

Dragonflies and Damselflies (Odonata) at the Cathance River Preserve, Topsham Maine

By Isadora Theberge and Emma Hanna



Autumn Meadowhawk

Spotted Spreadwing

Cherry-faced Meadowhawk

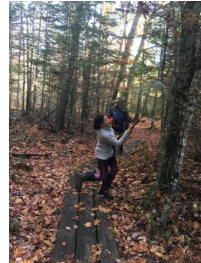
Purpose: To determine if there is a correlation between dragonflies found and air temp, daylight hours, or location.



Cherry-faced Meadowhawk



Isadora and Mentor, David Reed looking for dragonflies.



Isadora about to catch a dragonfly.



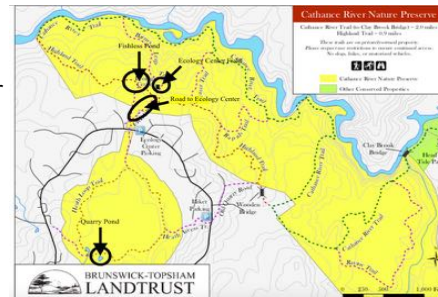
Isadora checks the net.

Hypotheses:

- 1) As the hours of light decrease, then dragonflies and damselflies populations will drop.
- 2) As the temperature drops dragonfly, damselfly populations will also drop.
- 3) The location will affect the numbers and types of dragonflies and damselflies.

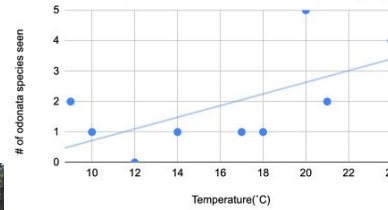
Procedure:

- 1) Get two large nets (42 cm in diameter) and GPS unit from Ecology Center
- 2) Go to the fishless pond once each visit, the Ecology Center field once each visit, and every 3 weeks visit the quarry pond and Ecology Center road, record GPS coordinates of these places. See map below for locations.
- 3) Catch, record, and identify dragonflies or damselflies seen.
- 4) Photograph dragonflies and damselflies at the Ecology Center field, the Fishless Pond, the Quarry Ponds, and the Ecology center road.
- 5) Find sunlight hours/ temperature on google and record
- 6) Repeat weekly during September through October

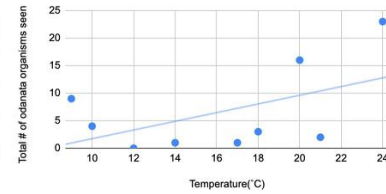


Map showing four different places (fishless pond, ecology center field, ecology center road, and quarry pond) visited at Cathance River Preserve.

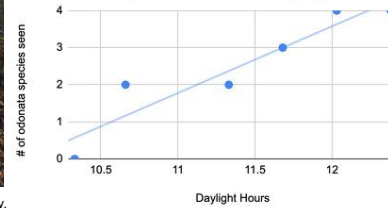
of odonata species seen vs. Temperature(°C)



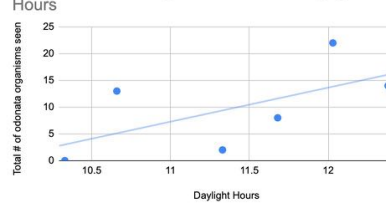
Total # of odonata organisms seen vs. Temperature(°C)



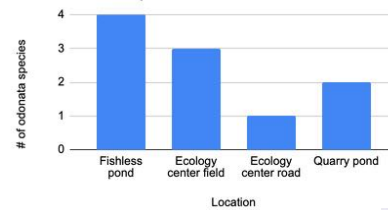
of odonata species seen vs. Daylight Hours



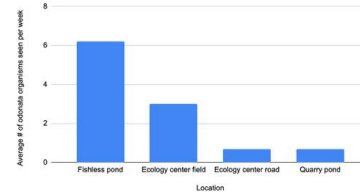
Total # of odonata organisms seen vs. Daylight Hours



of odonata species vs. Location



Average # of odonata organisms seen per week vs. Location



Conclusion:

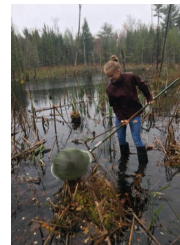
Results:

- The data supports the original hypothesis that dragonflies prefer warmer temperatures, and more daylight hours.
- For instance on October thirty first with 10.33 hours of daylight at 12 °C, zero dragonflies were observed. Whereas on September twenty sixth with 12.03 daylight hours, it was 24 °C, and a grand total of 23 dragonflies were observed.
- The data also supports another hypothesis that the location would affect the numbers and types of dragonflies and damselflies.
- For example at the fishless pond the researchers saw four different species of dragonflies and damselflies.
- Only two different species of dragonflies and damselflies were spotted at the quarry pond.

Sources of Error/Suggestions:

- Nonstop flying dragonflies and damselflies can be hard to count, leading to some inaccurate numbers. In addition sometimes dragonflies and damselflies stayed nearby, and the researchers may have caught the same dragonfly or damselfly.
- To prevent this, mark the dragonflies and damselflies so they won't be caught again and/or counted twice.

The biggest thanks goes to our mentor David Reed!!!!!!!!!!!!



Emma spots a dragonfly and attempts to capture the dragonfly in the net.



Spotted Spreadwing



Spreadwing