

GEORGIA ADOPT-A-STREAM CHEMICAL MONITORING QA/QC TEST KEY

A score of 80% is required for QA/QC certification (stream monitors – 76 out of 95 points, coastal monitors – 86 out of 108 points, lake monitors – 83 out of 104 points).



1. What are the goals of Georgia Adopt-A-Stream? (5 points)
 - *Increase public Awareness of the state's nonpoint source pollution and water quality issues*
 - *Collect quality baseline water quality Data*
 - *Take notes of other Observations you may think useful*
 - *Encourage Partnerships between citizens and their local government*
 - *Provide citizens with the Tools and Training to evaluate and protect their local waterways*

2. Where and when is it ideal to sample? (5 points)
Well-Mixed area and at the same time of day. Coastal: Same tidal stage.

3. **True**/False. Volunteers should submit their data as soon as possible to the online AAS database. (5 points)

4. How often do you conduct chemical monitoring? (5 points) *Once a month*

5. What is a watershed? What watershed are you currently in? (5 points)
A watershed is a system. It is the land area from which water, sediment, and dissolved materials drain to a common point along a stream, wetland, lake or river. For each watershed, there is a drainage system that conveys rainfall to its outlet. Its boundaries are marked by the highest points of land around the water body. Current watershed depends on location of workshop.

6. **True**/False. Basic kit maintenance includes storing reagents in a cool, dark place, checking reagents' dates, and replacing them as they expire and/or are contaminated. (5 points)

7. What are the state standards, duplicate precision and units for the following parameters?

A. Please fill out the chart below. (2 points/blank)

Parameter	State Standards	Duplicate Precision	Units
Dissolved Oxygen	<i>Avg of 5, not <4</i>	<i>+/- 0.6</i>	<i>Mg/L or ppm</i>
pH	<i>6-8.5</i>	<i>+/- 0.25</i>	
Salinity		<i>+/- 1.0</i>	<i>ppt</i>
Clarity (Secchi Disk)		<i>+/- 10</i>	<i>cm</i>

← Coastal Volunteers
← Coastal & Lake Volunteers

- B. What happens if the samples are not within the correct precision? (5 points)
Take a new sample and test until you have 2 samples within the precision.

8. pH

- A. How low might you find pH in some south Georgia streams? (5 points) *3.5*

- B. **True**/False. The pH range on the coast falls within state standards. As salinity goes up, pH increases and becomes more basic. (**Coastal Volunteers**; 5 points)

9. Temperature

A. Where is the best place to measure air and water temperature and which should be measured first? (5 points)

Air temperature should be measured before water temp and both should be measured in the shade. Remember to get the reading while the thermometer is in the water.

B. **True**/False. Temperature affects feeding, respiration, and metabolism of aquatic organisms. (5 points)

10. Dissolved Oxygen

A. Name two ways oxygen is introduced into water: (10 points)

Any of the two: atmospheric diffusion, photosynthesis, or turbulent mixing

B. Would you expect to obtain higher oxygen levels in the summer or winter? Explain why or why not. (5 points) *In the winter because colder water can hold more oxygen*

C. What effect would excess organic matter have on dissolved oxygen levels in the stream? (5 points) *Excess organic matter can cause a decrease in dissolved oxygen because when large amounts of organic matter start to decay, the aerobic bacteria that consume it grow vigorously and use up the available dissolved oxygen.*

11. Conductivity (Stream and Lake Volunteers)

A. What does conductivity measure? (5 points) *Water's ability to pass an electrical current and it indicates the presence of ions in the water.*

B. List two sources that can cause changes from baseline conductivity levels: (5 points) *Any of the two: Mining operations, agriculture, sewage effluent, and urban runoff*

C. **True**/False. The conductivity meter should be calibrated within 24 hours prior to each monitoring event. (5 points)

12. Salinity (Coastal Volunteers)

A. Name one factor that could cause salinity levels to fluctuate. (5 points)

Tidal stage and freshwater inputs

B. **True**/False. The refractometer should be calibrated/zeroed within 24 hours prior to each monitoring event. (5 points)

13. **Water Clarity (Lake and Coastal Volunteers):** How does water clarity affect the growth of aquatic plants? (5 points)

By changing the availability of sunlight available for photosynthesis