GEORGIA ADOPT-A-STREAM: Basic Visual Form

To be used with: Photo Points, Wentworth Pebble Count, Cross Section, Bio Survey, Stream Habitat Survey, Stream Flow and Site Sketch

SITE INFORMATION

Group Name:_____ Event Date:_____(MMDDYYYY)

Group ID: G-_____Site ID: S-_____ Time Sample Collected:_____(HHMM am/pm)

Stream Name:_____ Time Spent Sampling:_____(Min)

Monitor(s):_____ Total Time Spent Traveling *(optional)* :_____(Min)

Number of Participants:_____ Furthest Distance Traveled *(optional)* :_____(Miles)

WEATHER

Present conditions (check all that apply)

☐ Heavy Rain ☐ Steady Rain ☐ Intermittent Rain

☐ Overcast ☐ Partly Cloudy ☐ Clear/Sunny

Amount of rain, if known?

Amount in Inches:_____

In Last Hours/Days:_____

*Refer to *wunderground.com* for rainfall data

OBSERVATIONS

Flow/Water Level: *(check all that apply)* ☐ Dry ☐ Stagnant/Still ☐ Low ☐ Normal ☐ High ☐ Flood (over banks)

Water Clarity: ☐ Clear/Transparent ☐ Cloudy/Somewhat Turbid ☐ Opaque/Turbid ☐ Other:_____

Water Color: ☐ No Color ☐ Brown/Muddy ☐ Green ☐ Milky/White ☐ Tannic ☐ Other:_____

Water Surface: ☐ Clear ☐ Oily sheen: Does it break when disturbed? Yes/No (circle one) ☐ Algae

☐ Foam ◯ Greater than 3" high ◯ It is pure white ☐ Other:_____

Water Odor: ☐ Natural/None ☐ Gasoline ☐ Sewage ☐ Rotten Egg

☐ Fishy ☐ Chlorine ☐ Other:_____

Trash: ☐ None ☐ Yes, I did a cleanup ☐ This site needs an organized cleanup

PHOTO POINTS

Photos: Please take images to document your observations and changes in water quality conditions.

Photo point directions can be found in the manuals. Send photos to AAS@gaepd.org.

Reference Location (RL): Latitude (+)_____(DD.DDDD°) Longitude (-)_____(DD.DDDD°)

Compass bearing to permanent Photo Point Location (PPL): Degrees (°)_____

Distance to permanent Photo Point Location (PPL) from Reference Location (RL): Distance_____(ft/in)

Camera height at permanent Photo Point location (PPL): Height_____(ft/in)

COMMENTS

Any changes since you last sampled at this site? If yes, please describe.

Please submit data to our online database at AdoptAStream.Georgia.gov

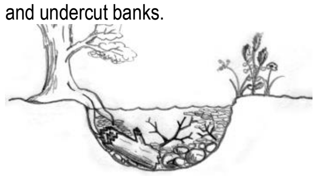
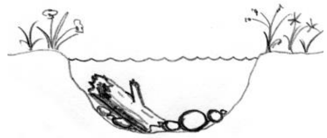
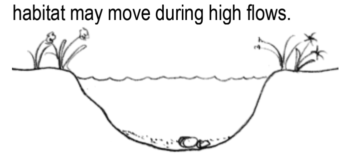
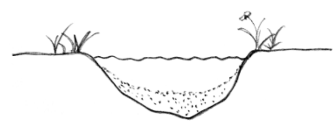
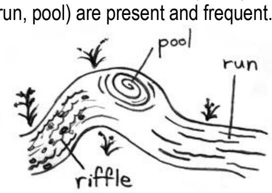
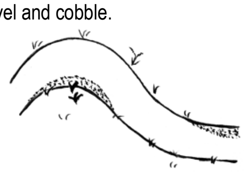
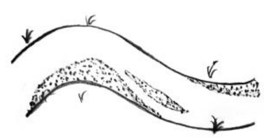
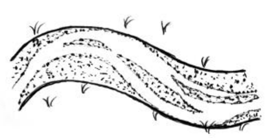
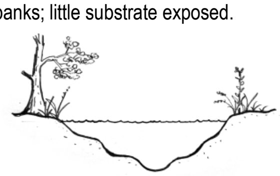
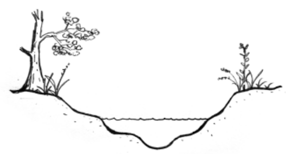
GEORGIA ADOPT-A-STREAM: Stream Habitat Survey

(Also fill out the Basic Visual Form when completing this survey)

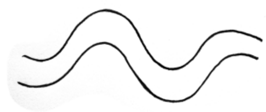
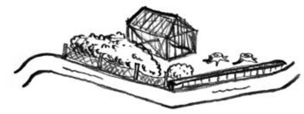
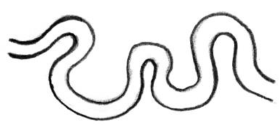
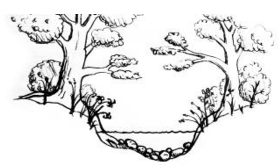
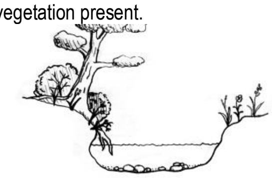
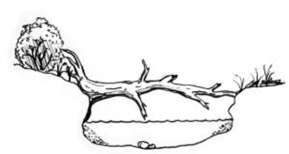
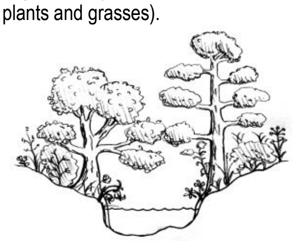
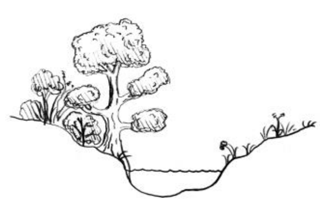
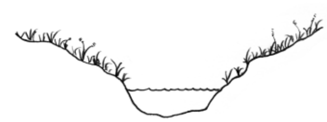
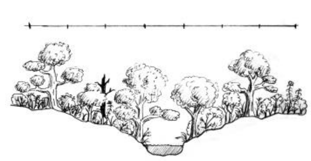
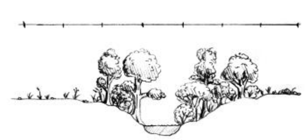
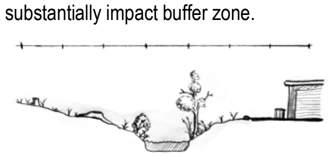
Type of Stream:
- ☐ Rocky bottom
- ☐ Muddy bottom

Stream habitat will be evaluated looking both upstream and downstream, and includes: channel bottom materials, streamside vegetation, slope, and other channel characteristics. You may choose a value between 0-10 for each parameter. Note #s 8-10 ask you to evaluate each bank separately.

All measurements should be taken during baseflow conditions. Stream reach is defined as 12 times stream width, bankfull to bankfull.

Habitat Parameter	Excellent - - - - - - - - - - - - - -	- - - - - - - - - - - - - - - - - - -	- - - - - - - - - - - - - -Poor	
1. Epifaunal Substrate **What types of submerged materials are on the channel bottom?**	**Abundant stable** habitat cover for colonization by macroinvertebrates and fish: submerged roots, woody and vegetative debris, cobbles, leaf packs and undercut banks. 	**Adequate stable** habitat cover for colonization by macroinvertebrates and fish: submerged roots, woody and vegetative debris, cobbles, leaf packs and undercut banks. 	**Little or no stable** habitat cover available for colonization by macroinvertebrates and fish: submerged roots, woody and vegetative debris, cobbles, leaf packs and undercut banks; habitat may move during high flows. 	What did you see?
	10 9 8 7	6 5 4 3	2 1 0	
2. Embeddedness * For ROCKY BOTTOM streams only **Are fine sediments being deposited in riffle/run area?**	Gravel and cobble are **slightly** embedded in riffle area. 	Gravel and cobble are **partially** embedded in riffle area. 	Gravel and cobble are **completely** embedded in riffle area. 	What did you see?
	10 9 8 7	6 5 4 3	2 1 0	
3. Riffle/Run/Pool **Is a diversity of instream habitats available: riffle, runs and pools?**	Yes, all **three (3)** habitat types (riffle, run, pool) are present and frequent. 	**Two (2)** habitat types are present. 	Only **one (1)** habitat type present and dominant. 	What did you see?
	10 9 8 7	6 5 4 3	2 1 0	
4. Sediment Deposition **Are point bars and islands present?**	**Point bars and islands stable** and of small size and frequency with some vegetation. Composed mostly of gravel and cobble. 	**Point bars and islands less stable** and of moderate size and frequency with some sparse vegetation. Composed mostly of some gravel and finer sediment. 	**Point bars and islands unstable** and of a large size with little or no vegetation. Composed almost entirely of fine sediment. 	What did you see?
	10 9 8 7	6 5 4 3	2 1 0	
5. Channel Flow Status **How much water is in the stream channel?**	Water reaches base **of both lower** banks; little substrate exposed. 	**Some substrate is exposed** and water partially fills channel. 	**Most substrate is exposed** and very little water in channel. 	What did you see?
	10 9 8 7	6 5 4 3	2 1 0	

Total first side ______

Habitat Parameter	Excellent --Poor			
6. Channel Alteration **Is the stream channel altered by humans?**	**No evidence** of channelization (straightening) or alterations such as dredging, agriculture, concrete banks or construction activities. 	**Some evidence** of channelization (straightening) and/or alterations such as dredging, agriculture, concrete banks or construction activities. 	**Most of stream reach** channelized and/or many alterations present such as dredging, agriculture, concrete banks or construction activities. 	What did you see?
	10 9 8 7	**6 5 4 3**	**2 1 0**	*Score*
7. Channel Sinuosity * For MUDDY BOTTOM streams only **Does the channel have lots of curves and bends?**	Yes, bends in the channel are **frequent.** 	There are **more bends than straight** sections. 	There are **more straight sections** than sections with bends or channel is entirely straight. 	What did you see?
	10 9 8 7	**6 5 4 3**	**2 1 0**	*Score*
8. Bank Stability **How stable are the streambanks?** Determine right/left bank by facing downstream	**Bank stable**; erosion, scouring, undercutting or bank failure absent or minimal. Vegetation overhanging the stream is abundant. 	**Bank moderately stable**; evidence of small areas of erosion, undercutting and scouring, or bank failure present. Moderate amounts of overhanging vegetation present. 	**Bank unstable**; many eroded and scoured areas with undercutting; bank failure present; steep banks. Little over hanging vegetation present. 	What did you see?
Left bank	**5 4.5 4**	**3.5 3 2.5 2**	**1.5 1 .5 0**	*Score (Add both*
Right bank	5 4.5 4	3.5 3 2.5 2	1.5 1 .5 0	
9. Vegetative Protection **Are streambanks covered & shaded by a variety of vegetation?** Determine right/left bank by facing downstream	Most streambank surfaces covered and shaded by a **large variety** of vegetation (trees, shrubs, flowering plants and grasses). 	Some streambank surfaces covered and shaded by **some variety** of vegetation (trees, shrubs, flowering plants and grasses). 	Few streambank surfaces covered and shaded by vegetation. L**ittle variety** of vegetation. Streambank dominated by one type of vegetation (trees, shrubs, flowering plants and grasses). 	What did you see? Did you see any nonnative vegetation? Check here if YES ☐
Left bank	**5 4.5 4**	**3.5 3 2.5 2**	**1.5 1 .5 0**	*Score (Add both banks)*
Right bank	**5 4.5 4**	**3.5 3 2.5 2**	**1.5 1 .5 0**	
10. Riparian Vegetative Zone Width **What is the amount of buffer available?** Determine right/left bank by facing downstream	Buffer present; a large variety of vegetation extends at least **three channel widths** on each side. 	Some buffer present; some variety of vegetation extends **two to one channel width** on each side. Human activities have impacted buffer zone. 	Little or no buffer present; vegetation extends **less than one channel width** on each side. Human activities substantially impact buffer zone. 	What did you see? Did you see any nonnative vegetation? Check here if YES ☐
Left bank	**5 4.5 4**	**3.5 3 2.5 2**	**1.5 1 .5 0**	*Score (Add both banks)*
Right bank	**5 4.5 4**	**3.5 3 2.5 2**	**1.5 1 .5 0**	

Stream Habitat Score: **Excellent (69-90) Good (46-68) Fair (23-45) Poor (0-22)**

Total second side ______

Total first side ______

Total ______

Please submit data at: AdoptAStream.Georgia.gov
Or send to: 2 MLK Jr. Dr. SE, Suite 1462 East, Atlanta, GA 30334
Email: AAS@gaepd.org Phone:(404) 651-8515

GEORGIA ADOPT-A-STREAM: Stream Flow

(Also fill out the Basic Visual Form when completing this survey)

CALCULATE AREA

Area = depth x width

It is advisable to take multiple depth and width measurements Always start at the water's edge with a first measurement of zero

All data should be recorded in feet, with inches replaced by decimals

Depth Measurements	1.	2.	3.	4.	5.	6.	7.	8.	sum
	0 ft								

Average Depth ____ ft = (sum of depth measurements) / (number of measurements)

Width Measurements	1.	2.	sum
	ft		

Average Width ____ ft = (sum of width measurements) / (number of measurements)

Area ____ ft^2 = ____ (width) X ____ (depth)

CALCULATE SPEED- Measure the time it takes a float to travel a desired distance

It is advisable to take at least 2 measurements of current speed

Take measurements from the stream <u>run</u>

length = ____ feet (20 feet is recommended)

time in seconds	1.	2.	3.	4.	sum
	s				

average time ____ s = (sum of time measurements) / (number of measurements)

Speed ____ ft/s = (length in feet) / (average time in seconds)

CALCULATE STREAM FLOW

Flow ____ cfs = **Area** ____ **X** **Speed** ____ **X** **Coefficient** ____

<u>Flow in cubic feet per second</u>

0.9 coefficient for muddy bottom stream
0.8 coefficient for rocky bottom stream

GEORGIA ADOPT-A-STREAM: Channel Cross-Section: Part 1

(Also fill out the Basic Visual Form when completing this survey)

Measurements are always taken from the left stream bank, looking downstream. Depth measurements are taken every two feet and in sections where there is a notable change. Be sure to note left and right bankfull, water edge, and sand bars.

CROSS-SECTION			
Distance from LEFT Pin		Measurement Depth	Comments
Point	Ft.	Ft.	
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			

CROSS-SECTION			
Distance from LEFT Pin		Measurement Depth	Comments
Point	Ft.	Ft.	
26			
27			
28			
29			
30			
31			
32			
33			
34			
35			
36			
37			
38			
39			
40			
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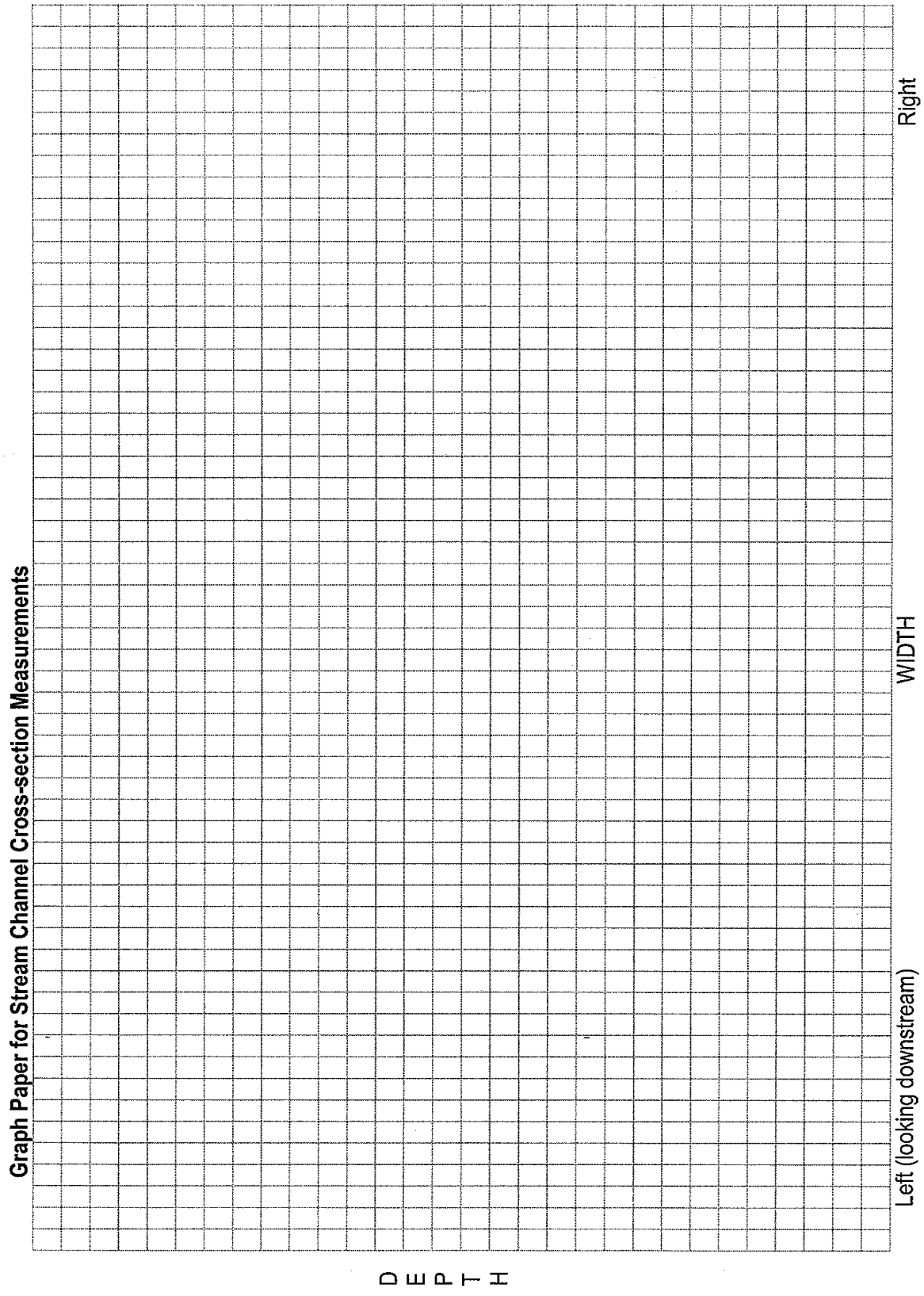
49			
50			

GEORGIA ADOPT-A-STREAM: Channel Cross-Section: Part 2

(Also fill out the Basic Visual Form when completing this survey)



GEORGIA ADOPT-A-STREAM: Wentworth Pebble Count

(Also fill out the Basic Visual Form when completing this survey)

Count#/Size Class	Silt/Clay	Sand	Gravel	Cobble	Boulder	Bedrock
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
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47						
48						
49						

Count#/Size Class	Silt/Clay	Sand	Gravel	Cobble	Boulder	Bedrock
50						
51						
52						
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58						
59						
60						
61						
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83						
84						
85						
86						
87						
88						
89						
90						
91						
92						
93						
94						
95						
96						
97						
98						
99						
100						
Total in each column (%)						

GEORGIA ADOPT-A-STREAM: Site Sketch

(Also fill out the Basic Visual Form when completing this survey)

GEORGIA ADOPT-A-STREAM: Visual Biological Survey

(Also fill out the Basic Visual Form when completing this survey)

1. Wildlife in or around the stream:

□ amphibians □ waterfowl □ reptiles □ mammals □ mussels/clams/oysters
□ crustaceans □ birds

2. **Fish in the stream:** *(Check all that apply)*

□ no □ yes, but rare □ yes abundant
□ small (1-2") □ medium (3-6") □ large (7" and above)

Are there barriers to fish movement?

□ none □ beaver dams □ waterfalls > 1ft
□ dams □ road barriers □ other: _____

3. **Aquatic plants in the stream:** *(Check all that apply)*

□ none

	occasional	plentiful
□ attached plants		
stream margin/edge	□	□
pools	□	□
near riffle	□	□

	occasional	plentiful
□ free-floating plants		
stream margin/edge	□	□
pools	□	□
near riffle	□	□

4. Extent of algae in the stream:

a) Are the submerged stones, twigs, or other material in the stream coated with a layer of algae? *(Check all that apply)*

□ none

	occasional	plentiful
□ brownish:		
light coating	□	□
heavy coating	□	□

	occasional	plentiful
□ greenish:		
light coating	□	□
heavy coating	□	□

	occasional	plentiful
□ other: _____		
light coating	□	□
heavy coating	□	

b) Are there any filamentous (string-like) algae?

	none	occasional	plentiful
brownish	☐	☐	☐
greenish	☐	☐	☐
other: _____	☐	☐	☐

c) Are any detached “clumps” or “mats” of algae floating on the water’s surface?

	none	occasional	plentiful
brownish	☐	☐	☐
greenish	☐	☐	☐
other_____:	☐	☐	☐

5. **Presence of naturally occurring organic material in stream:** *(Good habitat for aquatic organisms)*

Logs or large woody debris:	☐ none	☐ occasional	☐ plentiful
Leaves, twigs, root mats, etc.:	☐ none	☐ occasional	☐ plentiful

6. Stream shade cover: How well is the water surface shaded by vegetation?

Looking down stream:

Total shading No shading

100% 90% _____

80% 70% 60% 50% 40% 30% 20% 10% 0