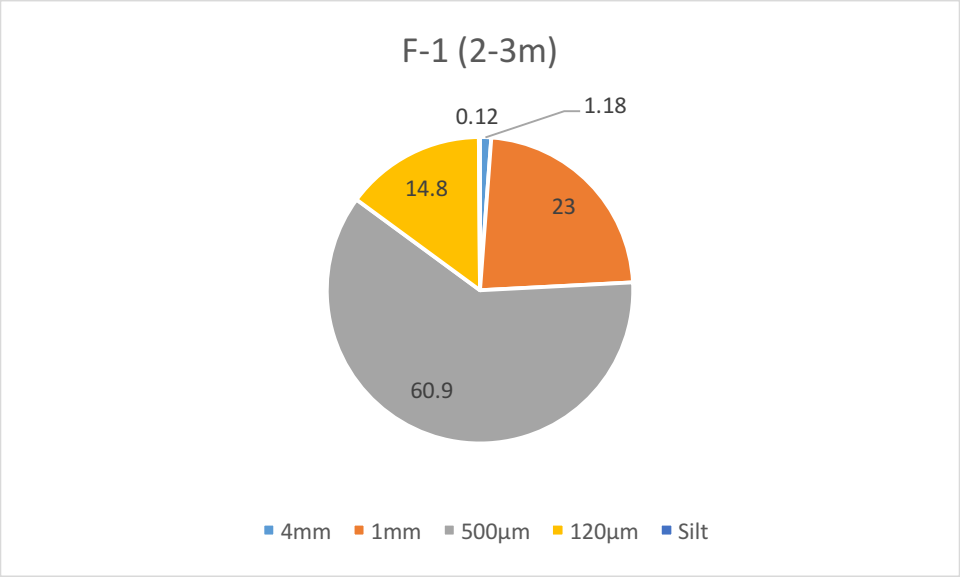
Site F Data Analysis: Spring 2015

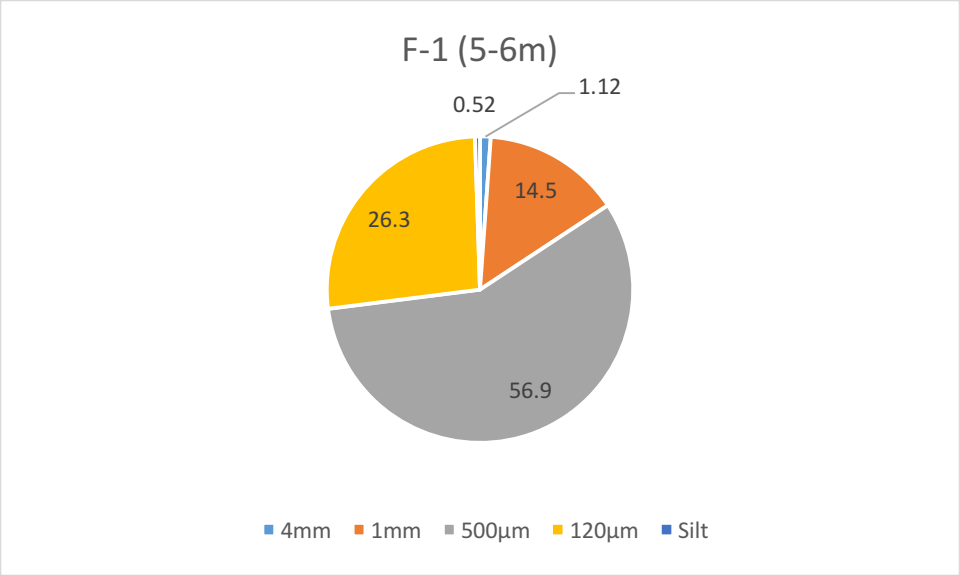
Data Table #1: Site F Transect 1 – Sediment Composition

	4mm		1mm		500 micrometers		120 micrometers		Silt		
Sample #	Mass (g)	% of total	Mass (g)	% of total	Mass (g)	% of total	Mass (g)	% of total	Mass (g)	% of total	Total
Transect 1 (2-3m)	11.5	1.18	224.3	23.0	594.5	60.9	144.2	14.8	1.2	.123	975.7
Transect 1 (5-6m)	18.7	2.12	127.9	14.5	503.0	56.9	232.5	26.3	1.4	.518	883.5

Sediment Analysis:

Compared to Spring 2014, the amount of 1mm and 500 micrometers sediments greatly increased – 1mm by over 100 grams for Transect 1 2-3m, and over 100 grams more of 500 micrometers sediments. The amounts of Transect 1 5-6m increased similarly, although by not such a large margin. Also, the amount of silt found in the water went down for both 2-3m and 5-6m. For 2-3m, the amount decreased significantly by around 8 grams, while for 5-6m, the amount decreased by around 1 gram. This indicates that the creek is in better health, as too much silt could possibly clog up the airways of organisms living in the water. In addition, having more larger-sized sediments allows for more biodiversity within the creek.





Data Table #2: Site F Transect 1 – Chemical Testing

Transect	Distance from Bank (m)	*Corbicula*	Feature	Potassium	pH	Nitrogen	Phosphorus
1	2-3	0	Dry	Medium	6.0	Trace	Low
1	5-6	0	Dry	Med-Low	6.0	Trace	Trace

Chemical Analysis:

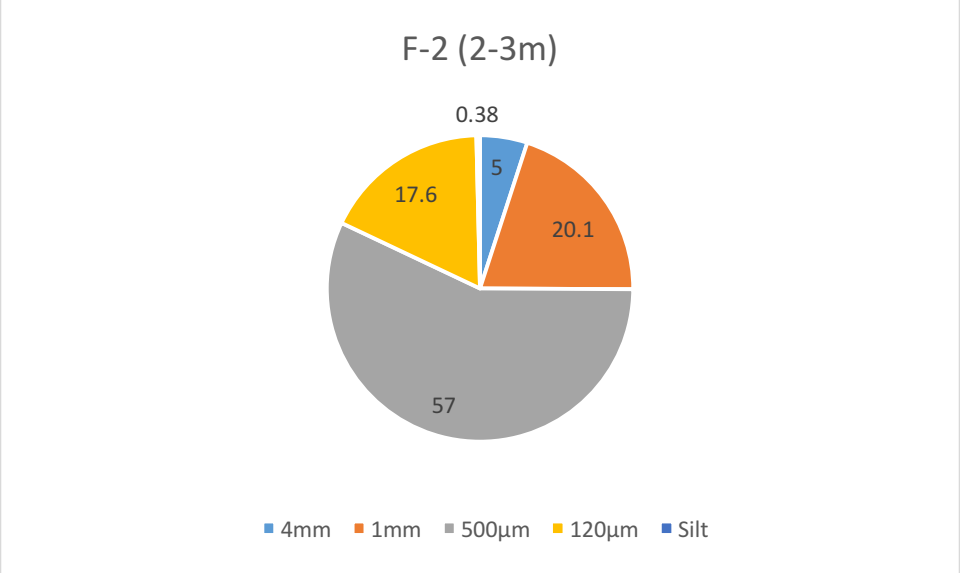
Fewer *Corbicula* were found in Transect 1 2-3m than last year (from 2.5 *Corbicula* to 0). In addition, the amount of phosphorus found in the water went down for both 2-3m and 5-6m (medium-low to low, low to trace). This indicates that the creek is in better health, as *Corbicula* only grows in generally unhealthy environments for other organisms. It is good that the phosphorus levels decreased, as too much of this nutrient could potentially lead to an algae bloom and deplete the oxygen in the water. However, the pH of the water went down for both 2-3m and 5-6m – 2-3m went from 6.5 to 6.0, and 5-6m went from 7.0-6.0. However, the healthy zone for pH is 6.5-8, and if this trend in pH continues, fewer organisms may be able to live in the creek.

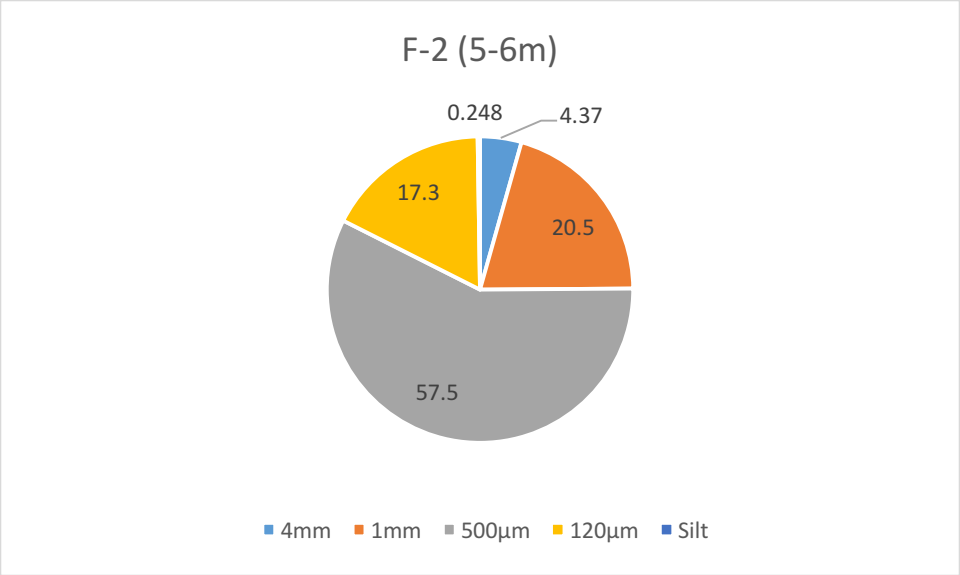
Data Table #1: Site F Transect 2 – Sediment Composition

	4mm		1mm		500 micrometers		120 micrometers		Silt		
Sample #	Mass (g)	% of total	Mass (g)	% of total	Mass (g)	% of total	Mass (g)	% of total	Mass (g)	% of total	Total
Transect 2 (2-3m)	39.5	5.00	158.8	20.1	450.2	57.0	138.9	17.6	3.0	.380	790.4
Transect 2 (5-6m)	65.4	4.37	306.4	20.5	860.3	57.5	259.1	17.3	3.7	.248	1494.9

Sediment Analysis:

Compared to Spring 2014, the amount of 4mm increased, 1mm decreased for 2-3m and increased for 5-6m, while the amount of silt for 2-3m went up by 2 grams. The presence of larger sediments indicates that there may be more biodiversity in the creek in the future, however, there was if the amount of silt in the water continues to increase, this could affect the fish, macroinvertebrates, and other insects in the creek as it could plug their airways, render them unable to breathe, and thus die out.





Data Table #2: Site F Transect 2 – Chemical Testing

Transect	Distance from Bank (m)	*Corbicula*	Feature	Potassium	pH	Nitrogen	Phosphorus
2	2-3	0	Dry	Low	6.5	Very Low	Med-Low
2	5-6	3	Run	Medium	7.0	Trace	Med-Low

Chemical Analysis:

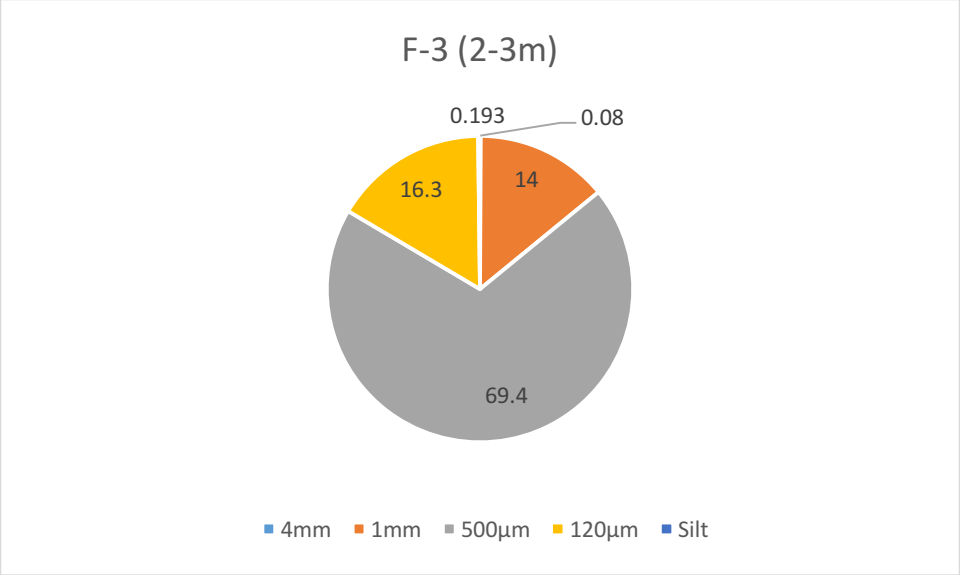
Although the amount of *Corbicula* found at Transect 2 2-3m decreased to 0, the number found in Transect 2 5-6m increased from 0 to 3. The amount of potassium in Transect 2 5-6m also went up from medium-low to medium, and the pH of both 2-3m and 5-6m remained relatively similar. However, the amount of phosphorus for this transect went up from low to medium-low, and for 2-3m, the amount of nitrogen went up from trace to very low. This generally indicates that this part of the creek, and perhaps the entire creek, is growing more unhealthy, as *Corbicula* only grow in conditions unhealthy for most other organisms that live in our creek. Also, the amount of potassium and phosphorus went up, which could potentially lead to an algae bloom and depletion of oxygen in the creek which would negatively affect its inhabitants.

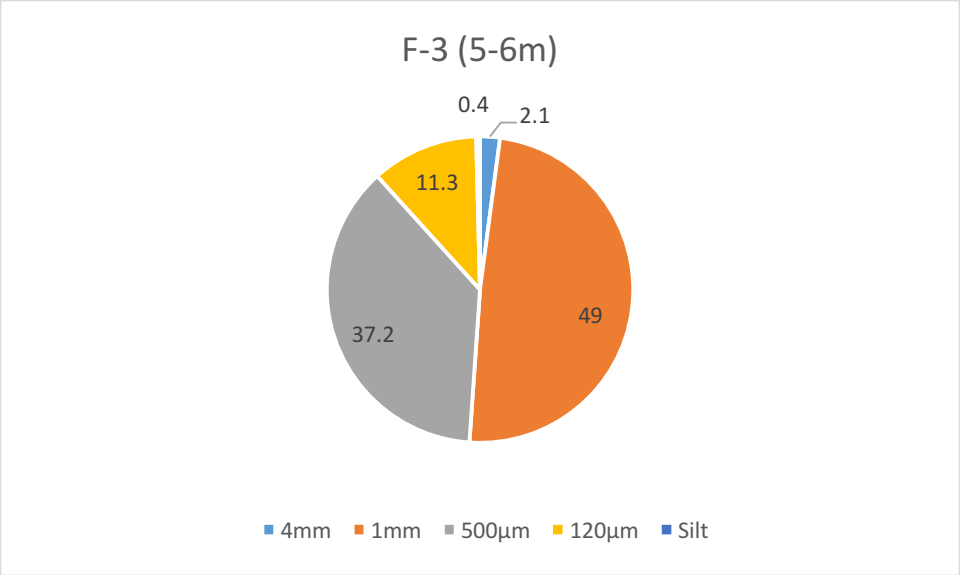
Data Table #1: Site F Transect 3 – Sediment Composition

	4mm		1mm		500 micrometers		120 micrometers		Silt		
Sample #	Mass (g)	% of total	Mass (g)	% of total	Mass (g)	% of total	Mass (g)	% of total	Mass (g)	% of total	Total
5	1.1	.08	196.3	14.0	969.5	69.4	228.2	16.3	2.7	.193	1397.8
6	23.8	2.10	554.4	49.0	420.2	37.2	127.6	11.3	4.9	.433	1130.

Sediment Analysis:

Compared to last year's sediment data for the spring semester, little has changed. Silt has dropped slightly to a healthy .193% and .433% for transects 1 and 2 respectively. The most notable outlying piece of data is the 69.4% of 500 micrometer sediment found in the first transect's sample. This could have been due to experimental error, as the creek was dry at the time, making it difficult to follow protocol to a high degree of compliance.

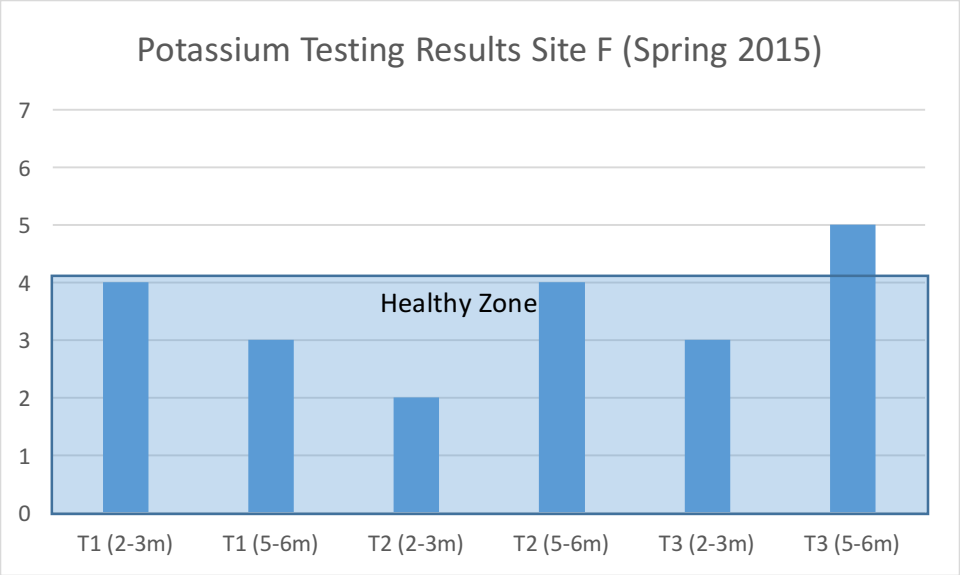


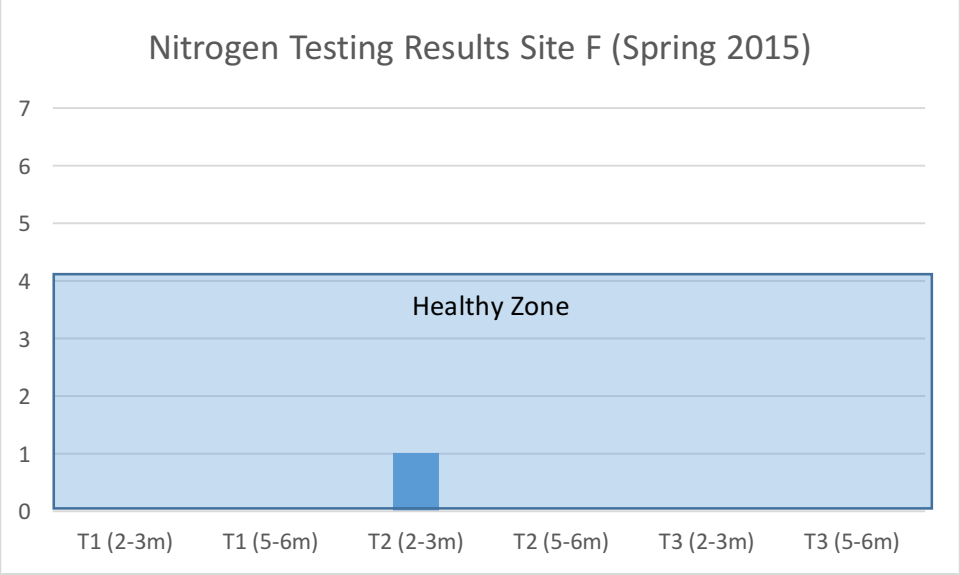


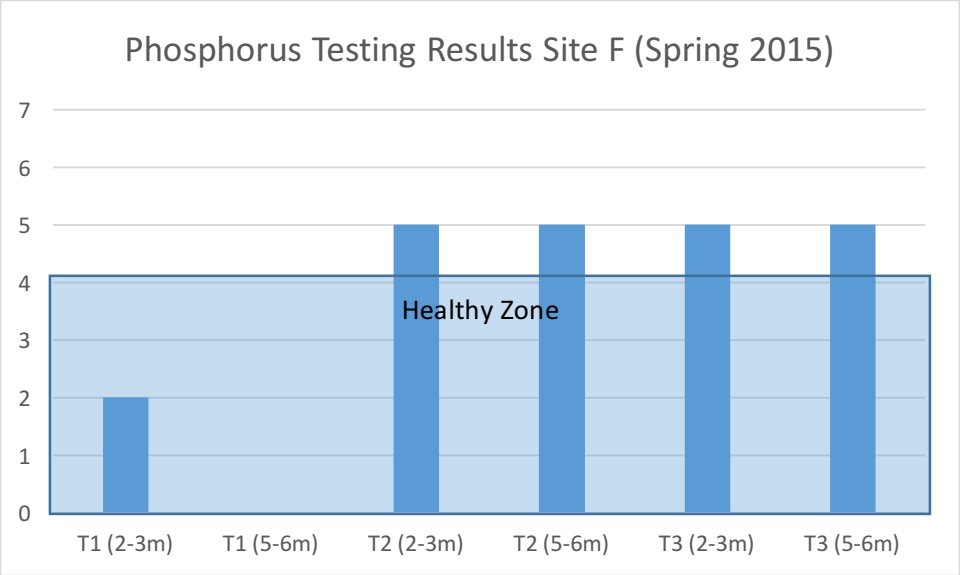
Transect	Distance from Bank (m)	*Corbicula*	Feature	Potassium	pH	Nitrogen	Phosphorus
3	2-3	0	Run	Med-Low	7.0	Trace	Med-Low
3	5-6	2	Dry	Med-High	6.5	Trace	Med-Low

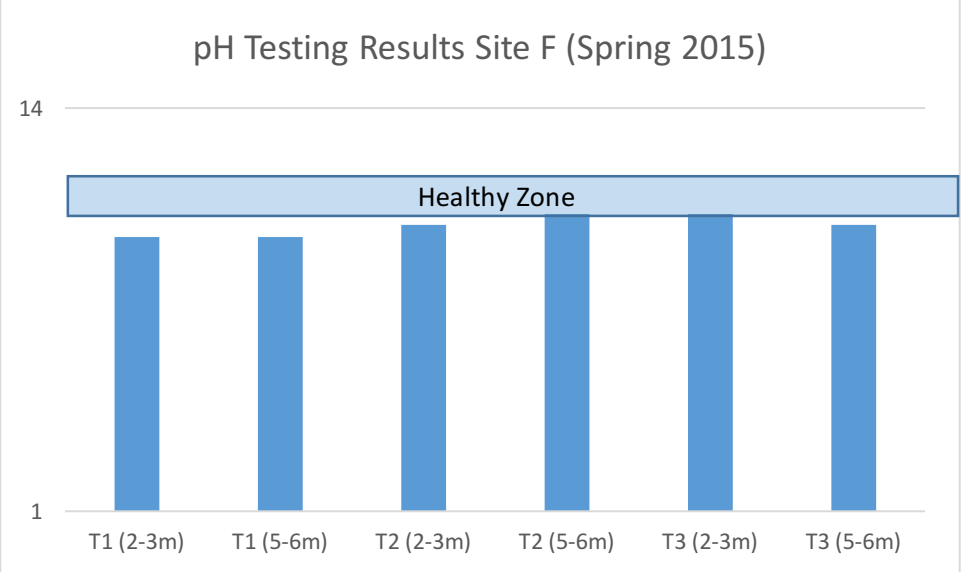
Transect 3 Analysis:

Outlying values in this sample included the value from the 5-6m sample which was Medium-High for potassium tests. Last year at the same time, this value was tested at Medium-Low. This value was verified independently and the test was redone once more to verify this high value. This could have been due to the fact that the creek was in a dry condition at the time and there was simply a build-up of Potassium-rich sediment in that region, as evidenced by the fact that the area of the same transect only 2 meters away was tested at the medium-low range.


Potassium Testing Results Site F (Spring 2015)
7
6
5
4
3
2
1
0
Healthy Zone
T1 (2-3m)
T1 (5-6m)
T2 (2-3m)
T2 (5-6m)
T3 (2-3m)
T3 (5-6m)


Nitrogen Testing Results Site F (Spring 2015)
7
6
5
4
3
2
1
0
Healthy Zone
T1 (2-3m)
T1 (5-6m)
T2 (2-3m)
T2 (5-6m)
T3 (2-3m)
T3 (5-6m)


Phosphorus Testing Results Site F (Spring 2015)
7
6
5
4
3
2
1
0
Healthy Zone
T1 (2-3m)
T1 (5-6m)
T2 (2-3m)
T2 (5-6m)
T3 (2-3m)
T3 (5-6m)


pH Testing Results Site F (Spring 2015)
14
1
Healthy Zone
T1 (2-3m)
T1 (5-6m)
T2 (2-3m)
T2 (5-6m)
T3 (2-3m)
T3 (5-6m)