



NATIONAL WATER QUALITY MONITORING COUNCIL

Working Together for Clean Water

Accomplishments and Priorities Through 2010

Advisory Committee on Water Information
January 10, 2009

Workgroups

- **Methods and Comparability Board**
- **Collaboration and Outreach** ←
- **Water Information Strategies** ←

**National Water Quality Monitoring Network for
U.S. Coastal Waters and Their Tributaries**



Communications and Outreach

- National biennial conferences
- State and Regional Councils
- Online Newsletter



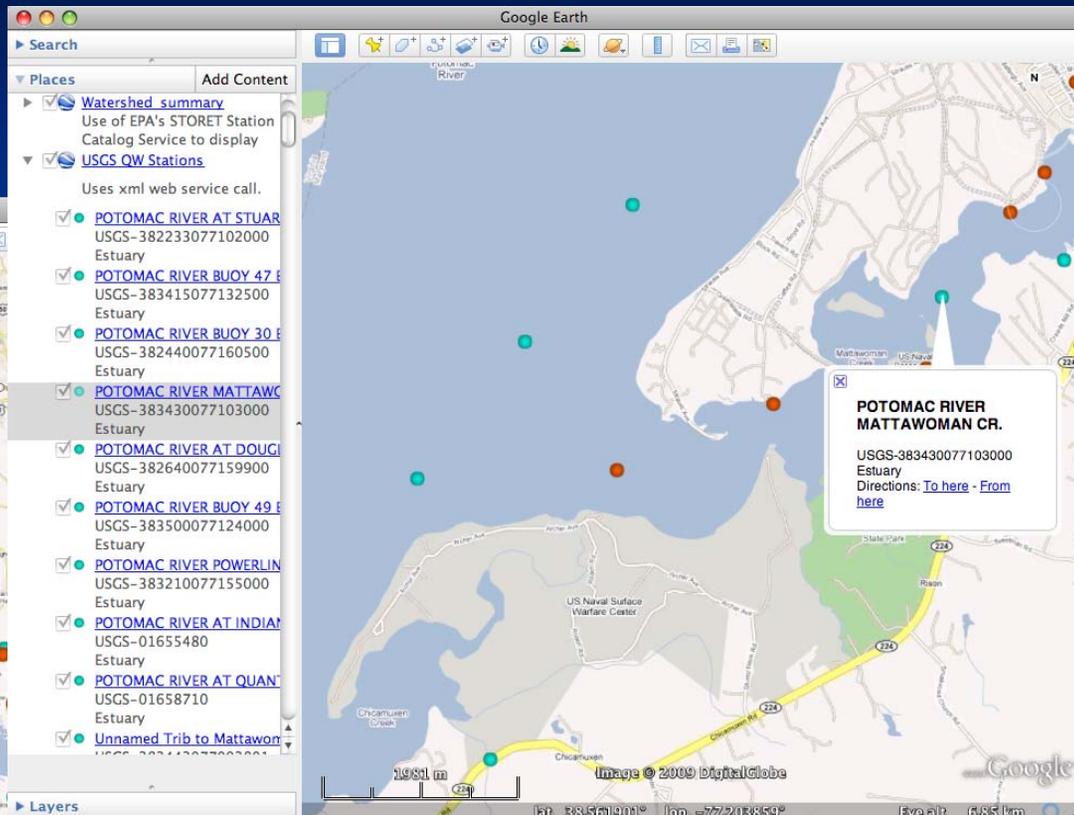
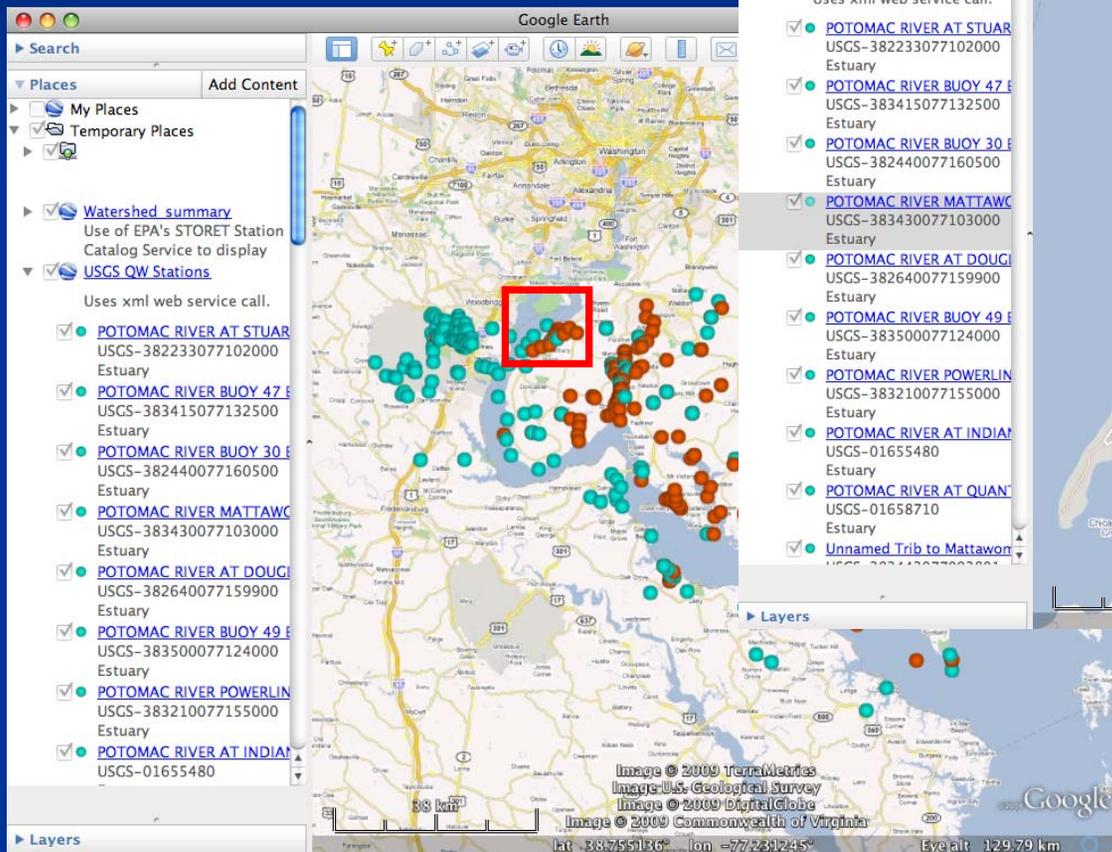
EPA and USGS Common Web Services for Water Quality Exchange





USGS and EPA data in the Lower Potomac

Hydrologic Unit 02070011
161 USGS and 169 EPA
stream sites



USGS



EPA





USGS Home
Contact USGS
Search USGS

National Water Information System (NWIS) Water-Quality Web Services **BETA**

Location Parameters

Bounding Box ?

North:

West: East:

South:

Distance within ?

miles from

Latitude:

Longitude:

State: [select](#)

County: [select](#)

Note: input fields accept semicolon-delimited values (where valid)

Site Parameters

Site Type: [select](#)

Organization ID: [select](#)

Site ID: ?

HUC: ?

Result Parameters

Sample Media: [select](#)

Characteristic Group: [select](#)

Characteristic: [select](#)

NWIS PCODE: 5-digit

Activity ID: ?

Start Date between

and (MM-DD-YYYY)

File Format

data

WQX-XML ?

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

[Download Sites Only](#) [Download Results](#) [Show Request](#) [Reset](#)

[Accessibility](#) [FOIA](#) [Privacy](#) [Policies and Notices](#)

[U.S. Department of the Interior](#) | [U.S. Geological Survey](#)
URL: <http://privusgs6.er.usgs.gov/NWISQWWebServices>
Page Contact Information: GS-W-QWWebServicesHelp@usgs.gov
Page Last Modified: Wed Jun 11 2008 17:25:49 GMT-0500



data[1].xls - Microsoft Excel

Home Insert Page Layout Formulas Data Review View

Cut Copy Paste Format Painter Clipboard

Arial 10 Bold Italic Underline Font Color Background Color

Wrap Text Merge & Center Alignment

General Number

Conditional Formatting Format as Table Cell Styles Styles

Insert Delete Format Cells

AutoSum Fill Clear Sort & Find & Filter Select Editing

A1 OrganizationIdentifier

	AE	AF	AG	AH	AI	AJ
1	ResultDetectionConditionText	CharacteristicName	ResultSampleFractionText	ResultMeasureValue	ResultMeasure/MeasureUnitCode	ResultStatusIde
957		Nitrate-nitrite	Dissolved	0.063	mg/l as N	Historical
958		Ammonia and ammonium	Dissolved	0.033	mg/l as N	Historical
959		Ammonia and ammonium	Dissolved	0.04	mg/l NH4	Historical
960		Nitrogen, Kjeldahl	Total	0.30	mg/l as N	Historical
961		Phosphorus	Total	0.013	mg/l	Historical
962		Phosphorus	Total	0.008	mg/l	Historical
963		Phosphorus	Total	0.024	mg/l	Historical
964		Phosphorus	Total	0.009	mg/l	Historical
965		Phosphorus	Total	0.020	mg/l	Historical
966		Phosphorus	Total	0.007	mg/l	Historical
967		Phosphorus	Total	0.030	mg/l	Historical
968	Not Detected	Phosphate	Dissolved			Historical
969		Nitrogen, mixed forms (NH3), (NH4), organic, (NO2) and (NO3)	Total	0.33	mg/l	Historical
970		Nitrogen compounds, organic	Total	0.29	mg/l	Historical
971		Nitrate-nitrite	Dissolved	0.032	mg/l as N	Historical
972		Ammonia and ammonium	Dissolved	0.007	mg/l as N	Historical
973		Ammonia and ammonium	Dissolved	0.01	mg/l NH4	Historical
974		Phosphorus	Total	0.014	mg/l	Historical
975		Nitrogen, Kjeldahl	Total	0.30	mg/l as N	Historical
976		Ammonia and ammonium	Dissolved	0.02	mg/l NH4	Historical
977		Nitrogen, Kjeldahl	Total	0.30	mg/l as N	Historical
978		Ammonia and ammonium	Dissolved	0.014	mg/l as N	Historical
979		Phosphorus	Total	0.012	mg/l	Historical
980	Not Detected	Phosphate	Dissolved			Historical
981		Nitrogen, mixed forms (NH3), (NH4), organic, (NO2) and (NO3)	Total	0.35	mg/l	Historical
982		Nitrogen compounds, organic	Total	0.29	mg/l	Historical
983		Nitrate-nitrite	Dissolved	0.050	mg/l as N	Historical
984		Phosphorus	Total	0.006	mg/l	Historical
985		Phosphorus	Total	0.018	mg/l	Historical
986		Phosphorus	Total	0.009	mg/l	Historical
987		Phosphorus	Total	0.014	mg/l	Historical
988		Phosphorus	Total	0.005	mg/l	Historical
989	Not Detected	Phosphorus	Total			Historical
990		Nitrogen, Kjeldahl	Total	0.30	mg/l as N	Historical
991	Not Detected	Ammonia and ammonium	Dissolved			Historical
992		Nitrate-nitrite	Dissolved	0.016	mg/l as N	Historical
993		Nitrogen, mixed forms (NH3), (NH4), organic, (NO2) and (NO3)	Total	0.32	mg/l	Historical
994	Not Detected	Phosphate	Dissolved			Historical
995		Phosphorus	Total	0.008	mg/l	Historical

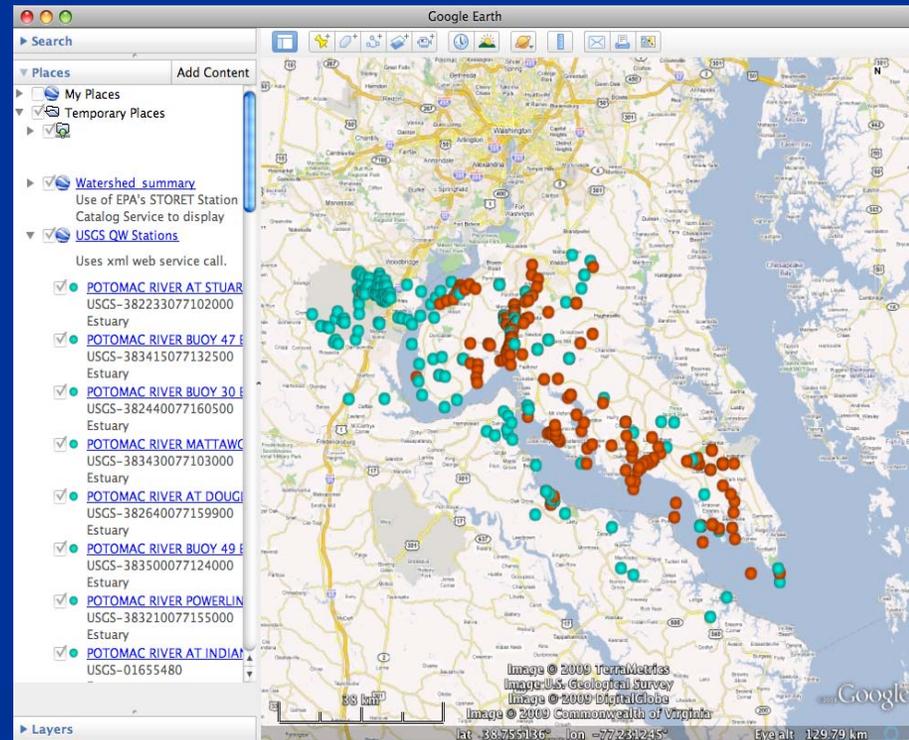
14 data

Ready Count: 146888 100%



Microsoft Excel spreadsheet showing a table of water quality data. The table has columns for Detection/Condition, Characteristic Name, Result Sample Fraction, Text, Result Measure Value, Result Measure Measure Unit, Code, and Result Stat/Unit. The data includes various chemical parameters like Nitrate-nitrite, Ammonia and ammonium, Nitrogen, Phosphorus, and Nitrogen, mixed forms (NH3), (NH4), organic, (NO2) and (NO3).

Result	Detection/Condition	Characteristic Name	Result Sample Fraction	Text	Result Measure Value	Result Measure Measure Unit	Code	Result Stat/Unit
957		Nitrate-nitrite	Dissolved		0.063	mg/l as N		Historical
958		Ammonia and ammonium	Dissolved		0.03	mg/l as N		Historical
959		Ammonia and ammonium	Dissolved		0.04	mg/l NH4		Historical
960		Nitrogen, Kjeldahl	Total		0.30	mg/l as N		Historical
961		Phosphorus	Total		0.013	mg/l		Historical
962		Phosphorus	Total		0.008	mg/l		Historical
963		Phosphorus	Total		0.024	mg/l		Historical
964		Phosphorus	Total		0.009	mg/l		Historical
965		Phosphorus	Total		0.020	mg/l		Historical
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967		Phosphorus	Total		0.030	mg/l		Historical
968	Not Detected	Phosphate	Dissolved					Historical
969		Nitrogen, mixed forms (NH3), (NH4), organic, (NO2) and (NO3)	Total		0.33	mg/l		Historical
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971		Nitrate-nitrite	Dissolved		0.032	mg/l as N		Historical
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973		Ammonia and ammonium	Dissolved		0.01	mg/l NH4		Historical
974		Phosphorus	Total		0.014	mg/l		Historical
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987		Phosphorus	Total		0.014	mg/l		Historical
988		Phosphorus	Total		0.005	mg/l		Historical
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994	Not Detected	Phosphate	Dissolved					Historical
995		Phosphorus	Total		0.008	mg/l		Historical



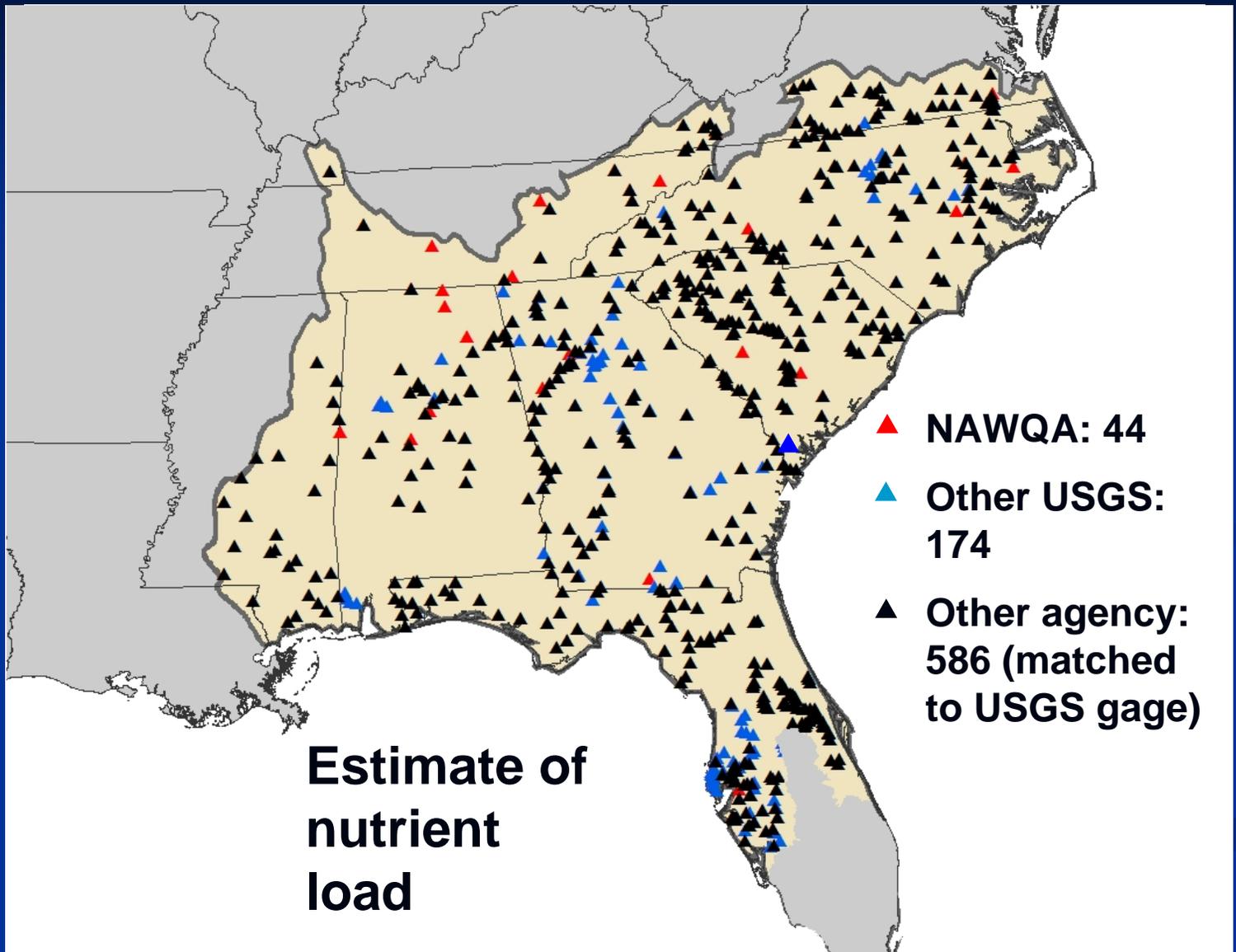


South Atlantic Gulf and Tennessee Region

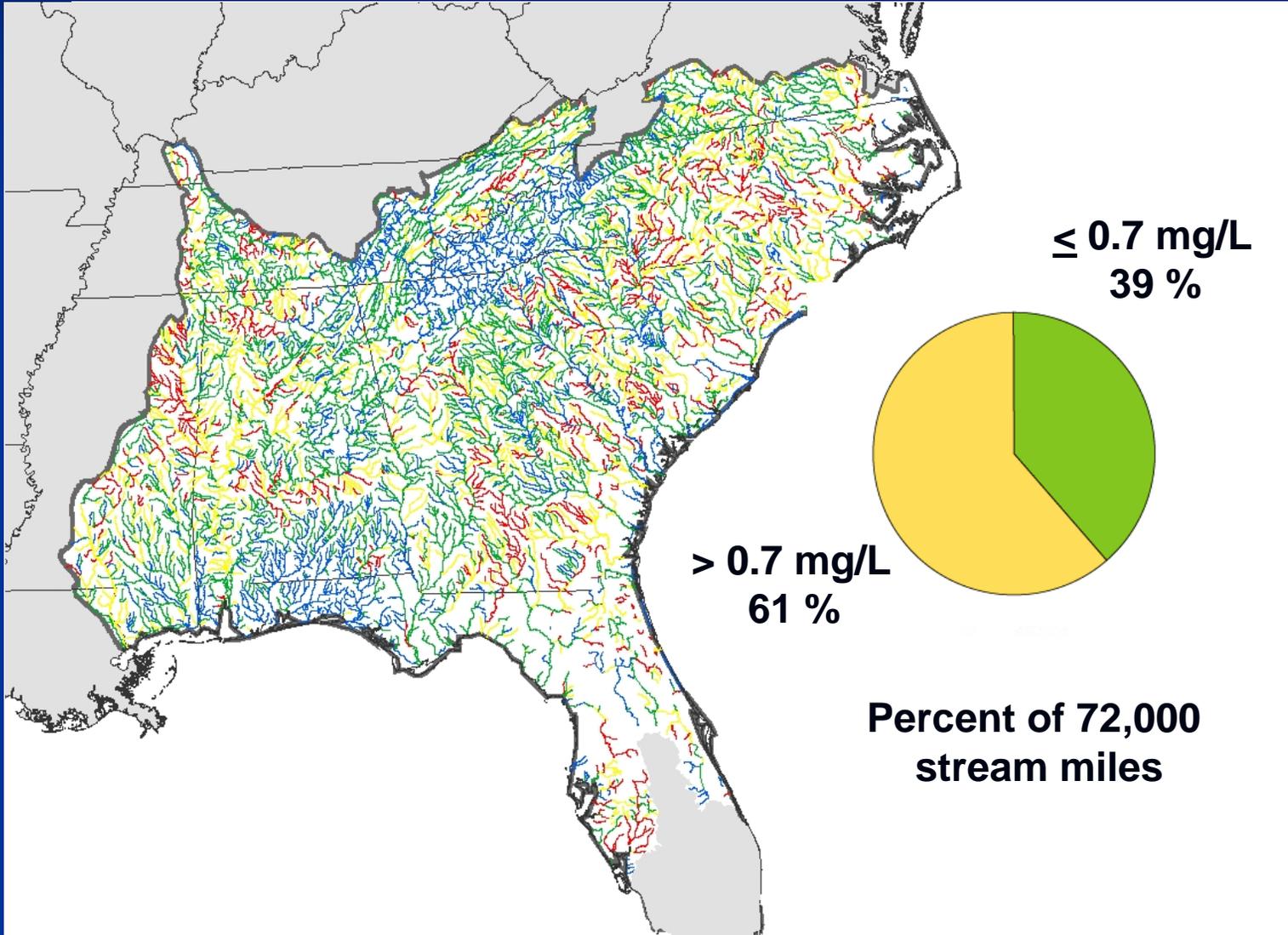


- **What concentrations of total nitrogen are in streams throughout the region?**
- **How do concentrations compare to the recommended nitrogen criteria (0.7 mg/L) in this region?**
- **What are the nitrogen loads to receiving waters and how do they affect estuarine management?**
- **What are the key sources of nutrients to streams?**



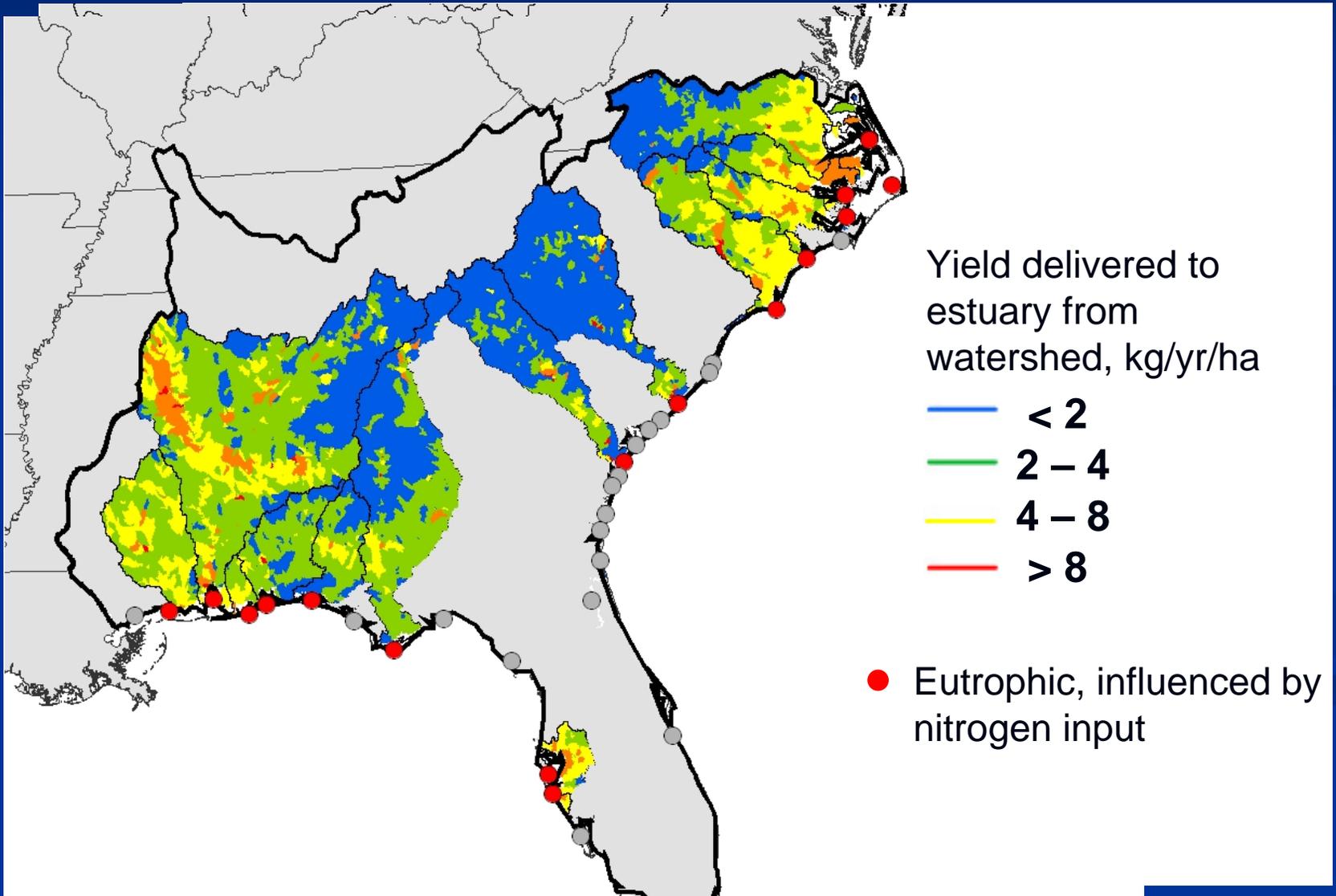


Assessment of Total Nitrogen Concentration



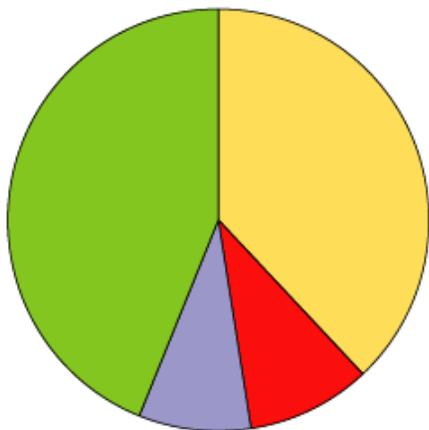


Sensitive Coastal Areas

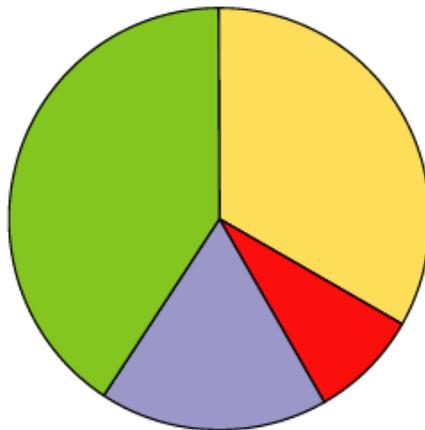


Source Shares Delivered to Sensitive Coastal Areas

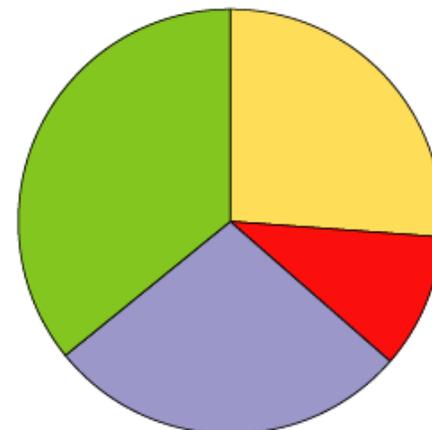
Mobile Bay



Cape Fear Estuary



Savannah River Estuary



-  Atmospheric deposition
-  Agricultural sources
-  Runoff from developed land
-  Point-source discharge



**Improved model accuracy
– reduced prediction error
(or “uncertainty”) by 25
percent**



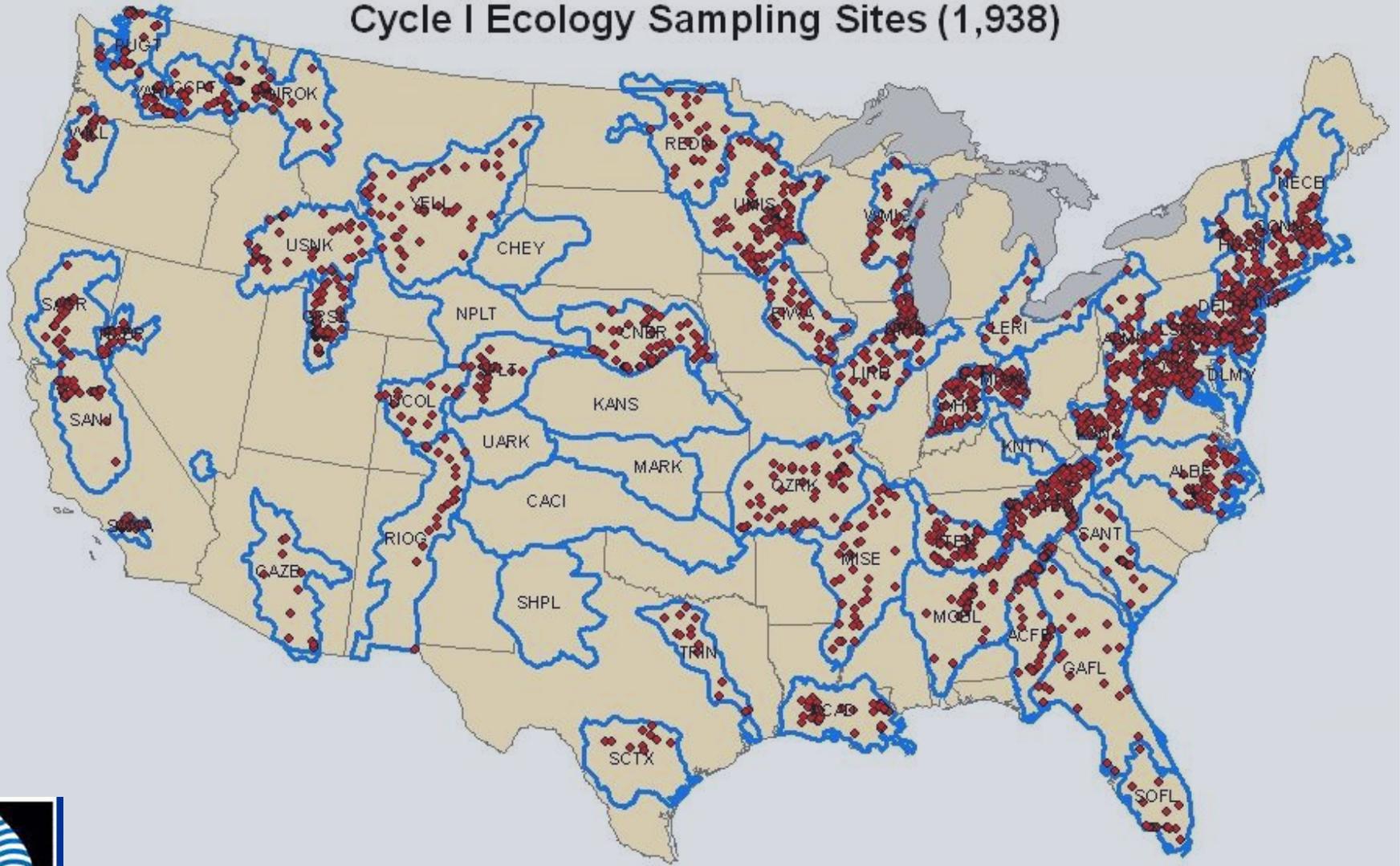
Water Information Strategies Workgroup

- Integrated Assessments
- National Indicators
- Volunteer Monitoring
- Monitoring and assessment clearinghouse

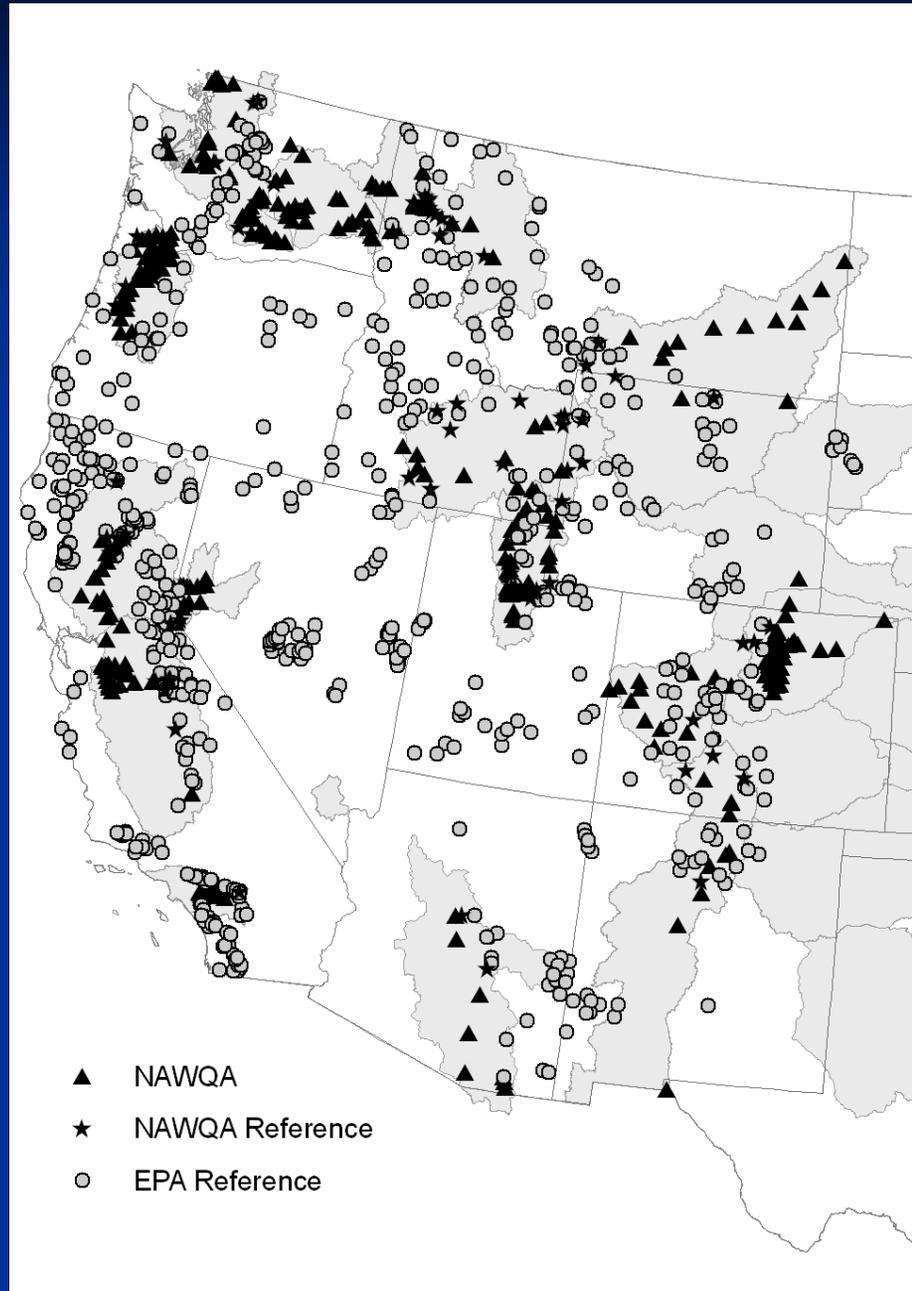


NAWQA Ecological Data

Cycle I Ecology Sampling Sites (1,938)



Integrated biological assessment in the West



Water Information Strategies Workgroup

- Integrated Assessments
- National Indicators
- Volunteer Monitoring
- Clearinghouse for assessment tools and expertise

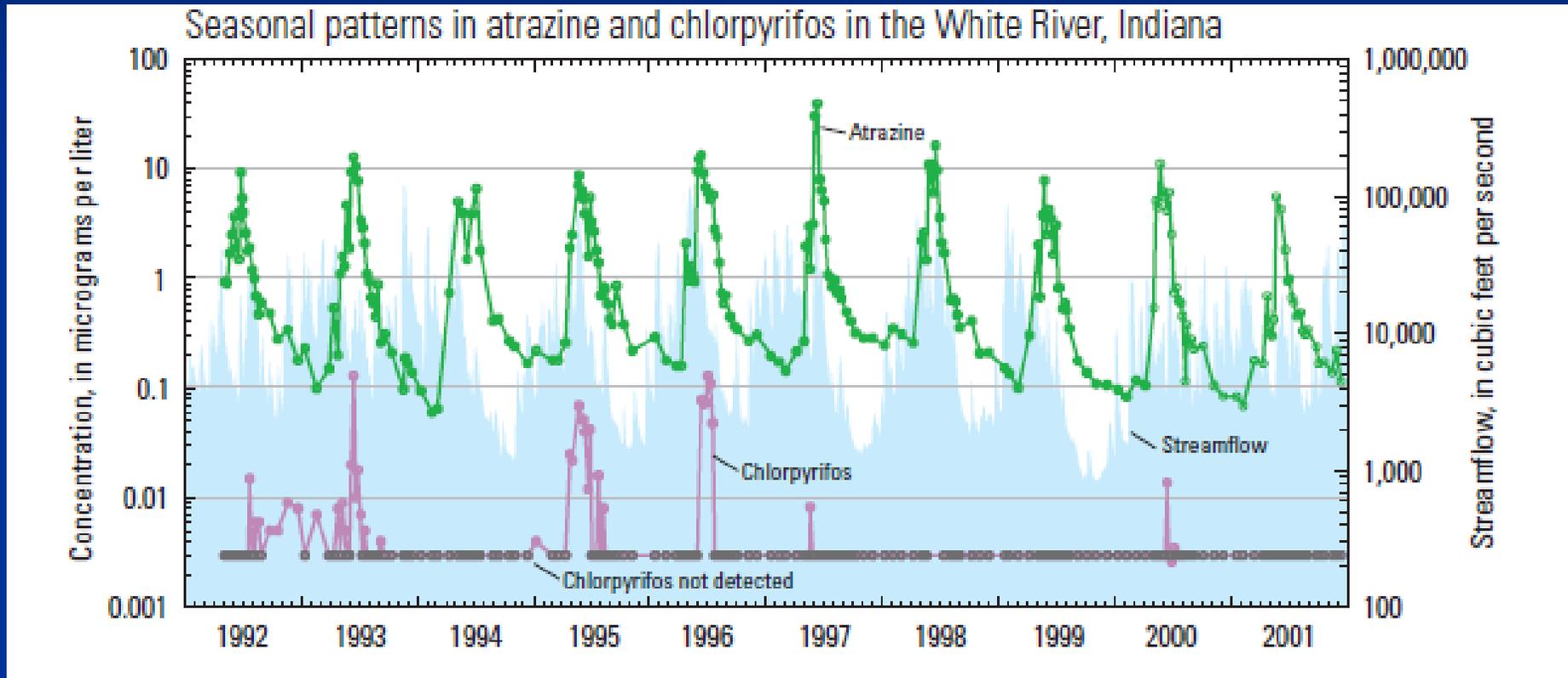


Summary

- Forums for collaboration and serving as a “voice” for water practitioners
- Water-Quality Exchange
- Water Information Strategies



Changes with season, over time, and with streamflow



Multiple Tools and Data Designs

Design/Tool	Questions they can answer --
Probabilistic survey	<ul style="list-style-type: none">■ What percentage of the Nation's water resources meet the goals of the Clean Water Act?■ What percentage of the Nation's water quality getting better or worse?
Modeling and landscape analysis	<ul style="list-style-type: none">■ Can we predict water quality conditions in space and time?■ Can we extrapolate from sampled to un-sampled locations?
Targeted monitoring	<ul style="list-style-type: none">■ What are the causative and associative human and natural factors that effect water quality?■ What is the water quality in a watershed or at a location and is it changing over time?



Google Earth

Search

Places Add Content

- My Places
 - warp.kml
 - Sightseeing
 - Start your Google Earth world tour here!
- Temporary Places
 - data.kml

Layers

View: Core

- Primary Database
 - Terrain
 - Geographic Web
 - Featured Content
 - Global Awareness
 - roads
 - 3D Buildings
 - borders
 - Populated Places
 - Alternative Place Name
 - Dining
 - Lodging
 - Google Earth Community

SKINNER CREEK AT KLONDYKE RD NEAR MONROE, WI

River/Stream

[info](#)

Directions: [To here](#) - [From here](#)

Minnesota

Michigan

Milwaukee

Chicago

Iowa

Indiana

Indianapolis

Image © 2007 Europa Technologies
Image © 2007 TerraMetrics
Image © 2007 TerraMetrics

Pointer 42°36'39.22" N 89°42'45.08" W Streaming 100% Eye alt 756.53 km

