# Appendix C

# SUPPLEMENTAL INFORMATION

- References
- Glossary of Terms
- Who to Call List

#### References

- Beauchene, M., L. Wahle, S. Weiss, C. Sullivan (2002). Water quality testing manual for the project search student monitoring program. Science Center of Connecticut; Connecticut Department of Environmental Protection. Hartford, CT.
- Cassidy, M. (2003). Waterwatch Tasmania bacteriological monitoring guide for the Coliscan Easygel® method. Resource Management and Conservation Division, Department of Primary Industries Water and Environment. Tasmania, Australia.
  - www.tas.waterwatch.org.au/pdf/Bacteriological Monitoring Guide.pdf
- Frenzel, S.A., C.S. Couvillion (2002) Fecal-indicator bacteria in streams along a gradient of residential development. Journal of the American Water Resources Association. 38:265-273.
- Merrell, K. (2003). Citizen's guide to bacteria monitoring in Vermont Waters.
   Water Quality Division, Department of Environmental Conservation. Waterbury, VT.
- Michaud, J. P. (1994). A citizen's guide to understanding and monitoring lakes and streams. Washington State Department of Ecology. Olympia, WA.
- Niemi, R.M., J.S. Niemi (1991) Bacterial pollution of waters in pristine and agricultural lands. Journal of Environmental Quality. 20:620-627.

- Overdevest, C., C. Huyck Orr, and K. Stepenuck. (2004) Volunteer stream monitoring and local participation in natural resource issues. Human Ecology Review. Vol. 11(2): 177-185.
- United States Department of Agriculture, Natural Resources Conservation Service photo gallery http://photogallery.nrcs.usda.gov
- United States Environmental Protection Agency (USEPA) (1986). Ambient WaterQuality Criteria for Bacteria EPA 440/5-84-002. Office of Water Regulations and Standards. Criteria and Standards Division. January 1986.
- United States Environmental Protection Agency (USEPA) (1996). The Volunteer Monitor's Guide To Quality Assurance Project Plans.
   www.epa.gov/owow/monitoring/volunteer/qappcovr.htm
- EPA 841-B-96-003. Office of Wetlands, Oceans and Watersheds. September 1996.
- United States Environmental Protection Agency (USEPA) (1997). Volunteer Stream Monitoring: A Methods Manual. (www.epa.gov/OWOW/monitoring/volunteer/stream) EPA 841-B-97-003. Office of Water. November 1997.
- USEPA (2002a). Implementation Guidance for Ambient Water Quality Criteria for Bacteria (Draft). May 2002 www.epa.gov/ost/standards/bacteria/bacteria.pdf
- USEPA (2002). Water Quality Conditions in the United States: 2000 National Water Quality Inventory. EPA-841-R-02-001. August 2002.
- United States Geological Survey (2004). National field manual for the collection of water-quality data: U.S. Geological Survey Techniques of Water-Resources Investigations, book 9, chaps. A1-A9 http://water.usgs.gov/owq/FieldManual/index.html

# **Glossary of Terms**

**Agar** – A gelatinous medium on which to grow bacteria.

**Blank** – Pure distilled water used to monitor for contamination by comparing against actual samples, and is often used as a control.

**CFU** – Colony Forming Units.

**Colony** – Visible growth of microorganisms.

**Culture** – Growing microorganisms (i.e., *E. coli*) in a nutrient medium that encourages. their growth

**Delineate** – To define or portray, often by drawing.

**DNR** – Department of Natural Resources.

**E.** coli – A species of fecal bacteria that lives in the intestinal tract of warm-blooded animals and is essential in digestion.

**EPA** – The U.S. Environmental Protection Agency, a government agency whose mission is "...to protect human health and the environment."

**EPD** – Georgia Environmental Protection Division.

**Gastroenteritis** – Irritation of the digestive tract, often resulting in abdominal pain, vomiting and/ or diarrhea.

**Geometric mean** – the average results of four samples collected within a 30-day period, with all samples collected at least 48 hours apart from one another.

**GIS** – Geographic Information Systems. A software program that combines different layers of information (streams, land use, cities, counties, elevation, etc.) for analyses.

**GPS** – Global Positioning System. Hand-held or larger devices that triangulate your position on earth from satellites in orbit. One can take reading(s) at a sampling site, and later download this data into a software program.

**Holding time** – The amount of time a sample can be stored before it is considered void.

**Imperviousness** – Impenetrable surfaces such as driveways, roads, etc.

**Incubator** – An apparatus in which environmental conditions can be set and controlled (i.e. temperature).

**Medium** – The nutrient substance used to grow microorganisms.

**Pathogen** – A disease-causing life form such as a virus, bacterium, or other microorganism.

**Pipette** – An instrument used in the lab to transfer measurable amounts of liquid.

**Plate** – A container with nutrient medium on which, microorganisms can be cultured.

**Replicate** – Samples collected in the field in duplicate, triplicate, or more. Or samples plated in the lab in duplicate, triplicate, or more. Replicates help identify any variability in the stream or lab procedures.

**TMDL** – Total Maximum Daily Load. A TMDL is a regulation that specifies the sum of the pollutant contributions from point source discharges, *non-point* (diffuse) sources, and natural background levels that a water body can process and still meet water quality standards.

**TNTC** – Too Numerous To Count or too many colonies were present, generally defined as greater than 150 colonies.

**Tributary** – Smaller streams that feed into a larger portion of the main stream or river.

**Watershed** – The area of land that drains to a common water body.

## Georgia Adopt-A-Stream "Who to Call List"

#### Emergency Response 1-800-241-4113 or 404-656-4863

Use this number to report an emergency situation that is currently happening. Examples include fish kills, chemical, sewage or oil spills, illegal dumping in progress, poaching or anything that warrants immediate attention.

## Non-Emergency Response 1-888-EPD-5947 or 404-657-5947

Use this number for non-emergency situations such as illegal dumping after the fact, buffer violations, sedimentation, or other impairments that warrant attention.

## Georgia Adopt-A-Stream State Office 404-657-5947

Monday through Friday - 8:00 a.m. to 4:30 p.m.

Your phone call may be forwarded to a voicemail box, in this instance please review the notes below.

Your Local Contacts		
Local Emergency Hotline  Local Health Department  Local Code Enforcement  * Remember to get after hour numbers as well.	Local DNR Ranger Local EPD Office Local AAS Coordinator	

Please call Georgia Adopt-A-Stream and your local coordinator if you have reported a situation to one of the numbers above so that we are aware of the situation and can follow-up within the Environmental Protection Division.

#### Please remember to take detailed notes on the following:

- Exact location: address or GPS coordinates (more specific than 'John Doe's Farm')
- Clear directions on how to get there
- Describe the nature of the issue
- Date and when the issue occurred or what time did it start
- Take a picture of the site
- If the conditions are safe, gather water quality data and a water sample in a sterile container

#### Important information to give to the operator:

- Your phone number first, so they can call you back if you are disconnected
- Request a call back if you wish to talk to an EPD officer, if you have not received a call within 1 hour, please call back and also report this to Adopt-A-Stream.
- Talk clearly and slowly

## **Other Useful Numbers**

EPD Hazardous Waste Program (for illegal dumping)	404-656-7802
EPD Water Protection (responds to underground storage complaints)	404-362-2688
EPD Georgia Safe Dams Program (questions about dams)	404-362-2678
EPD Water Protection (modeling and monitoring or water quality)	404-675-6236
NonPoint Source Program (erosion, buffers, stormwater)	404-657-5947

## EPD Regional Offices (for water quality questions, erosion & sedimentation problems)

Mountain District (Atlanta)	404-362-2671	Northeast District (Athens)	706-369-6376
Mountain District (Cartersville)	770-387-4900	Northeast District (Augusta)	706-792-7744
Middle GA District (Macon)	478-751-6612	Northwest District (Albany)	229-430-4144
Coastal District (Brunswick)	912-264-7284		

DNR Coastal Resource Division	912-264-7218
Georgia Wildlife Resources Division	770-918-6400
Endangered Species	912-994-1438
Georgia Cooperative Extension Service	706-542-3824
Georgia Forestry Commission	912-751-3500
Georgia Soil & Water Conservation Commission	706-542-3065

<b>US NRCS</b>	Regional	404-347-6105
	Clayton	770-473-5467
	Fulton	770-393-2849
	Gwinnett	770-963-9288
	Henry	770-957-5705
	Cobb	770-528-2218

<b>EPA</b>	Environmental Education	404-562-8327
	Lakes/Rivers/Streams	404-562-9355
	Wetlands Information	1-800-426-4791
	Wetlands/Oceans/Watersheds	404-562-9355

USGS Water Resources Division	770-409-7700
US Fish and Wildlife Service	404-679-7319
Army Corps of Engineers	678-422-2720
US Geological Survey	404-656-3214

For a complete list of EPD numbers look under "Contacts" at <a href="http://www.gaepd.org/Documents/wpb\_phonelist.pdf">http://www.gaepd.org/Documents/wpb\_phonelist.pdf</a>