

GEORGIA ADOPT-A-STREAM MACROINVERTEBRATE QA/QC TEST **KEY**



A total of 80 points is required for Macroinvertebrate QA/QC Certification.

- 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*
- How often is macroinvertebrate monitoring conducted? (5 points) *Quarterly basis*
- True**/False. Volunteers should submit their data as soon as possible to the online AAS database (5 points)
TRUE
- What can monitoring with macroinvertebrates tell us? (circle all that apply) (5 points)
 - a. Water Quality*
 - b. Habitat Quality*
 - c. Air Quality
- List two reasons why macroinvertebrates are good water quality indicators. (10 points)
Easily sampled; found in high enough numbers; known tolerance levels; relatively immobile; live most of life in waterway
- Sampling Methods (30 points): Please fill out the below chart for each type of stream, the net used, area sampled (per sample, not total), and how many samples of each habitat type are collected.

STREAM TYPE	METHODS		HABITAT TYPE		
	Type of net used	Area Sampled per net (square feet)	Vegetative Margins	Organic Matter	Substrate
Rocky Bottom	<i>Kick Seine</i>	<i>2x2</i>	<i>0</i>	<i>4</i>	<i>3</i>
Muddy bottom	<i>D-Frame</i>	<i>1X1</i>	<i>7</i>	<i>4</i>	<i>3</i>

- Woody debris/Organic matter includes the following (note*all are submerged & decomposing) (circle all that apply) (5 points):
 - a. Submerged leaf packs*
 - b. Submerged trees*
 - c. Submerged tree roots*
 - d. Submerged branches*
- When calculating the Water Quality Index Score on the AAS Macroinvertebrate Count Form, is abundance

or diversity more important? Please explain why. (10 points)

Diversity (this answer does not appear to be in the manual, in fact it actually implies that they are both equally important. But the reporting form shows that diversity is more important, due to the fact that abundance of an organism has no bearing on the final water quality index score.)

9. On the AAS Macroinvertebrate Key, pollution sensitivity is directly related to levels of: (5 points)

- a) Heavy metals **b) Dissolved oxygen** c) Phosphate d) Nitrate

10. Recent heavy rains can affect the macroinvertebrate sampling results. **TRUE** / FALSE (5 points) **TRUE**

10. You would expect to find different Water Quality Index scores throughout the state of Georgia.

TRUE / FALSE (5 points) **TRUE**

11. Leaf packs to be included in a sample should be in the water and decomposing. **TRUE** / FALSE (5 points)

TRUE

Identification – over two misidentifications requires retesting for QA/QC Certification.

- | | |
|---------------------------------|----------------------------------|
| A. <u>Case Making Caddisfly</u> | K. <u>Net Spinning Caddisfly</u> |
| B. <u>Damselfly</u> | L. <u>Mayfly</u> |
| C. <u>Dragonfly</u> | M. <u>Riffle Beetle</u> |
| D. <u>Crayfish</u> | N. <u>Water Penny</u> |
| E. <u>Cranefly</u> | O. <u>Gilded Snail</u> |
| F. <u>Fishfly</u> | P. <u>Net Spinning Caddisfly</u> |
| G. <u>Water Penny</u> | Q. <u>Scud</u> |
| H. <u>Mayfly</u> | R. <u>Stonefly</u> |
| I. <u>Stonefly</u> | S. <u>Leech</u> |
| J. <u>Casemaking Caddisfly</u> | T. <u>Mayfly</u> |

13. If the macroinvertebrates from **LETTERS A-J** were your whole sample, what would be the total index score and water quality rating? (5 points)

SCORE: 17-20

RATING: Good