_WO_CURRENT_LISTS_WATER_BODY	
<input type="checkbox"/> *	All data elements in the view or table are selected. <b>If selected, all other data elements selections will be ignored!</b>
<input type="checkbox"/> <a href="#">Count Function</a> for *. <b>DO NOT SELECT THE COLUMN LOCATED DIRECTLY ABOVE IF YOU SELECT THIS COLUMN!</b>	Counts the number of distinct records for the column above: You must select an additional column other than a group function! <a href="#">HELP on STATISTICS!</a> <input type="checkbox"/> COUNT
<input type="checkbox"/> LIST ID	Unique ID assigned to each state listing. The first two characters are the state abbreviation. The middle characters are the water's Waterbody System ID, another state-derived ID, or an arbitrary ID assigned by the state. This field is included for all entries.
<input type="checkbox"/> <a href="#">Count Function</a> for LIST_ID. <b>DO NOT SELECT THE COLUMN LOCATED DIRECTLY ABOVE IF YOU SELECT THIS COLUMN!</b>	Counts the number of distinct records for the column above: You must select an additional column other than a group function! <a href="#">HELP on STATISTICS!</a> <input type="checkbox"/> COUNT
<input type="checkbox"/> STATE LIST ID	List ID assigned by State. This field is included for all entries.
<input type="checkbox"/> 303D MAP	A web link which when clicked will produce a map of the associated 303(d) entity. This field is included for all entries.
<input type="checkbox"/> 303D REPORT	A web link which when clicked will produce a detailed report for the associated 303(d) entity. This field is included for all entries.
<input type="checkbox"/> STATE	The state abbreviation (US Postal) for the state. This field is included for all entries.
<input type="checkbox"/> WATER BODY NAME	The name of the waterbody (e.g., Mississippi River). This field is included for all entries.
<input type="checkbox"/> STATE BASIN NAME	Basin name used by the state. This field is included for all entries.

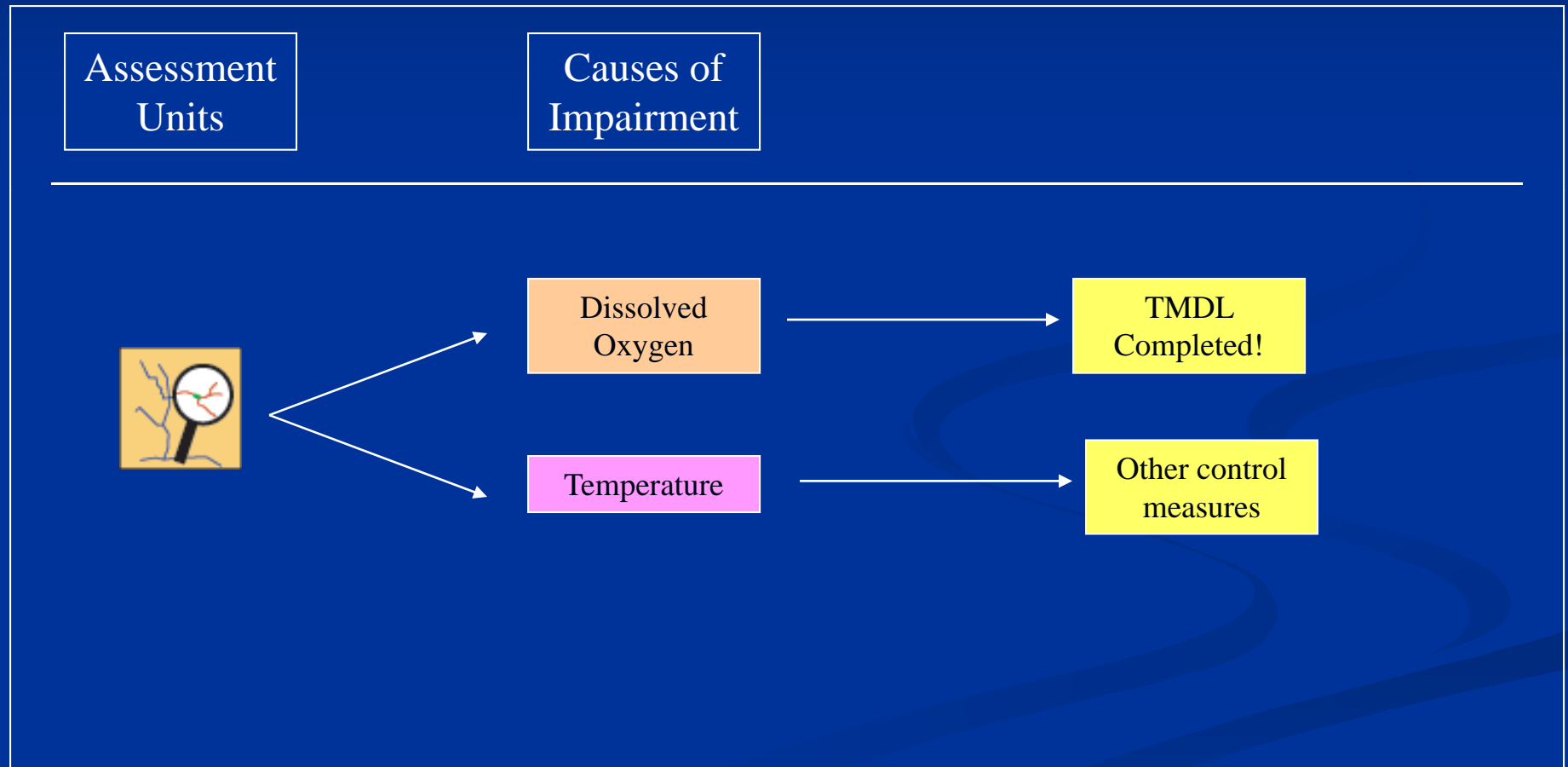
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# Clean Water Act

## Framework for Restoring Polluted Waters



# Waterbody Improvement Data Elements





## Watershed Assessment, Tracking & Environmental Results



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Data are also available for these years: [2002](#) [2004](#) [2006](#)

[303\(d\) Listed Waters for 2008](#)

[Waterbody Changes from Prior Cycle](#)

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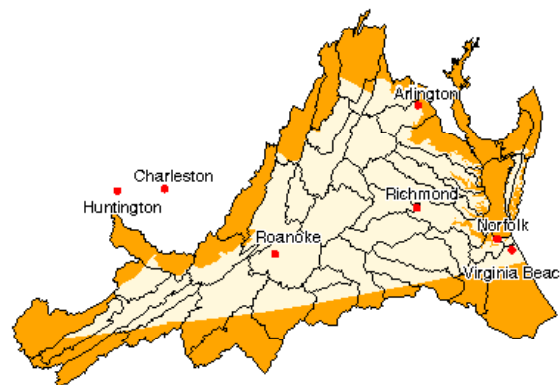
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## Virginia 2008 Water Quality Assessment Report

### Assessed Waters of Virginia by Watershed

Select a watershed from the list:    
or click on the map to choose a watershed:



### Search for a Waterbody within Virginia

Enter Waterbody Name:

☐ Display impaired waters and TMDL information only

### Frequent Questions

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- [Assessing Water Quality \(Questions and Answers\)](#)
- [Integrated Reporting Guidance](#)
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http://iaspub.epa.gov/waters10/attains\_index.control?p\_area=VA#tmdl\_by\_pollutant

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### Virginia 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>
<a href="#">Fecal Coliform</a>	<a href="#">309</a>	311
<a href="#">Ammonia</a>	<a href="#">147</a>	147
<a href="#">Escherichia Coli (E. Coli)</a>	<a href="#">135</a>	135
<a href="#">Pathogens</a>	<a href="#">108</a>	110
<a href="#">Sediment</a>	<a href="#">61</a>	61
<a href="#">Benthic</a>	<a href="#">49</a>	49
<a href="#">Polychlorinated Biphenyls (PCBs)</a>	<a href="#">35</a>	35
<a href="#">Total Kiehl Dahl Nitrogen (TKN)</a>	<a href="#">13</a>	13
<a href="#">Dissolved Oxygen</a>	<a href="#">12</a>	12
<a href="#">Phosphorus</a>	<a href="#">11</a>	11
<a href="#">Carbonaceous Bod</a>	<a href="#">10</a>	10
<a href="#">Enterococcus Bacteria</a>	<a href="#">10</a>	10
<a href="#">Copper</a>	<a href="#">8</a>	8
<a href="#">Tributyltin</a>	<a href="#">8</a>	8
<a href="#">Total Dissolved Solids (TDS)</a>	<a href="#">7</a>	7
<a href="#">Cyanide</a>	<a href="#">6</a>	6
<a href="#">Organic Enrichment</a>	<a href="#">6</a>	6
<a href="#">Zinc</a>	<a href="#">6</a>	6
<a href="#">Fecal</a>	<a href="#">5</a>	5

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## Virginia Cumulative Number of TMDLs

EPA Fiscal Year starts October 1 and ends September 30.

[Description of this table](#)

**NOTE:** Click on the underlined "Number of TMDLs Completed" value for a detailed list of the TMDLs for the fiscal year.

<a href="#">Fiscal Year</a>	<a href="#">Number of TMDLs</a>	<a href="#">Number of Causes of Impairment Addressed</a>
1998	<a href="#">4</a>	4
1999	<a href="#">1</a>	1
2000	<a href="#">3</a>	3
2001	<a href="#">25</a>	25
2002	<a href="#">188</a>	188
2003	<a href="#">104</a>	104
2004	<a href="#">137</a>	137
2005	<a href="#">18</a>	18
2006	<a href="#">213</a>	214
2007	<a href="#">63</a>	65
2008	<a href="#">135</a>	136
2009	<a href="#">86</a>	86
2010	<a href="#">38</a>	38

Total: 1,015 TMDLs; 1,019 Causes of Impairment Addressed

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## Watershed Assessment, Tracking &amp; Environmental Results


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## Virginia TMDLs, EPA Fiscal Year 2010

[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
VA	<a href="#">Big Juniper Creek</a>	Apr-12-2010	EPA Approved	Escherichia Coli (E. Coli)	<a href="#">1</a>
VA	<a href="#">Bridgeman Creek</a>	Nov-16-2009	EPA Approved	Fecal Coliform	<a href="#">1</a>
VA	<a href="#">Briery Branch</a>	Apr-12-2010	EPA Approved	Escherichia Coli (E. Coli)	<a href="#">1</a>
VA	<a href="#">Cod Creek (East)</a>	Nov-16-2009	EPA Approved	Fecal Coliform	<a href="#">1</a>
VA	<a href="#">Cod Creek (West)</a>	Nov-06-2009	EPA Approved	Fecal Coliform	<a href="#">1</a>
VA	<a href="#">Cripple Creek</a>	Jan-12-2010	EPA Approved	Escherichia Coli (E. Coli)	<a href="#">1</a>
VA	<a href="#">Cripple Creek</a>	Jan-12-2010	EPA Approved	Escherichia Coli (E. Coli)	<a href="#">1</a>
VA	<a href="#">Cripple Creek</a>	Jan-12-2010	EPA Approved	Escherichia Coli (E. Coli)	<a href="#">1</a>
VA	<a href="#">Cubitt Creek</a>	Nov-16-2009	EPA Approved	Fecal	<a href="#">1</a>
VA	<a href="#">Cubitt Creek</a>	Nov-16-2009	EPA Approved	Fecal	<a href="#">1</a>
VA	<a href="#">Elk Creek</a>	Jan-12-2010	EPA Approved	Escherichia Coli (E. Coli)	<a href="#">1</a>
VA	<a href="#">Flat Rock Creek</a>	Apr-12-2010	EPA Approved	Escherichia Coli (E. Coli)	<a href="#">1</a>
VA	<a href="#">Flat Rock Creek</a>	Apr-12-2010	EPA Approved	Escherichia Coli (E. Coli)	<a href="#">1</a>
VA	<a href="#">Flat Rock Creek</a>	Apr-12-2010	EPA Approved	Escherichia Coli (E. Coli)	<a href="#">1</a>
VA	<a href="#">Genito Creek</a>	Apr-12-2010	EPA Approved	Escherichia Coli (E. Coli)	<a href="#">1</a>
VA	<a href="#">Great Creek</a>	Apr-12-2010	EPA Approved	Escherichia Coli (E. Coli)	<a href="#">1</a>
VA	<a href="#">Hack Creek</a>	Nov-16-2009	EPA Approved	Fecal Coliform	<a href="#">1</a>
VA	<a href="#">Hull Creek</a>	Nov-16-2009	EPA Approved	Fecal Coliform	<a href="#">1</a>
VA	<a href="#">Kits Creek</a>	Apr-12-2010	EPA Approved	Escherichia Coli (E. Coli)	<a href="#">1</a>



TMDL Report | WATERS | US EPA - Windows Internet Explorer provided by EPA

[http://iaspub.epa.gov/waters10/attains\\_impaired\\_waters.tmdl\\_report?p\\_tmdl\\_id=38423&p\\_tribe=](#)

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TMDL Report | WATERS | US EPA

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### TMDL Document for Big Juniper Creek

**TMDL ID:** 38423

**TMDL Name:** Big Juniper Creek

**State/Tribe:** Virginia

**TMDL Date:** 04/12/2010

**EPA Action:** EPA Approved

**Comments:** SEE REPORT. E-COLI LISTED IMPAIRMENT

No TMDL Documents have been uploaded for this TMDL.

### TMDL Pollutant: Escherichia Coli (E. Coli)

**Total Waste Load Allocation:**

**Total Load Allocation:**

**Explicit Margin Of Safety:**

**Implicit Margin Of Safety:** Not Reported

**Units for Total Waste Load Allocation, Total Load Allocation, and Margin of Safety:**

**TMDL Pollutant Source Type:** Nonpoint Source

**TMDL End Point:** Wqs

#### Listed Water Causes of Impairment for Escherichia Coli (E. Coli)

Click on the underlined Waterbody ID for a Listed Water Information Report. Click on the underlined "Waterbody Map" literal for a map of the Listed Water.

Waterbody ID	Waterbody Name	Map	Cycles Listed	Cause(s) of Impairment Addressed
<a href="#">VAC-K02R_BJC01A98</a>	Big Juniper Creek	Data Unavailable	2006, 2008	Escherichia Coli (E. Coli)

[Top of page](#)

No methods have been reported to EPA for this TMDL.

[Top of page](#)

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Waterbody Quality Assessment Report | WATERS | US EPA - Windows Internet Explorer provided by EPA

http://iaspub.epa.gov/tmdl\_waters10/attains\_waterbody.control?p\_list\_id=VAC-K02R\_BJC01A98&p\_cycle=2008

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**On This Page**

- [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:** [Virginia](#)

**Waterbody ID:** VAC-K02R\_BJC01A98

**Location:** Little Juniper Creek To Mouth.

**State Waterbody Type:** River

**EPA Waterbody Type:** Rivers and Streams

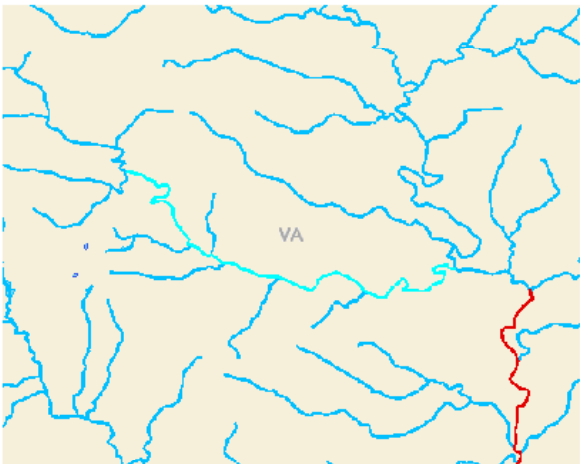
**Water Size:** 6.57

**Units:** miles

**Watershed Name:** [Meheriin](#)

**Data are also available for these years:** [2002](#) [2004](#) [2006](#)

**2008 Waterbody Report for Big Juniper Creek**



Click on the waterbody for an interactive map

**Frequent Questions**

- [About This Database \(Integrated Report\)](#)
- [Assessing Water Quality \(Questions and Answers\)](#)
- [Integrated Reporting Guidance](#)
- [Previous National Water Quality Reports](#)
- [EnviroMapper for Water](#)
- [AskWATERS](#)
- [EPA WATERS Homepage](#)
- [Exchange Network](#)
- [Assessment Database](#)

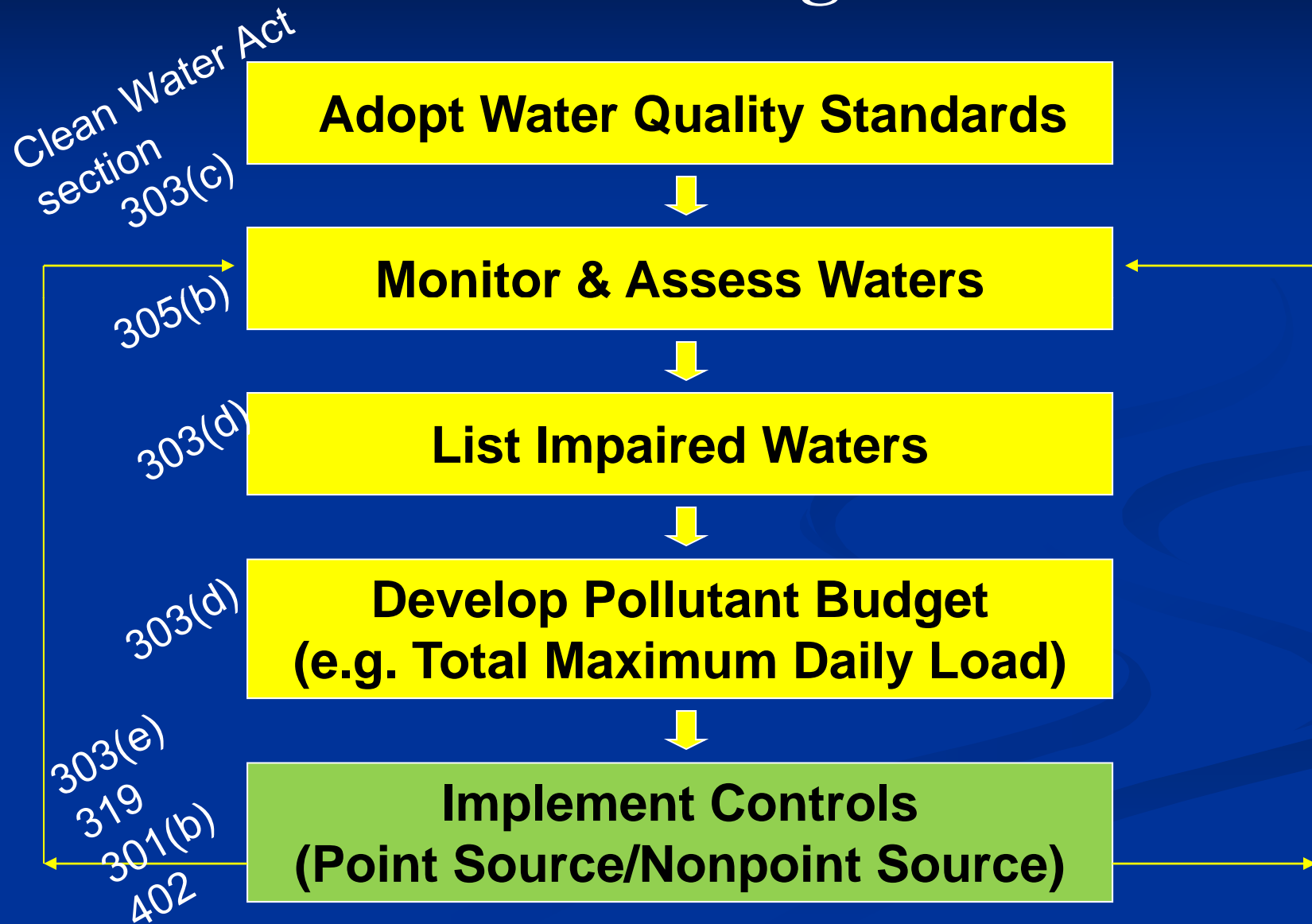
**Water Quality Assessment Status for Reporting Year 2008**


The overall status of this waterbody is Impaired

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# Clean Water Act

## Framework for Restoring Polluted Waters





GRTS Home

Find Projects

Map Viewer

Reporting Requirements

Login

## Grants Reporting and Tracking System - GRTS

[EPA Home](#) > [Guest Home](#)

### GRTS Home


The Grants Reporting and Tracking System (GRTS) is the primary tool for management and oversight of the EPA's [Nonpoint Source \(NPS\) Pollution Control Program](#).


GRTS pulls grant information from EPA's centralized grants and financial databases and allows grant recipients to enter detailed information on the individual projects or activities funded under each grant.

Under [Clean Water Act Section 319\(h\)](#), EPA awards grants for implementation of state NPS management programs. State grant recipients are required to report annually in GRTS their progress in meeting milestones, including reductions of NPS pollutant loadings and on improvements to water quality achieved by implementing NPS pollution control practices.

GRTS enables EPA and States to demonstrate the accomplishments achieved with the use of 319h grant funds. The data entered into GRTS is used by the Agency to respond to inquiries received from Congressional committees, the White House, and various constituent groups.

GRTS is managed by Santina Wortman of EPA's Assessment and Monitoring Division. Questions about GRTS can be sent to Santina at: [wortman.santina@epa.gov](mailto:wortman.santina@epa.gov)





Find Projects

Guest Home

Find Projects

Map Viewer

Reporting Requirements

Login

## Grants Reporting and Tracking System - GRTS

[EPA Home](#) > [Guest Home](#) > [Find Projects](#)

### Browse Section 319 Nonpoint Source Projects in GRTS

Use the dropdown menus below to select the parameters of interest and click the 'GO' button. Click the View link to access a summary report of a particular project.

Fiscal Year:

EPA Region:

State:

Project Title:

TMDL:

Has Pollutant Data:

Project Status:


Type of Project:

Category of Pollution:

row(s) 1 - 50 of 899

State	Fiscal Year	Proj#	Title	
AK	2007	34	Project: Cottonwood Creek Temperature & Fecal Coliform Bacteria Evaluation	<a href="#">[View]</a>
AK	2007	35	Project: Water Quality Evaluation of the Lower Little Susitna River	<a href="#">[View]</a>
AK	2007	36	Project: Hydrocarbon Monitoring of the Kenai River Watershed	<a href="#">[View]</a>
AK	2007	37	Project: Action Steps Toward Greater Protection of Lower Kenai Peninsula Streams	<a href="#">[View]</a>
AK	2007	38	Project: Fecal Coliform and Water Quality Assessment of Lower Nushagak River	<a href="#">[View]</a>
AK	2007	39	Project: Gulkana River Water Quality & Habitat Assessment and Eyak Lake Stormwater Actions	<a href="#">[View]</a>
AK	2007	40	Project: Jordan Creek Monitoring & Watershed Recovery Strategy	<a href="#">[View]</a>
AK	2007	41	Project: Vanderbilt Creek Monitoring and Sediment Reduction Plan	<a href="#">[View]</a>
AK	2007	42	Project: Stormwater Mapping Partnership for the City of Kenai	<a href="#">[View]</a>
AK	2007	43	Project: Granite Creek Recovery & TMDL Implementation	<a href="#">[View]</a>
AK	2007	45	Project: Little Rabbit Creek & Little Survival Creek Assessment	<a href="#">[View]</a>
AK	2007	53	Project: Phase II Fall 2007-May 2008 Mat-Su Forest Resources and Practices Act Effectiveness Monitoring in the Little Rabbit Creek Area	<a href="#">[View]</a>

2D 3D Road Aerial Bird's eye Labels

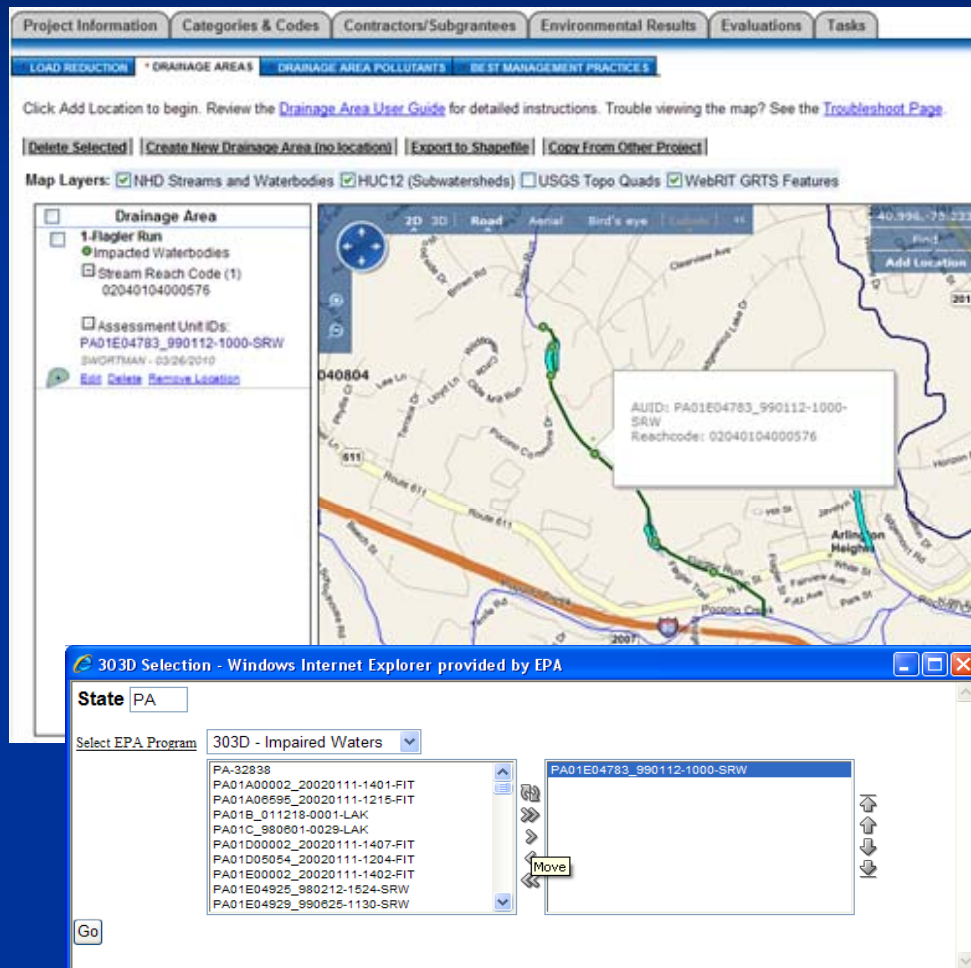


Any watershed with NPS projects will contain a red marker—hover over this marker to get additional help, please refer to our [instructions](#) page. You can also narrow your search

Local intranet


100%

# Grant Reporting and Tracking System (GRTS)



- EPA's primary tool for tracking information related to Nonpoint Source Grants. State grantees use GRTS to submit information to EPA related to their nonpoint source projects, such as the location of the project and environmental results achieved. A simple Microsoft Bing map interface is incorporated within the GRTS application to facilitate mapping of projects. Indexing services have been built in to the user mapping workflow, such that the user-defined locations are dynamically indexed to the NHD.
- Services used: Point (Raindrop) & Event Indexing, NHD\_WMERC, 303d\_WMERC, 305b\_WMERC





Statutes and Regulations

Water Quality and Technology-Based Permitting

Applications

Tools for Permit Writers

State Program Information

Permitted Universe and Backlog Reduction

NPDES Permit Program Basics Home

## National Pollutant Discharge Elimination System (NPDES)

[Recent Additions](#) | [Contact Us](#) | [Print Version](#) Search NPDES:

[EPA Home](#) > [OWW Home](#) > [OWW Home](#) > [NPDES Home](#) > [General Permitting Issues](#) > General Permits

NPDES Topics    Alphabetical Index    Glossary    About NPDES

### View NPDES Individual and General Permits

EPA is gathering PDF copies of NPDES [individual](#) and [general](#) permits and fact sheets for major facilities issued after November 1, 2002. Because this is an ongoing effort, the search engine below does not include all individual and general permits. If you are unable to find a permit, contact [your permitting authority](#) for assistance.

- An *individual permit* is a permit specifically tailored to an individual facility. Once a facility submits the appropriate application(s), the permitting authority develops a permit for that particular facility based on the information contained in the permit application (e.g., type of activity, nature of discharge, receiving water quality). **Note:** For individual permits, WW
- A *general permit* is an NPDES permit that covers several facilities. A general permit applies the same or similar conditions to facilities reduces paperwork for permitting authorities and


States may apply to EPA for authorization to issue general permits under the permit submits a Notice of Intent (NOI) to the permit application and receive an individual NPDES permit if it determines that the general permit is appropriate.

**New!** Using the first search feature below, you can [identify](#) a permit by date expired, or permit category.

Using the second search feature below, you can [identify](#) a permit by


To view by state or permit category, select from the drop-down menu. You can also enter partial permit numbers by entering a few characters. Or, you can enter permit titles by entering one or more words. For example, to view permits for "water treatment", enter "water treatment".

[Search for Individual Permits](#)



NPDES Permit Program Basics Information

[Recent Additions](#)



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Customized Query

Model

Law

Data Source

Office of Ground Water and Drinking Water

Contact Us


EF Home

## Water Discharge Permits (PCS)

[Recent Additions](#) | [Contact Us](#) Search:

You are here: [EPA Home](#) > [Envirofacts](#) > [PCS](#) > Water Discharge Permits Query Form

### Query Form

 Search the PCS Database

The Water Discharge Permits Query Form allows you to retrieve selected data from the Permit Compliance System (PCS) database in Envirofacts regarding facilities holding National Pollutant Discharge Elimination System (NPDES) permits. Specify the facilities by using any combination of facility name, geographic location, standard industrial classification, and chemicals. You may also select an output option.

**Pending migration to a new system, the data for the Permit Compliance System (PCS) will remain frozen in Envirofacts for the following states and territories as of the below listed dates:**

Frozen as of June 6th, 2006: MA,NH,RI,VI,PR,DC,MD,IN,NM,UT,HI,AK,ID

Frozen as of August, 2006: AS,AT,CT,CZ,FM,GA,GB,GU,JA,MH,MP,MT,MW,NE,NI,NN,NV,NY,PA,PW,SD,SR,TT,UM

Frozen as of April 24th, 2008: IL

Frozen as of August 26th, 2008: AR,CA,CO,OK,TN,WI

Frozen as of June 17th, 2009: TX, LA, GM, AL

Please refer to the [ECHO Clean Water Act Query Screen](#) to retrieve updated data for the states frozen in Envirofacts.

[User's Guide](#)

### Facility Selection

Facility Identification:  Facility Name (Enter a partial or complete Facility Name)

Facility Identification Option Value:

☒ Beginning With ☐ Exact Match ☐ Containing

### Geography Search

Enter a partial value for any geography option except for the state value. We strongly recommend that you enter a small geographical area to begin the search since

# Clean Water Act

## Framework for Restoring Polluted Waters



# Discharge Monitoring Report (DMR) Pollutant Loading Tool

Top Pollutants by Pound (2007)	
Pollutant Name	Total Pounds
Chemical oxygen demand (COD)	615,398
Solids, total suspended	212,360
BOD, 5-day, 20 deg. C	118,759
Nitrogen	41,305
Ammonia	22,851
Phosphorus	19,116
Inorganic Nitrogen (nitrate and nitrite) (as N)	8,265
Oil and grease per production	5,713
Chlorine	741
Methylene chloride	78.5

 [Download All Data](#)

Top Pollutants by Toxic-Weighted Pounds (2007)	
Pollutant Name	Total TWPE
Chlorine	371
Ammonia	25.3
Methylene chloride	0.079
Toluene	0.0205

 [Download All Data](#)



## Receiving Water Information

**Waterbody Name:** Susquehanna River  
**12-Digit HUC:** 020501071006  
**Listed for Impairment?** Yes  
**REACH Code:** 02050107000006

## CWNS Information

N/A

## NPDES Program Information

[View State Program Information](#)  
[View EPA Regional Program Information](#)

- This new tool, now in beta testing, will allow for faster and easier access to discharge monitoring and permit data and allowing for multiple uses of this data (e.g., watershed modeling). This new tool will enhance permit and DMR data quality. This tool will also provide EPA and States with better enforcement targeting
- Services used: Watershed Look-up by Zip Code; and (2) Retrieval of Receiving Water Name, HUC12/Reach Codes, and Impairment Status.

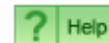


# ATTAINS Supporting Enforcement and Compliance in ECHO

## Search Results- (Water Program)

82 Records Returned

Entries in gray text denote records that are not federally required to be reported to EPA. These data may not be complete.



[Return to Query](#)

[Add/Remove Columns](#)

Facility Information (select buttons next to the name to view additional reports - <a href="#">Legend</a> )	Program ID#	Days Since Last Inspection	Qtrs in Non Compliance (3 yrs)	# Effluent Exceedances (3 yrs)	Current Quarter Status (SNC/Cat I)	Informal Enforcement Actions/NOVs (5 yrs)	Formal Enforcement Actions (5 yrs)	Penalties (5 yrs)	TRI Releases to Water (lbs)	Percent Minority (3 mile radius)	Population Density (pop/mi <sup>2</sup> ) (3 mile radius)
<a href="#">ATOFINA CHEMICALS, INC.</a> 2231 HADEN ROAD HOUSTON, TX 77015	TX0007064	210	8	73	D	2			0	66	1990
<a href="#">BRAWLEY WWTTP</a> 1550 BEST ROAD BRAWLEY, CA 92227	CA0104523	318	12	140	D	1	3			87	490
<a href="#">CAMARILLO WWRP</a> 150 E Howard Rd CAMARILLO, CA 93012	CA0053597	233	12	58	E		1			22	1068
<a href="#">CECOS INTERNATIONAL-CALCASIEU</a>											

## Water Quality Information (Ask Waters) Data Feed Used by OECA





Water Quality Data Related to NPDES Facility (DU = Designated Use)											
Population Density (pop/mi <sup>2</sup> ) (3 mile radius)	Total # of "Yes" Responses Shown (0-9)	Aquatic Life and Wildlife National DU? (1)	Exceptional and Outstanding Significance National DU? (2)	Recreation National DU? (3)	Shellfish National DU? (4)	Is one of the State DUs not fully supported? (5)	On a beach with recent advisory or closing? (6)	Discharging into impaired water on 303(d) list? (7)	Potential contributor to cause of impairment? (8)	Has outfall w/in 1.5 mi upstream of drinking water? (9)	Clean Watershed Needs Survey (total federal needs)
	▼▲	▼▲	▼▲	▼▲	▼▲	▼▲	▼▲	▼▲	▼▲	▼▲	▼▲
	5	Yes (NAD)	No	No	No	Yes	No	Yes	Yes	Yes (8.03 miles)	No

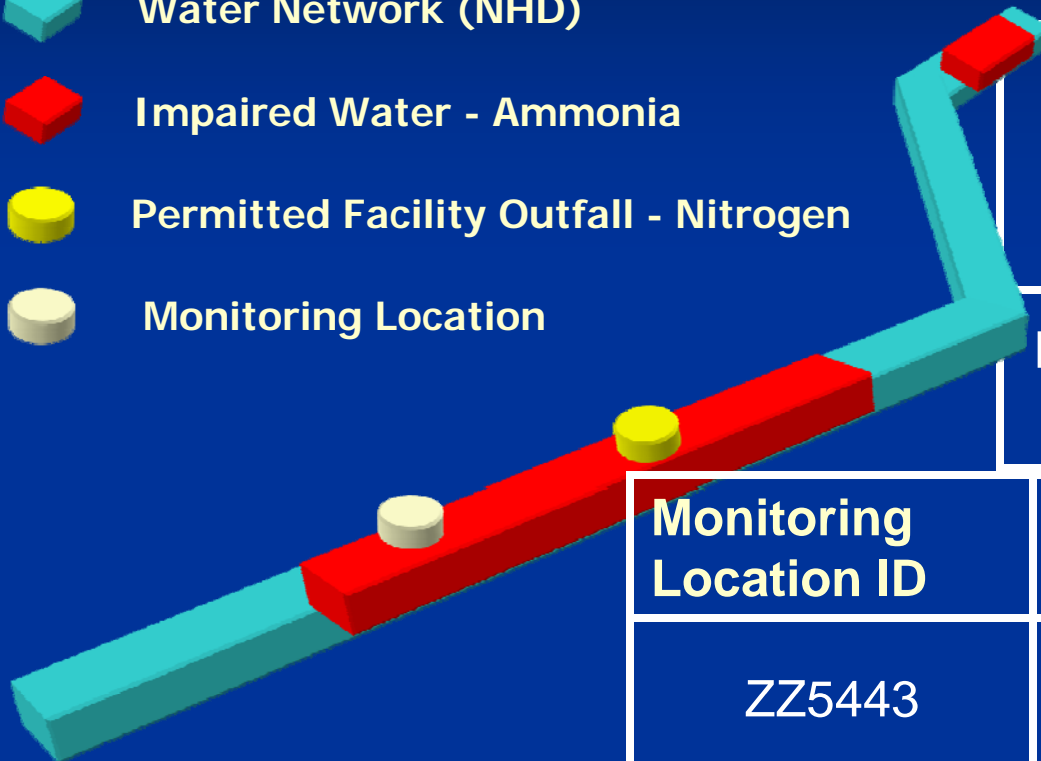
# Clean Water Act

## Framework for Restoring Polluted Waters



# GIS Linking Water Program Data

-  Water Network (NHD)
-  Impaired Water - Ammonia
-  Permitted Facility Outfall - Nitrogen
-  Monitoring Location

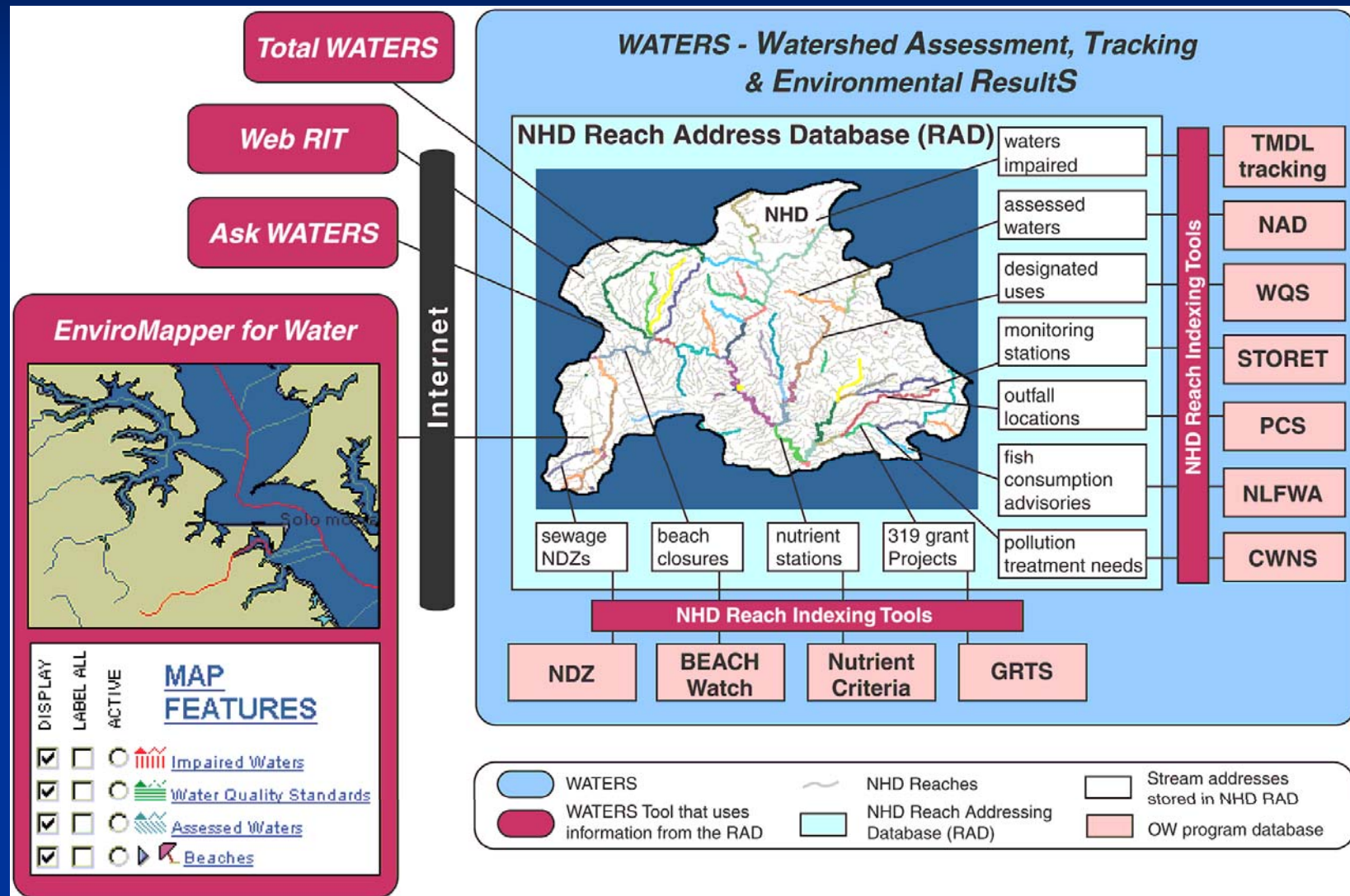


LIST ID	Impairment	Master Impairment
BPJC 06	Ammonia	Nutrients

Monitoring Location ID	Parameter	Value
ZZ5443	Nitrogen, Ammonia Total (as N)	12 mg/l

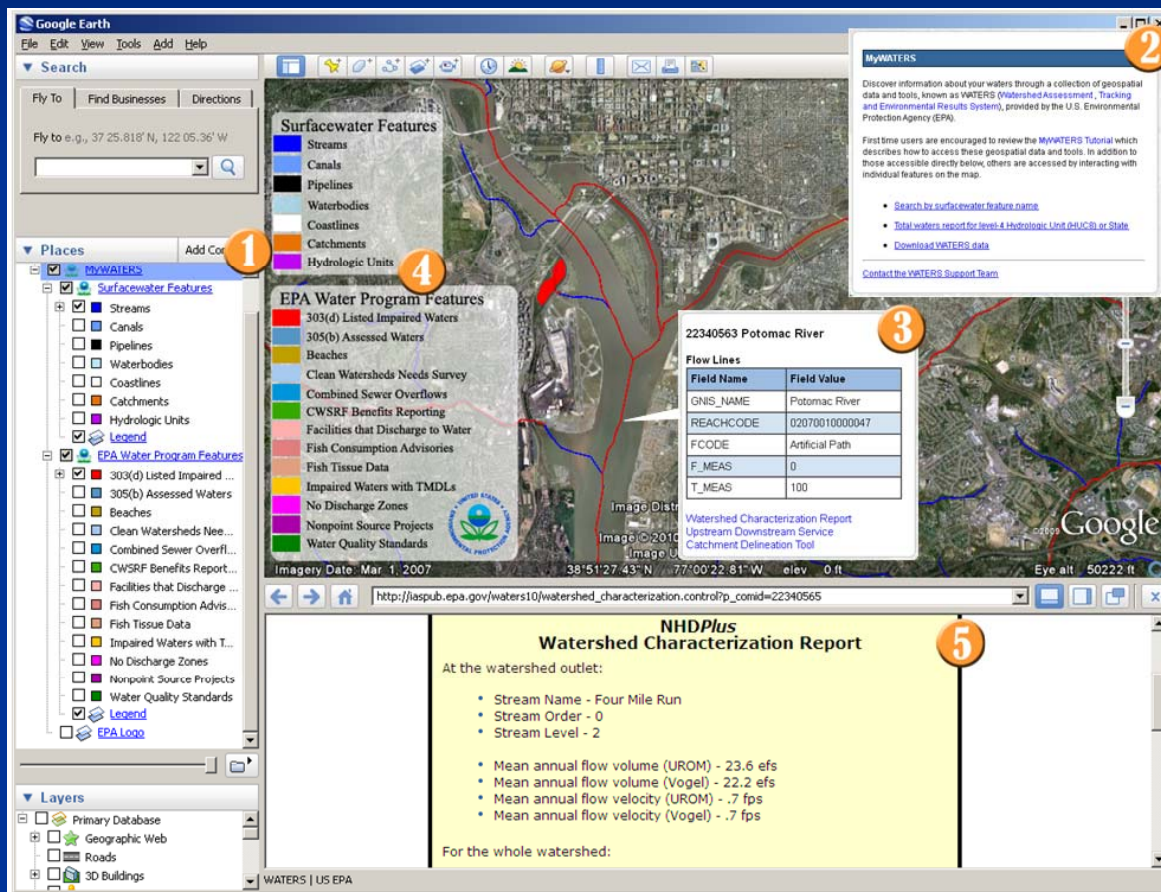
NPDES ID	Parameter	SIC Code Description
03150	Nitrogen, Ammonia Total (as N)	Carpets and Rugs

# ATTAINS Supporting WATERS





# New user interface for demonstrating services

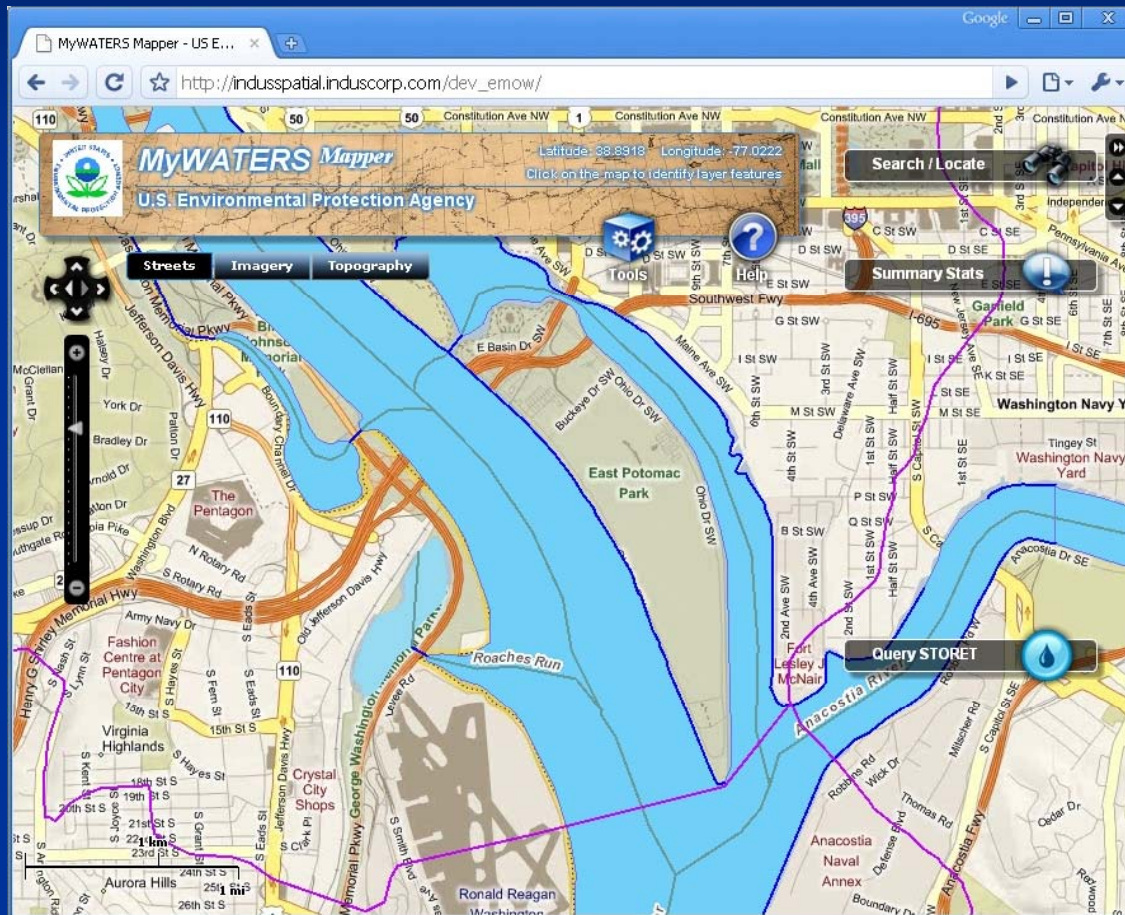


Additional Information:

<http://www.epa.gov/waters/tools/WATERSKMZ/WATERSKMZ.html>

- Google Earth-based.
- Provides access to framework geospatial datasets stored in the WATERS database and to general purpose interactive service panels.
- Dialog boxes provide access to tools, services, and information, such as NHD feature name query, Total Waters, Up/Downstream Navigation, watershed reports, ATTAINS reports, etc.
- Provides access to indexed water program features, with hyperlinks to additional attributes and context sensitive analysis services, such as Up/Downstream Navigation and watershed reports.

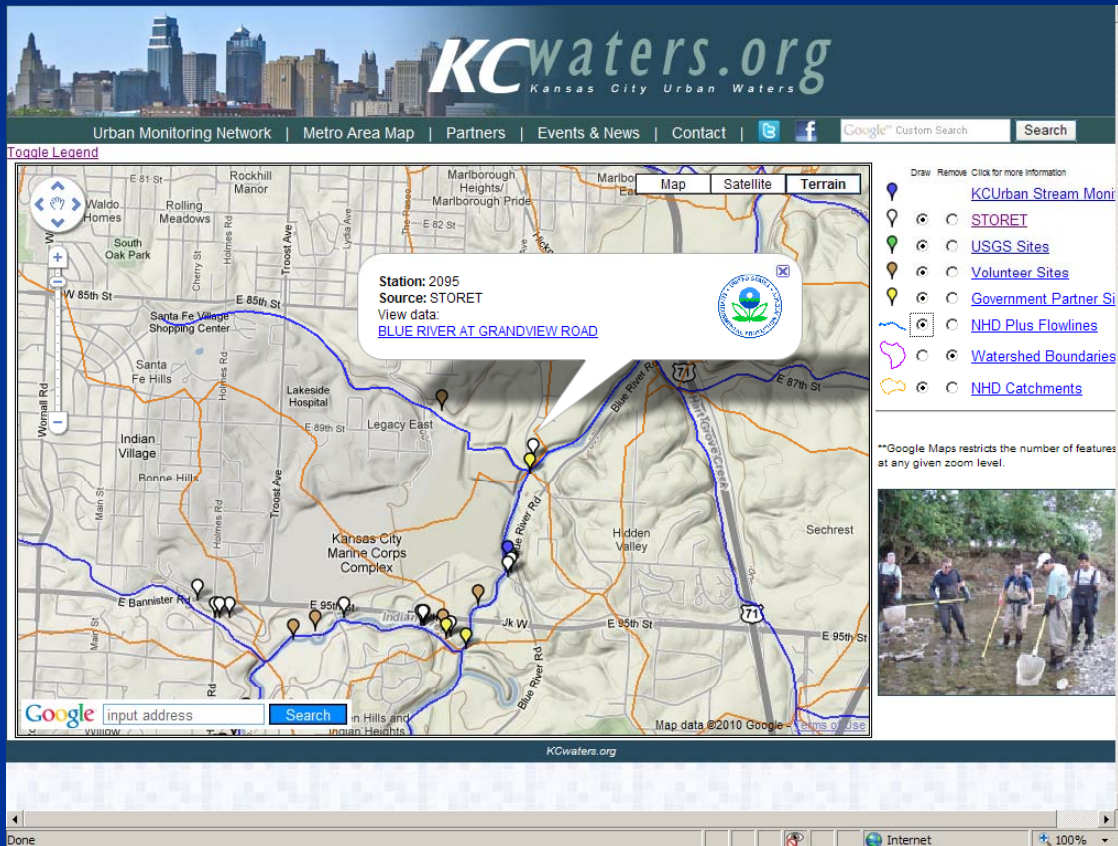
# MyWATERS Mapper



- A web-based Geographic Information System (GIS) application that dynamically displays water quality and other environmental information about bodies of water in the United States. This interactive tool allows you to create customized maps that portray the nation's surface waters along with a collection of water quality related data from the national level down to community level.
- Services used: Too many to list!



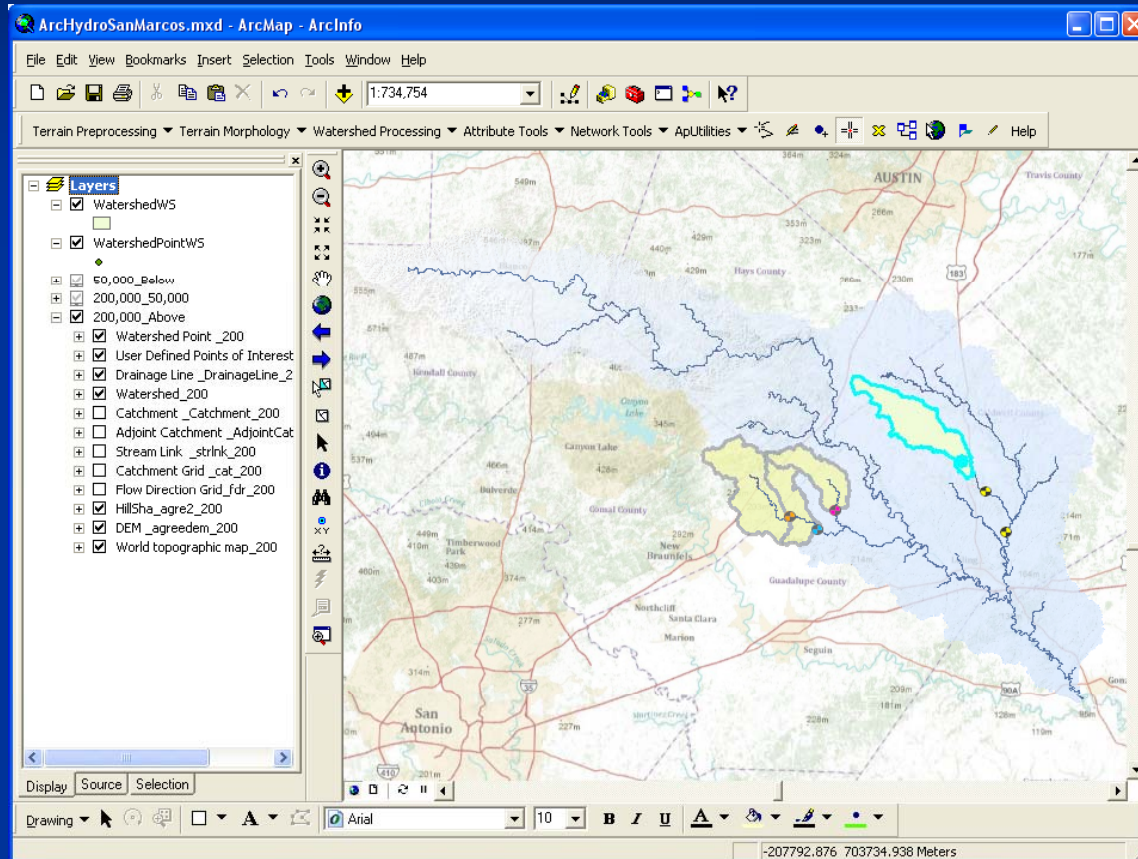
# KCWaters.org



- A Kansas City stream data sharing site hosted by the University of Missouri – Kansas City (UMKC) Geosciences Department. By bringing together all available monitoring data generated by multiple partners in the Kansas City metro area, we hope to create an accessibility and transparency that all partners in the metropolitan area can rely on to understand stream quality both in watersheds, and particular stream segments.

- Services used: NHD\_WMERC, NHDPLUSCATCHMENTS\_WMERC, WBD\_WMERC

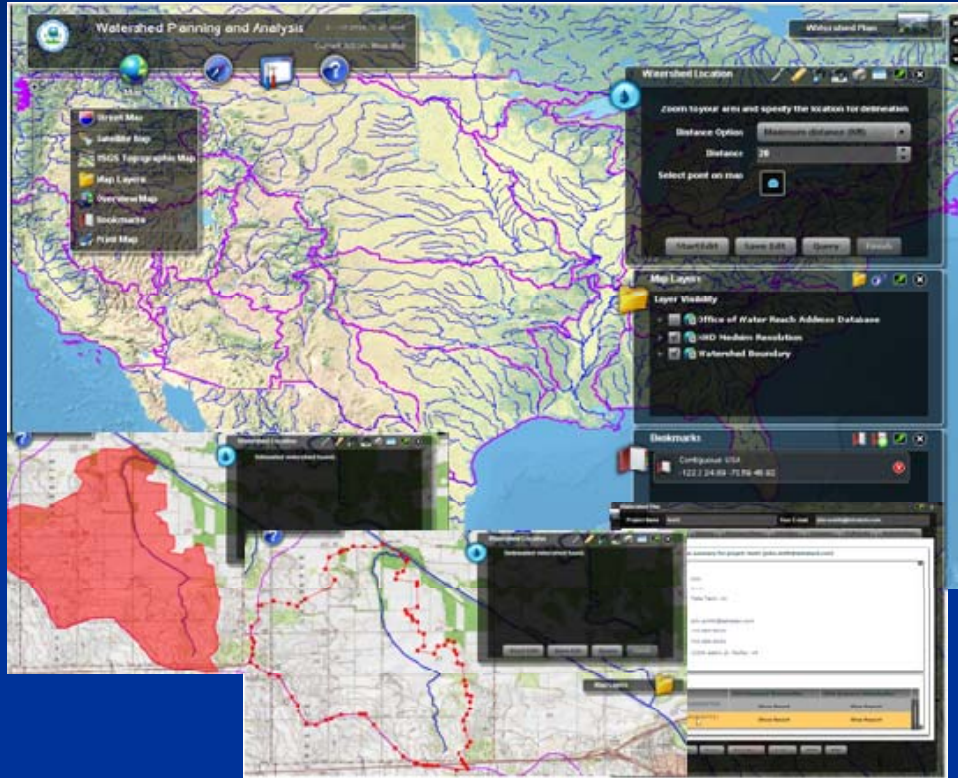
# ArcHydro Tools



- A set of public domain utilities developed jointly by the Center for Research in Water Resources (<http://www.crrw.utexas.edu>) of the University of Texas at Austin, and the Environmental Systems Research Institute, Inc. These tools provide functionalities for terrain processing, watershed delineation and attribute management. They operate on top of the Arc Hydro data model in the ArcGIS 8.3, 9.0, 9.1, 9.2 and 9.3 environments.
- Services used: Point Indexing, Navigation Delineation

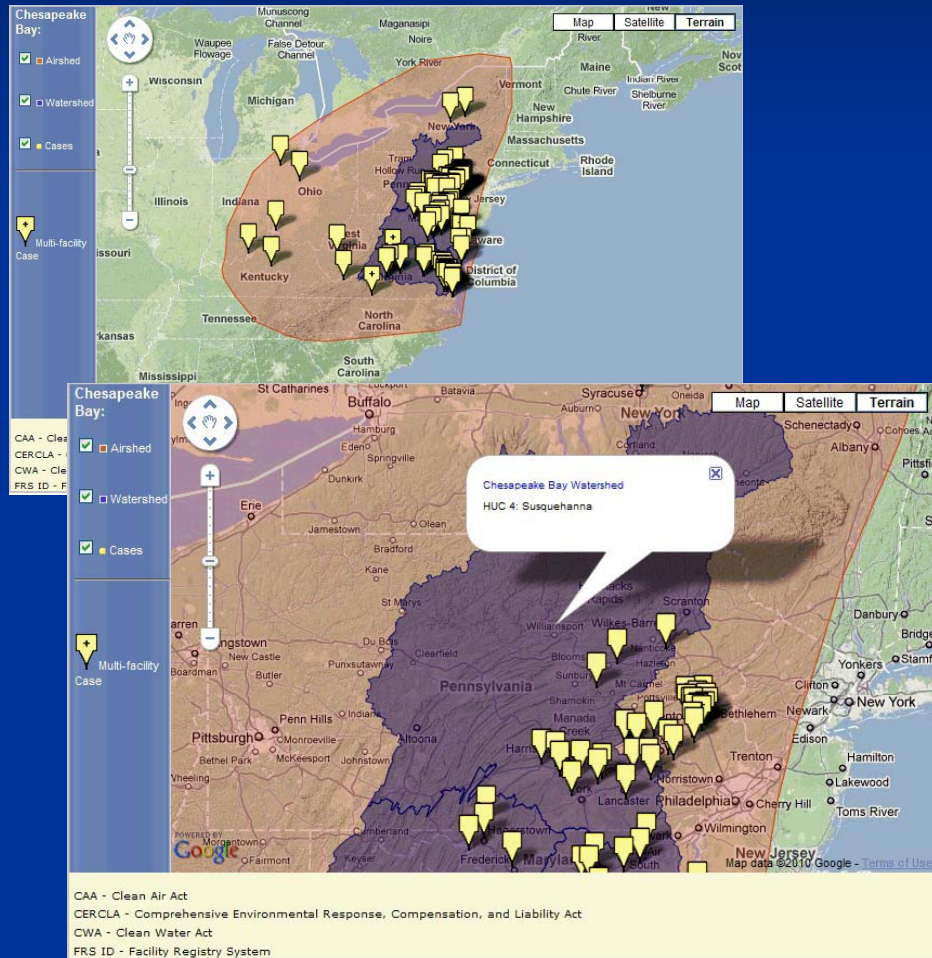


# Watershed Plan Builder



- A web-based watershed plan development system that assists watershed managers in the creation of a watershed plan that meets the 9 elements of the 319 grant program and provides a consistent approach to watershed planning. The Builder does this by guiding the user through a step-by-step process involving questions that ultimately populate a watershed plan outline template with information requested by the user.
- Services used: Point indexing, Navigation, Navigation Delineation, WBD\_WMERC, 303D\_WMERC, WQS\_WMERC

# Chesapeake Bay Compliance and Enforcement Strategy - Map of Enforcement Actions



- EPA's Chesapeake Bay compliance and enforcement strategy addresses violations of federal environmental laws resulting in nutrient, sediment, and other pollution in the Bay watershed and airshed. This interactive map shows information on enforcement actions and cases from 2009. Airshed and watershed boundaries on the map can be clicked on or off in the legend to the left of the map.
- Services used: WBD\_WMERC HUC\_4

# Resources

- ATTAINS Web site: [www.epa.gov/waters/ir](http://www.epa.gov/waters/ir)
- 305(b) Web site: [www.epa.gov/305b](http://www.epa.gov/305b)
- 303(d) Web site: [www.epa.gov/owow/tmdl](http://www.epa.gov/owow/tmdl)
- GRTS Web site: [www.epa.gov/nps/index.html](http://www.epa.gov/nps/index.html)
- WATERS Web site: [www.epa.gov/waters](http://www.epa.gov/waters)
- ECHO Web site: [www.epa-echo.gov/echo/](http://www.epa-echo.gov/echo/)
- Charles Kovatch email: [kovatch.charles@epa.gov](mailto:kovatch.charles@epa.gov)