

Let's Dive In... To Wetland Diversity

Ms. Bowers' and Mrs. Sommer's 4th Grade Classes
Mill Creek Elementary School

Introduction

➤ We are interested in learning about the invertebrates that live in the wetlands ecosystem of the Mill Creek outdoor classroom. We are also interested in learning what different kinds of invertebrates come out in different seasons and why they come out that time of year. The wetland is a wet-weather creek in the outdoor classroom, which only fills up with water when it rains. Sometimes it has very little-to-no water, sometimes it fills slowly and sometimes it fills very rapidly during flooding.

Mill Creek Wetlands



Research Questions

- What is the difference between the number of invertebrates collected in the Mill Creek Wetlands in the fall, winter and spring of the 2013-2014 school year?
- What is the difference between the number of invertebrates collected during the spring of 2013 compared to spring of 2014?
- What is the difference between the diversity of invertebrates collected during the spring of 2013 compared to spring of 2014?

Methods

- We used the aquatic nets to collect the invertebrates from the wetlands.
- We used the microscopes to look at the different invertebrates we collected.
- We looked through a guide to find out what invertebrates we collected.

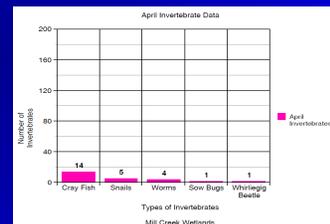
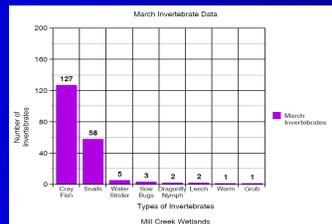
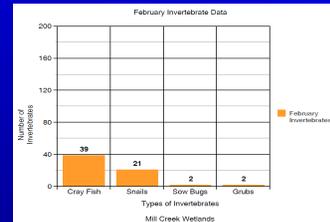
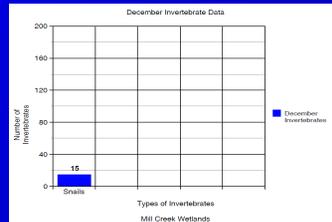
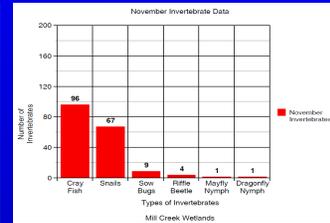
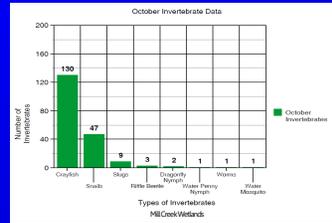
Tools



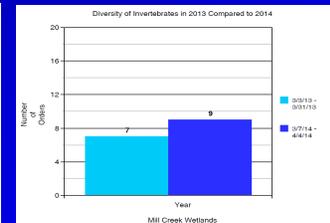
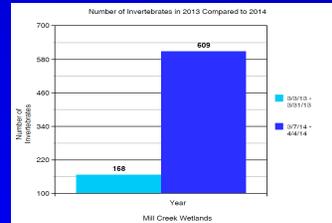
Collection Dates

10/18/13 Mill Creek	11/18/13 MC Mill Creek	12/6/13 Mill Creek
2/21/14 Mill Creek	3/7/14 Mill Creek	3/14/14 Mill Creek
3/21/14 Mill Creek	4/4/14 Mill Creek	

Results



The above graphs show the number and species of invertebrates found in our outdoor classroom from October 2013 through April 2014.



The above graphs show the difference in number and diversity of invertebrates from March 2013 compared to March/April 2014.

Most Common Invertebrates in the Mill Creek Wetlands



Crayfish
(Order Decapoda)



Snail
(Class Gastropoda)



Dragonfly Nymph
(Order Odonata)

And the Conclusion is...

What We Learned

- There were more invertebrates, when comparing both species and number, in the Spring than there were in the Fall or Winter
- There were fewer invertebrates, when comparing both species and number, in the Winter than in the Fall or Spring
- Spring 2014 had the greatest number of invertebrates with no significant difference in the number of species when comparing the year 2013 to 2014
- After the flood in April there were few crayfish and many worms. We think the crayfish were washed away and the worms were drowning.
- Snails seem to survive better in cold weather
- Crayfish will eat almost anything including all invertebrates we found

Possible Errors

- Could have scared some invertebrates away and couldn't count them
- Could have counted the same invertebrates more than once
- Could have spent more time in one area
- Too many leaves in the water may have kept us from collecting some species
- May have misidentified some invertebrates

Looking Ahead...

- We are going to continue collecting invertebrates in the Mill Creek wetlands to see if the warmer weather changes the invertebrate population. Are we seeing the same invertebrates or different species of invertebrates? Also, are we seeing more invertebrates as the weather gets warmer?
- We'd also like to see how precipitation affects the number of invertebrates we collect, like it did after our April 4th collection.

Acknowledgements

- We would like to thank our teachers, Ms. Bowers and Mrs. Sommer. We would like to thank CC Carson and Teri Larison, University of Missouri Grad Students for helping us with our research. We would like to thank Brett O'Brien, Park Natural Resources Supervisor with the City of Columbia, and Dr. Galen and BGreen for helping us get our supplies.

