

Field study to Great falls, MD with Alice Ferguson Foundation

9th and 10th

60 students

Michelle O'Donnell's Environmental Science Class

Water canaries – Macroinvertebrate identification and stream survey

Students collected macroinvertebrates with nets and then IDed.

Environmental Concern and North Beach partnership

Environmental concern is a non profit corporation that was hired by north beach after they received a grant to do habitat restoration on Walton beach nature preserve. The two partnered with Calvert county public schools to serve as a model for future outdoor education experiences. This will help to meet the Environmental Literacy “Meaningful watershed experience” standard.



O'Donnell's 9th grade class doing a macroinvertebrate survey. Oct. 7, 2015



O'Donnell's 9th grade class doing a macroinvertebrate survey at Great Falls, MD on Oct. 7, 2015.



Bridging the Watershed



Water Canaries Datasheet

Date: 10/7/2015

Park: Great Mills Study Site:

Park Rangers & Educators: (one per row) Group Members: (one per row)

	Nevaeh Mahins
	Sophie
	Kamryn
	Noel

Latitude: North 38.997° N Longitude: West 77.0578° W

Why is it important to know the latitude and longitude?

	Yesterday	Today
Air Temperature	79° F	59° F
Cloud Cover	<input type="checkbox"/> Clear <input checked="" type="checkbox"/> Partly Cloudy <input type="checkbox"/> Cloudy	<input checked="" type="checkbox"/> Clear <input type="checkbox"/> Partly Cloudy <input type="checkbox"/> Cloudy
Precipitation	<input checked="" type="checkbox"/> None <input type="checkbox"/> Rain <input type="checkbox"/> Other	<input checked="" type="checkbox"/> None <input type="checkbox"/> Rain <input type="checkbox"/> Other

How could weather affect today's field study? If it rains it can affect the bugs due to how high the water is, temperature also affects the creatures.

Water Color: brown/green Water Odor: Fishy Water Temperature: °C

Stream Bottom: Rocky Sandy/Gravel Silty
 Stream Canopy: Full Shade Partial Shade Sun

How are water temperature, stream bottom, and canopy related?

Stream Speed:

Trial 1	Seconds	Stream Speed measured with digital probe:	ft/s
Trial 2	Seconds		
Trial 3	Seconds		
Average	Seconds	(Add all 3 Trials and divide by 3)	

Use the average time from above in the calculation below to determine average stream speed
10m / [average time] = meters/second

Because we test speed only at the surface of the stream, we use a 'fudge factor' of 0.8 to adjust for an overall stream speed. Use the average speed from above to find the overall stream speed:

Average Speed x 0.8 (fudge factor) = meters/second



Sketch the study site, showing all details that affect your field study:



Macroinvertebrate Collection (Write in numbers only)

Alderfly, Fishfly, Hellgrammite	2
Aquatic Sowbug	
Aquatic Worms	2
Beetle & Water Penny	
Blackfly	3
Clam	38
Crane fly (Truefly)	
Crayfish	
Common Netspinner Caddisfly	
Damselfly & Dragonfly	2

Flatworm	
Gilled Snail	
Leech	
Lunged Snail	
Mayfly	
Midge	
Most Caddisflies	
Scud	
Stonefly	1

Other/Notes: 1 Fish (burch)

Student work from the field trip to Great Falls. This was their stream survey where they were counting the number of macro invertebrates they had. In the classroom we finished the calculations to see what type of water quality the canal there has. Oct. 7, 2015.