

Bugs that were Collected



Amphipoda/ Diptera-Chironomidea



Isopoda

Mollusca



Mollusca

Oligochaeta



Trichoptera

Trichoptera

Conclusion:

The study lent us valuable data to include to the studies of the past. We discovered that this section of the river had a much worse water quality than the section that was studied last year. This year the water quality was in the 6-7 point range, indicating that the water quality was in the fairly poor range. This raises questions about how we can better improve the river and why the water quality was in this range. Several factors can contribute to this, such as the use of the river and the land around it. In this case, the river is used for many events such as the Great Duck Race and the Mansfield Fishing Derby. Both of these events use the water heavily and could result in the accidental pollution of the river. In addition, there are many roads and highly populated areas around the river, which could also result in the pollution of the river. In conclusion, this study provided us with valuable data that can be used to improve the quality of the river. We are planning to improve the water quality of the river through these brochures and other publications in order to educate people about the river and how to keep it clean and healthy.

Rumford River Benthic Macro Invertebrates



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Our Study

This year, we surveyed a section of the Rumford River located in Mansfield Massachusetts. In this study, students from Mr. DeGirolamo's science class collected various sample of water and bugs in order to gauge the quality of the water based upon the tolerance of the assorted bugs found. This study provides a baseline for the quality of the water and educated the students about the ecology and the water of the area.

Yellow Star:
Indicates
where
the study
took
place



Facts and Statistics

Water Quality:

Group	Actual	Actual
	Count	Count
	Rep. 1	Rep. 2
Ephemeroptera	2	6
Plecoptera	1	0
Trichoptera	49	57
Diptera (Chironomidae)	16	5
Diptera (Other)	0	0
Odentata	1	1
Megaloptera	1	0
Coleoptera	1	3
Hemiptera	0	0
Amphipoda	47	59
Isopoda	68	39
Decapoda	0	0
Gastropoda	16	9
Pelecypoda	0	0
Oligochaeta	4	22
Hirudinae	1	2
Turbellaria	0	0

Totals 207 203
This selection of data shows the types of bugs that were found at the site and shows how many we found of each kind. The highlighted sections are the species of bugs that were present the most often. This data also tells us the MGBI, or the overall water quality based upon the bugs in the river. **The MGBI of this study was 6.25, indicating that the water quality was quite poor.**

Q in CFS	2.38
Q in L/s	67.33
Q in L/day	5817503
SRP mg/day	26289.3
SRP g/day	26.29

NOX mg/day	2274644
NOX g/day	2274.64

This table shows how many liters of water are processed per day. This is called calculating load and shows that

the river processes 2,274.64 liters per day. This also plays an important factor in calculating the health of the river because it shows how the river operates and therefore, how it may be affected by human means.