

# WHAT LEAF LITTER SPECIES DO CRAYFISH PREFER

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SHHS

10th

# INTRODUCTION



<https://wall.alphacoders.com/big.php?i=2108>

# INTRODUCTION

## Why are crayfish important?

- Crayfish are predators
- They are also prey
- Crayfish are important to the ecosystem:
  - Their old burrows turn into homes for fish
  - Nursery for their eggs
  - Eat invasive aquatic plants (Eurasian Milfoil (*Myriophyllum spicatum*))
  - Hypothesis: Crayfish will prefer bundles of Hickory leaf litter

# INTRODUCTION



# INTRODUCTION

- How can invasive crayfish be bad?
  - Rusty crayfish (*Orconectes rusticus*) are invasive
  - Decompose leaf litter at a faster rate (Lupoli 2012)
  - Other species of crayfish and various aquatic organisms have no food left
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# METHODS

- Caught six crayfish by hand
- Placed them in separate containers each with 8l of water
- Containers were kept inside because of predators and weather
- Performed water quality test on a two day interval
- Measured out exactly two grams of each leaf type for each container
- Placed each leaf type in each container
- Measured the crayfish and leaves with a scale and ruler

# METHOD

- I used three types of leaves
  - Hickory - Most likely to be found around and in lakes
  - Red Oak
  - American Beech



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[https://www.auburn.edu/academic/forestry\\_wildlife/dendrology/dendrology/highslide/images/large/117\\_1](https://www.auburn.edu/academic/forestry_wildlife/dendrology/dendrology/highslide/images/large/117_1)



<http://dendro.cnre.vt.edu/dendrology/images/Quercus%20rubra/leaf1.jpg>



[http://www.depauw.edu/files/naturepark/plants/thumb\\_beech-leaves-001.jpg](http://www.depauw.edu/files/naturepark/plants/thumb_beech-leaves-001.jpg)

# METHOD





# METHOD



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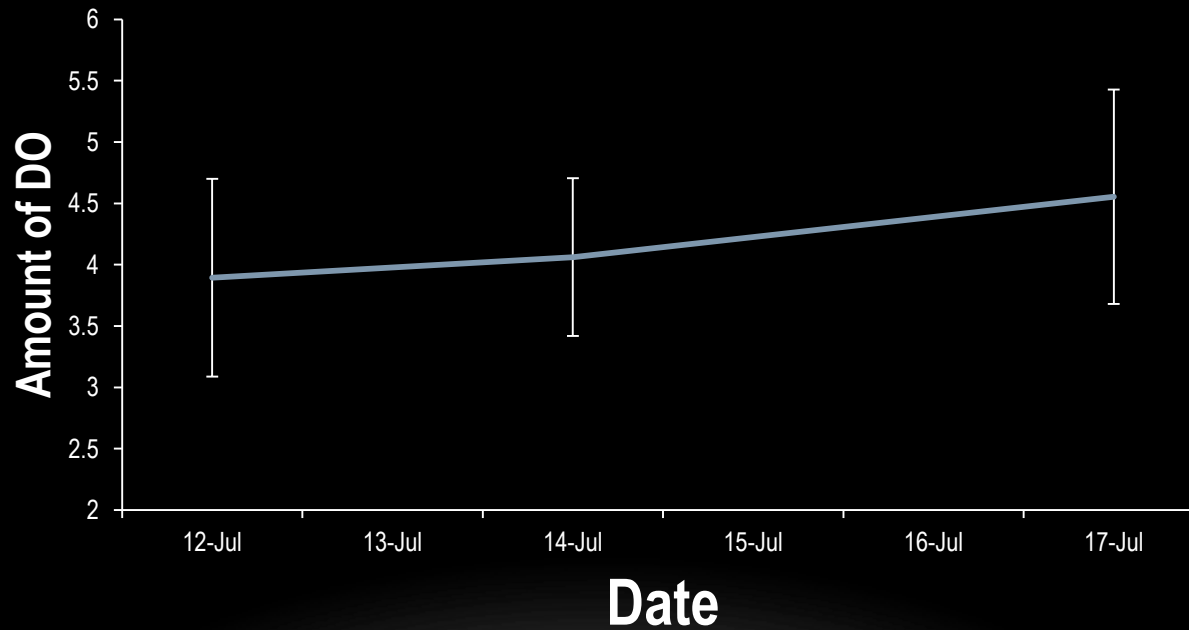
## METHOD

- Water quality test conducted:
- Dissolved Oxygen Tests
- pH Test
- Water Conductivity Tests
- Temperature Tests
- Algae Tests



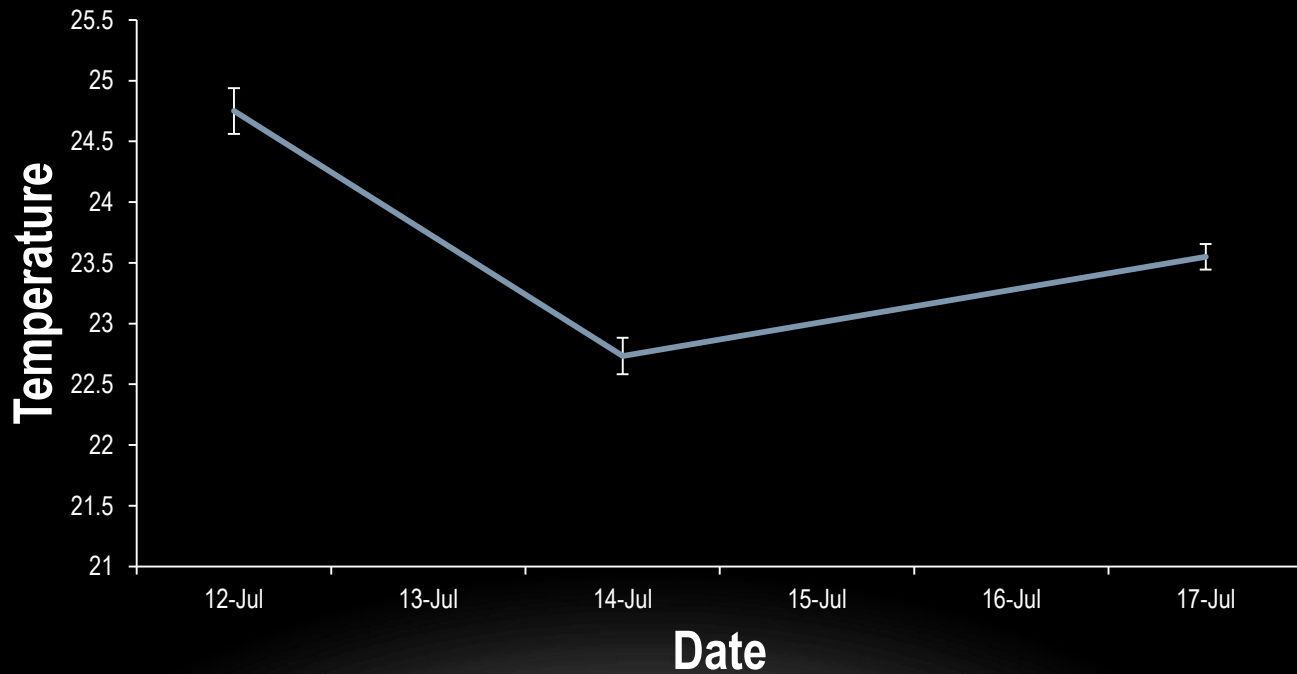
# METHOD

## Change in Water's Dissolved Oxygen Over One Week



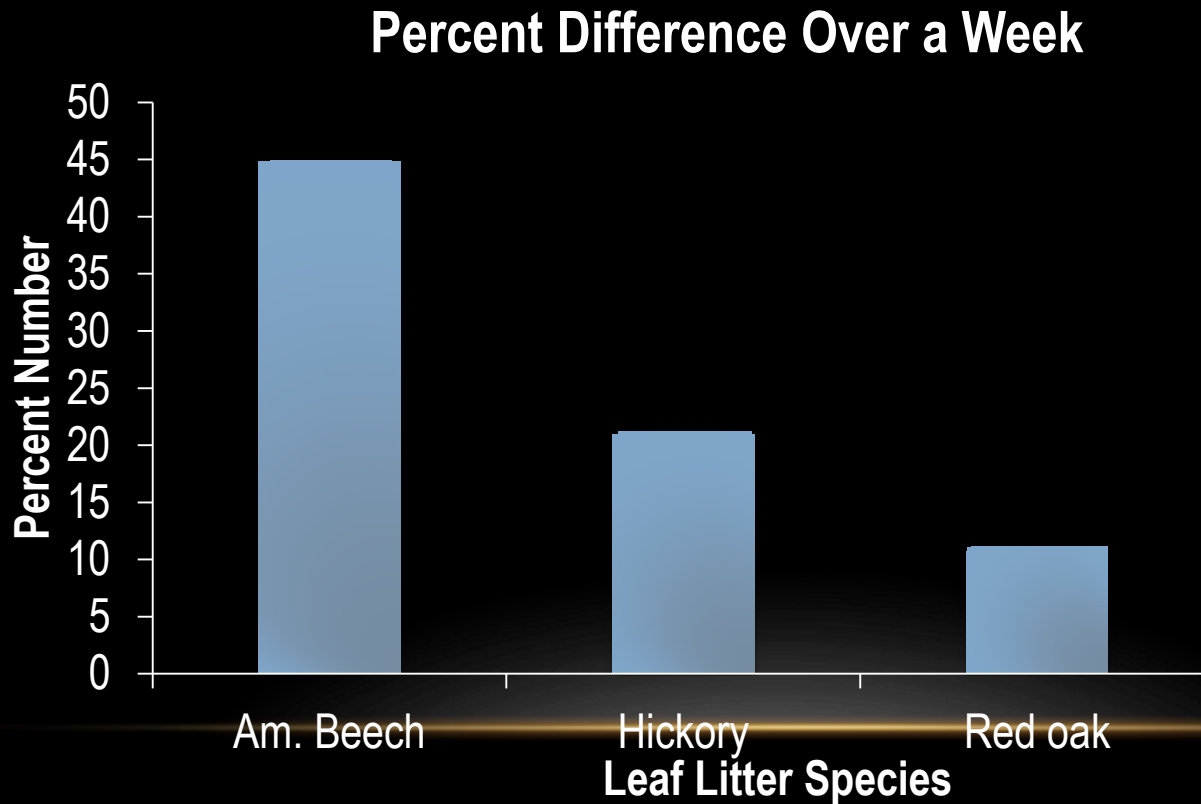
# METHOD

## Change in Water's Temperature Over One Week



# RESULTS

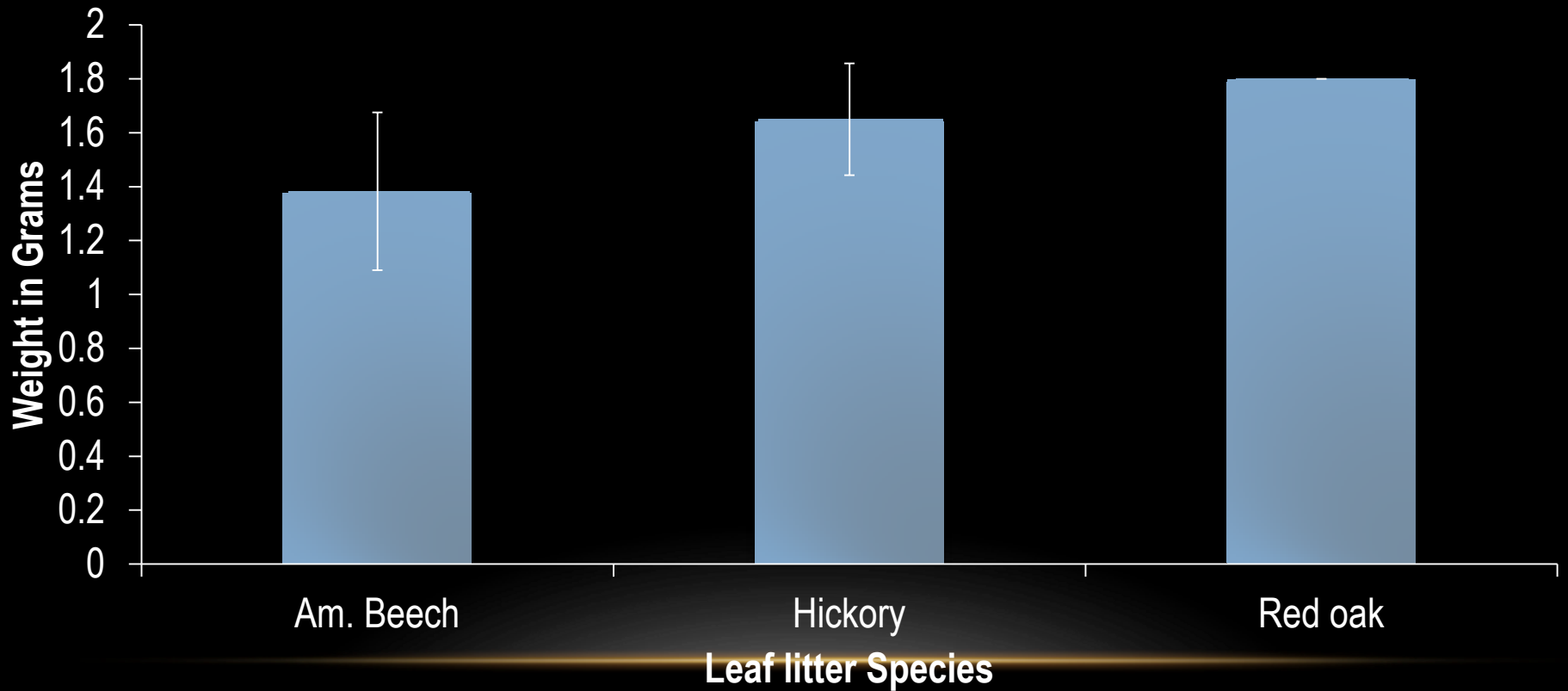
- Cray fish preferred bundles of American Beech leaf litter.





# RESULTS CONTINUED

## Final Average Mass After One week



## DISCUSSION

- Hypothesis was not supported
- All crayfish preferred American Beech

Why was American Beech preferred?

- American Beech decomposed faster
- More delicate
- Scent

# CONCLUSION

- Issues:
  - Time
  - weather
  - Different crayfish species
  - Different size crayfish
- Question:
  - Would an invasive lake crayfish like the Rusty crayfish thrive against a stream crayfish like the Robust crayfish in a stream habitat?

# CONCLUSION

- Future Research:
  - Rusty crayfish will thrive in the stream habitat against a Robust crayfish.
- Importance: Observe the impact of Invasive species on native species
- Rusty crayfish are:
  - faster
  - stronger
  - more aggressive
  - more intelligent

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