

A photograph of a young man with blonde hair, wearing a grey t-shirt and khaki shorts, crouching on a log in a forest stream. He is holding a small clear container. In the foreground, a red net is partially submerged in the water. The background is a dense forest with many trees and green foliage. The title text is overlaid on a white rectangular box in the upper left.

The Effect of *Cambarus* Crayfish on Stream Ecology

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Introduction

Introduce crayfish to Crim Dell stream

Measure their effect on ecosystem

- Algae growth

- Snail tracks

- Other effects?

Hypothesis

Crayfish, predating on several trophic levels, will act as primary and secondary consumers, reducing the population of grazing snails and affecting algae abundance



**Increase crayfish
population**

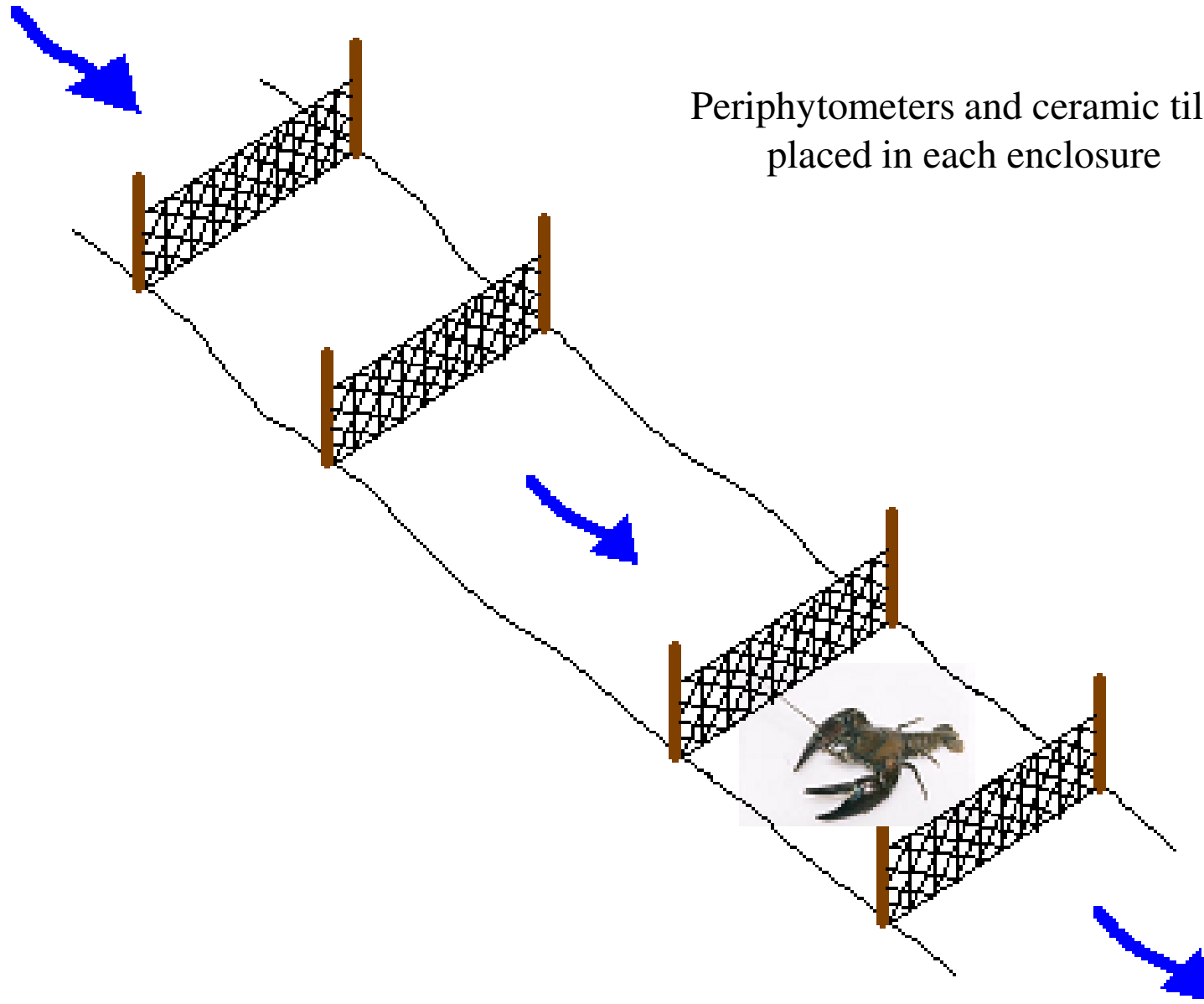


**Eat lots of snails
and other grazers**



**Result:
More algae,
or less?**

ExperimentDesign



Periphytometers and ceramic tiles
placed in each enclosure





Analysis

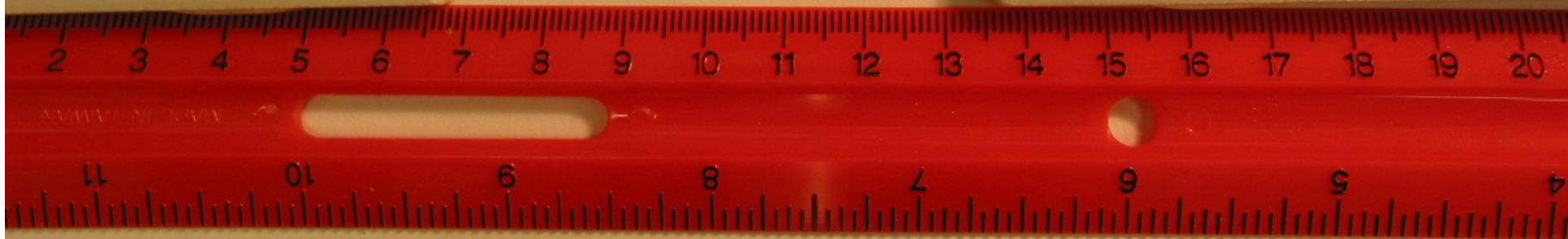
Measured organic mass deposited on slides

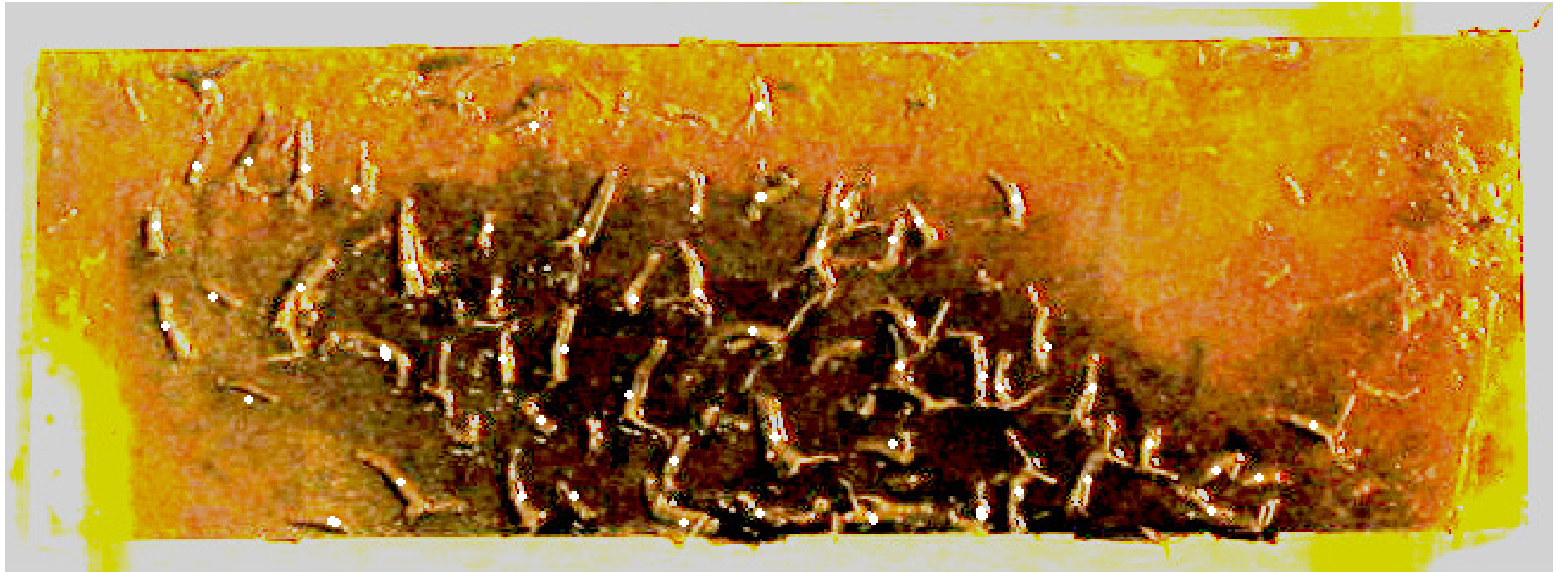
Counted number of chironomidae larval cases that had settled on each slide

Looked for snail tracks to estimate their activity within enclosures

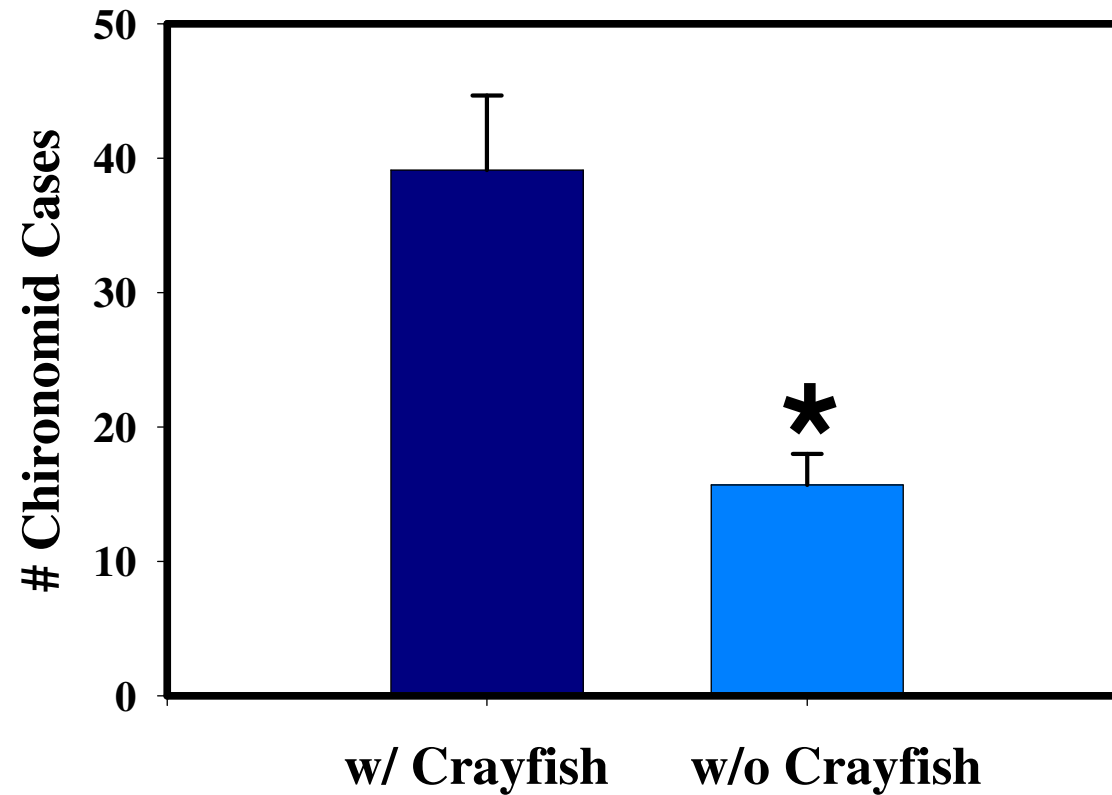
III-1

w/crag #1A

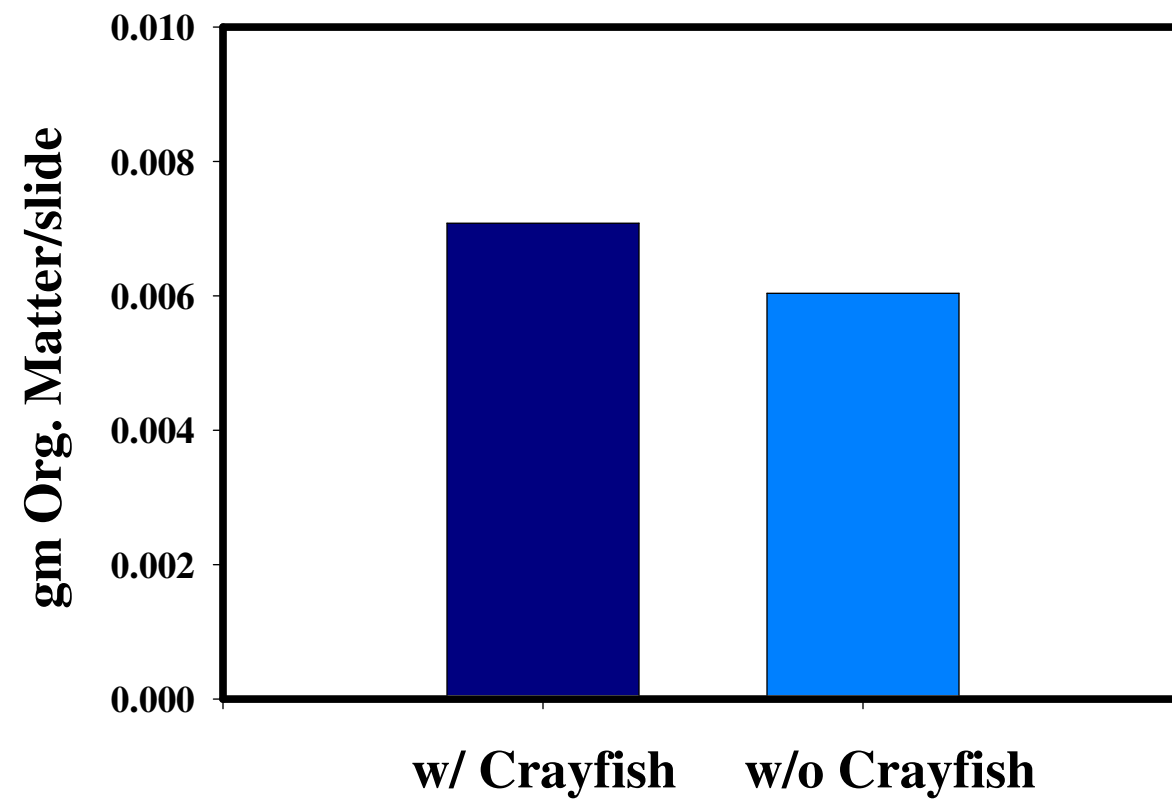




Findings



* Significant $p < 0.005$



Results Summary

Snail tracks not evident on slides at end of study

More chironimid cases in the presence of crayfish

Organic deposition on slides similar in the presence and absence of crayfish

Discussion

Experimental design and “demonic intrusion”

- Crayfish walked out of treatment areas
- Fish entered treatment areas during storms
- Large storm during experiment destroyed two replicates and buried periphytometers
- Fish may be a better organism for manipulation of density and measure of trophic impacts



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