



GEORGIA

DEPARTMENT OF NATURAL RESOURCES

Using Volunteer Monitoring Data

A Georgia Perspective

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Watershed Planning and Monitoring Program





Overview

- **Watershed Planning and Monitoring Program**
- **Monitoring strategy**
- **Volunteer monitoring program**
- **Assessing volunteer data**
- **Volunteer Monitoring Database Demo**

Watershed Planning & Monitoring Program

- **Set water quality standards and criteria**
- **Determine wasteload allocations for permits**
- **305(b)/303(d) Listing**
- **Develop Total Maximum Daily Loads (TMDLs)**
- **Water resource planning (quantity)**
- **Water quality monitoring**
- **Facility monitoring**
- **Data management**



Water Quality Monitoring Strategy

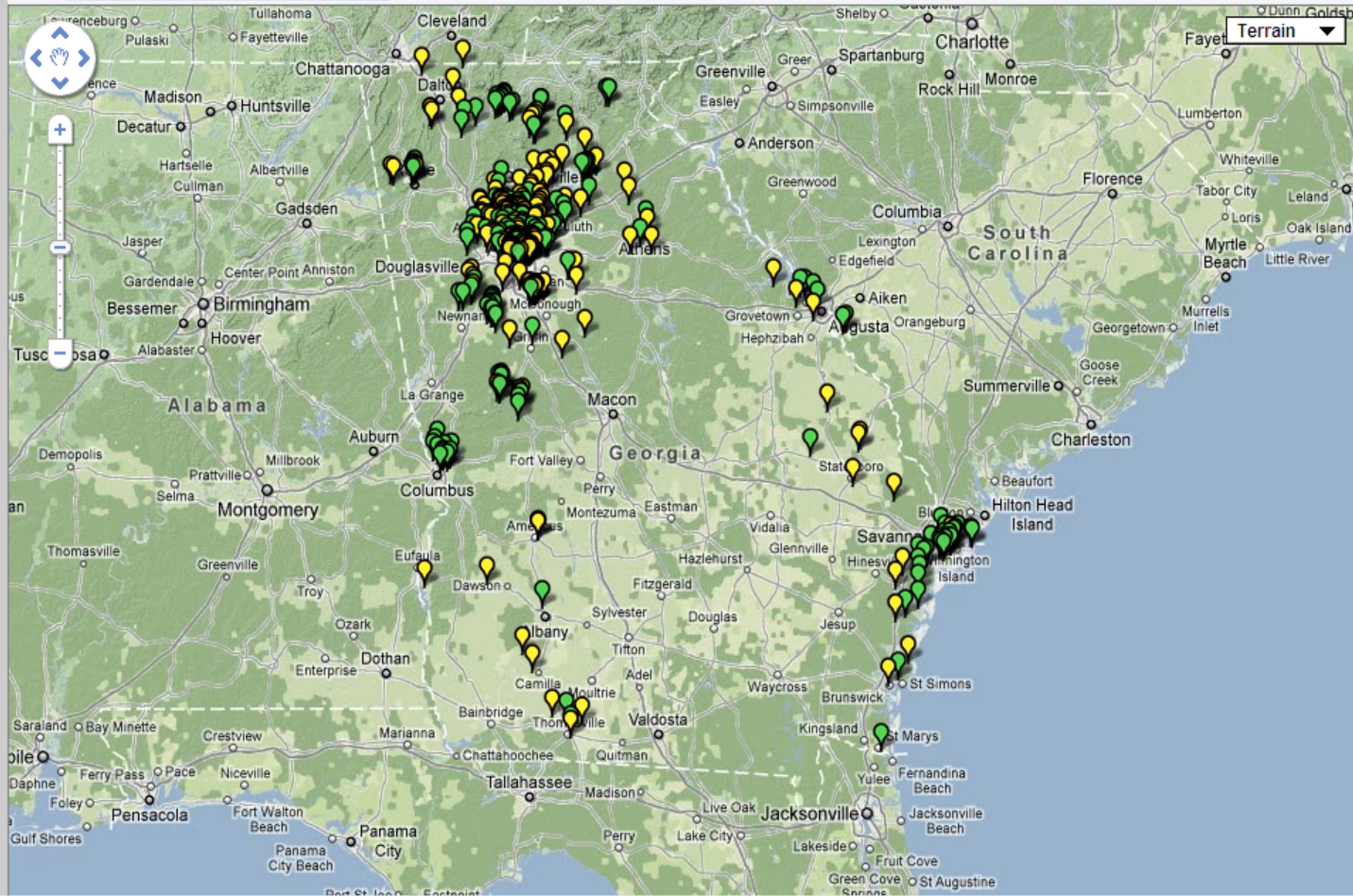
- **Calibration of water quality models**
- **Meeting water quality standards**
- **Listing or Delisting impaired waters**
- **Probabilistic**
- **Biological**
 - **Macroinvertebrate, periphyton, zooplankton**
- **Wetlands**
 - **Botanical, soils, amphibian**
- **Intensive surveys/special studies/restoration**



Volunteer Monitoring Program

- **Adopt-A-Stream (Lake/Wetland)**
- **Two state coordinators**
- **Advisory board**
- **Network of certified trainers and volunteers**
 - **Chemical, biological, and bacterial (E.Coli)**
- **190 active monitoring groups state-wide**
 - **~400 sites, 28 watersheds**

Show: **All active sites** Sites with 5 or more events are green. [return](#)





Why use volunteer data?

- **Required to assess all ready available data (2007)**
- **Increases number of data points per year**
 - Provide a long term data set
- **Approved quality assurance plan**
 - Field and written test
 - Certified annually
 - Data is QA by database manager and state staff
- **Data approved for screening purposes**
 - DO, temperature, E. coli, pH
- **AAS data is not used for listing/delisting unless group has approved SQAP by EPD**



Volunteer Monitoring Database

- <http://georgiaadoptastream.org/db/>
- Search for various parameters
 - e.g. DO, pH, E. Coli, hardness, alkalinity, nutrients
- Number of sampling event and those in violation of water quality standards
- Provides raw data and graphs
- Publicly accessible

“Sites of Interest”

The screenshot shows a web browser window displaying the Georgia Adopt-A-Stream website. The page title is "Sites of Interest". The website header includes the logo for Georgia Adopt-A-Stream, the text "Georgia Adopt-A-Stream" and "GEORGIA'S VOLUNTEER WATER QUALITY MONITORING PROGRAM", and the logo for the Watershed Protection Branch. The navigation menu includes "Adopt-A-Stream", "Get Involved", "Groups", "Sites", "People", "Data Views", "Forms & Reports", "Materials & Resources", "Teacher's Corner", "Contact us", and "Sign in".

The "Sites of Interest" section contains the following search criteria:

- Show sites where **Dissolved Oxygen** is **less than** **4**
- at least **3** times
- over the past **1** year(s) **year** refers to a 365-day period, not a calendar year.
- or
- between **1995** and **2012** mm/dd/yyyy

The year selection is shown as a table:

1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------	------

The "Filter by:" section includes dropdown menus for:

- County
- City
- Water Plan Region

The browser window shows the URL "http://georgiaadoptastream.org/db/SitesOfInterest.asp" and the taskbar at the bottom displays the start button and several open applications, including Microsoft PowerPoint and Novell WebAccess. The system clock shows 12:00 AM.

Group	Site	County	City	Water Plan Region	Watershed	Lat	Lng	Dissolved Oxygen				
								Total Events	Events <4	Avg	Min	Max
G-133 Dunwoody High School	S-2003 West point Creek	DeKalb	Dunwoody	Metro North Georgia	Upper Chattahoochee River	33.9555	-84.3339	10	9	1.05	0.31	4.20
G-516 SCJ Stream Team/Johnson High School	S-229 Placentia Canal	Chatham	Savannah	Coastal Georgia	Ogeechee Coastal	32.034	-81.0604	10	9	2.88	1.75	6.20
G-558 Marine Education Center and Aquarium Interns	S-282 Skidaway River	Chatham	Savannah	Coastal Georgia	Ogeechee Coastal	31.9878	-81.0239	10	4	4.74	3.20	6.55
G-615 Peregrine Marsh Gang	S-607 Skidaway Narrows	Chatham	Savannah	Coastal Georgia	Ogeechee Coastal	31.9552	-81.0603	8	3	4.74	2.85	7.05
G-643 The Fifteenmile Creekdippers	S-401 Fifteenmile Creek	Emanuel	Statesboro	Altamaha	Canoochee River	32.5712	-82.1053	10	6	3.89	0.80	9.20
G-692 Bryan Neck Burns	S-502 Demeries Creek	Bryan	Richmond Hill	Coastal Georgia	Ogeechee Coastal	31.7859	-81.2548	11	5	4.48	2.20	7.10
G-714 McIntosh High School Adopt-A-Stream	S-527 Flat Creek	Fayette	Fayetteville	Metro North Georgia	Upper Flint River	33.3794	-84.5681	11	3	5.86	3.10	11.10

The Fifteenmile Creekdippers

Group ID: AAS-G-643
Date of first monitoring event: 12/11/2003

Sites breakdown	
Emanuel County	1 site
Canooshee River watershed	1 site

Wednesday, May 2

Saturday, May 5

- 9:00am Columbia Co: Chemical
- 10:00am DeKalb Co -Getting Started + \

Saturday, May 12

- 9:00am Columbus - Chemical Monitorin

Saturday, May 19

- 10:00am Cobb Co: Biological Monitoring

Print

Google Calendar

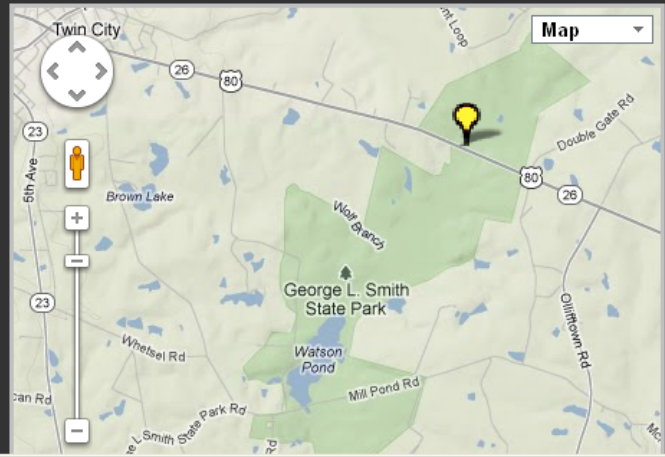
Announcements

- [Become an AAS Trainer](#)
- [Print the NEW AAS Who to Call List](#)
- [Watch a new AAS video by Tom Mills from Greenshortz.com](#)
- 'Like' AAS on Facebook!

Sites Members

All sites Adopt-A-Stream Rivers Alive Both programs No events

#	Site ID	Waterbody Name	Events	Dates	Excel
1.	S-401	Fifteenmile Creek	108	12/11/2003-04/27/2012	
Total Monitoring Events:			108		





http://www.georgiaadoptastream.com/db/Sites.asp?SiteID=401 - Windows Internet Explorer

http://www.georgiaadoptastream.com/db/Sites.asp?SiteID=401

File Edit View Favorites Tools Help

http://www.georgiaadoptastream.com/db/Sites.asp?...

Page Tools



Georgia Adopt-A-Stream
GEORGIA'S VOLUNTEER WATER QUALITY MONITORING PROGRAM



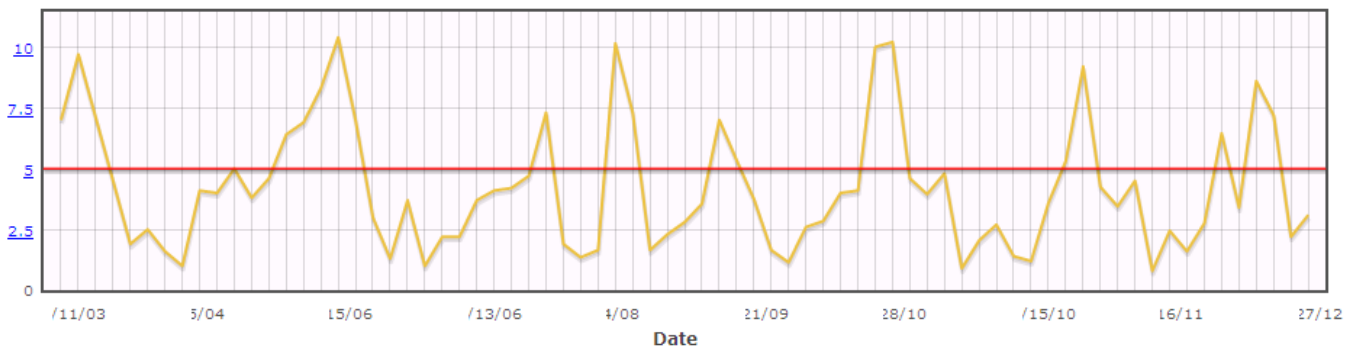
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G-643 The Fifteenmile Creekdippers
S-401 Fifteenmile Creek

Date/Time	16/2011 12:30 pm	10/14/2011 01:00 pm	11/13/2011 12:30 pm	11/13/2011 01:15 pm	01/13/2012 12:00 pm	02/17/2012 10:30 am	03/23/2012 11:30 am	03/23/2012 12:15 pm	04/27/2012 11:00 am
Time spent monitoring minutes	5	60	45	90	60	50	45	105	45
Rain in past 24 hours	None	None	None	None	Intermittent Rain	None	None	None	None
Current conditions	Clear/Sunny	Clear/Sunny	Clear/Sunny	Clear/Sunny	Clear/Sunny	Partly Cloudy	Partly Cloudy	Partly Cloudy	Clear/Sunny
Water Temperature °C	-	18	10	-	7	12	21.75	-	20
Air Temperature °C	-	28	19	-	6	16	25.5	-	29.25
pH	-	6.5	6	-	6.5	6	5.5	-	5.5
Dissolved Oxygen mg/L	-	6.45	3.4	-	8.6	7.2	2.2	-	3.1
DO %Saturation %	-	68.06	29.93	-	70.26	66.49	25.06	-	34.1
Conductivity µs/cm	-	-	-	-	-	-	-	-	-
Settleable Solids mg/L	-	0	0	-	0	0	0	-	0
Fecal Coliform cfu/100 mL	-	-	-	-	-	-	-	-	-
Turbidity NTU	-	-	-	-	-	-	-	-	-
Water Quality Index	-	-	-	6	-	-	-	10	-
Event ID	21 form	29621 form	29837 form	29821 form	30387 form	30692 form	30924 form	30908 form	31191 form

Ctrl-click a parameter to put it on the secondary axis.

Dissolved Oxygen, mg/L (range 0.8 - 10.4, average 4.23)



Graph statistics (avg, min, max) Graph state thresholds Display: lines points bars



Criteria for selecting sites

- **Actively monitoring with past 2-3 years**
 - Prefer 10-12 monitoring events per year
- **Volunteers with long-term data sets**
- **Data frequently in violation of state standards**
 - DO: 5 mg/L, never below 4 mg/L
 - pH: 6.5-8.5



Questions??