

Study of Adult Dragonflies at Cathance River Education Alliance

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Problem:

To Observe the changes in populations of dragonflies at Cathance River Education Alliance in Topsham, Maine according to the air temperature and the humidity during the months of September and October.

Hypothesis:

If the area the dragonflies live in has a humidity of 65-85% with temperatures of at least 10°C (50°F) then there will be at least two dragonflies per meters squared.

Thank you:
David Reed
Cheryl Sleeper
Mr. Evans
&
C.R.E.A.!



A little bit of background information:

Dragonflies are insects and are part of the order Odonata. Dragonflies have large multifaceted eyes, long slender bodies, and two pairs of strong transparent wings.

Most adult dragonflies are brightly colored.

Dragonflies go through metamorphosis like many insects.

They are arthropods with an exoskeleton covering their outer body; they have three pairs of legs and their body is divided into sections: head, abdomen, thorax.

Dragonflies are some of the fastest insects in the world.

There are various different kinds of dragonflies, here are some of the dragonflies that were found at Cathance River Preserve:

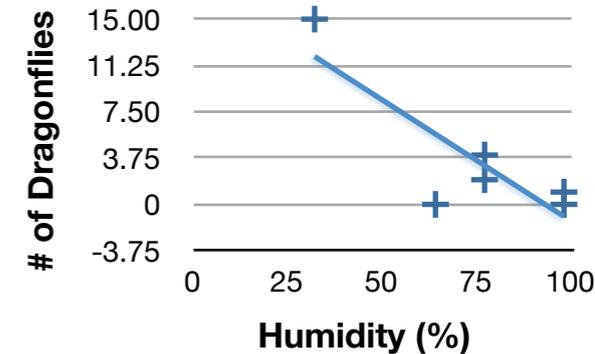
- White Faced Meadowhawk
- Cherry Faced Meadowhawk
- Common Spreadwing
- Spotted Spreadwing
- Black Tipped Darner



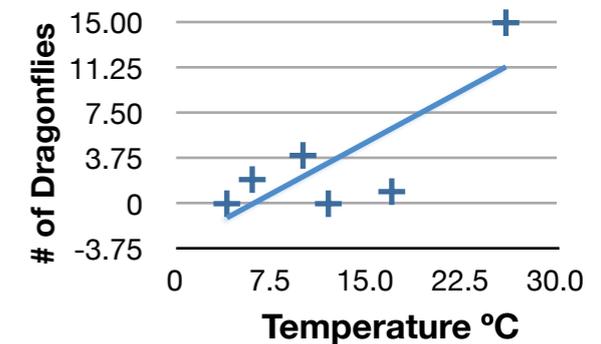
Conclusion:

- Temperature extremes (below 4°C and above 26°C), affected the number of dragonflies. Higher temperature, more dragonflies; while lower temperature, less dragonflies.
- Between 4-26°C dragonflies were comfortable and humidity was the variable which affected them. Higher humidity meant lower quantity in dragonflies; While lower humidity meant higher quantity in dragonflies.

How Moisture Affects the Quantity of Dragonflies Through September and October



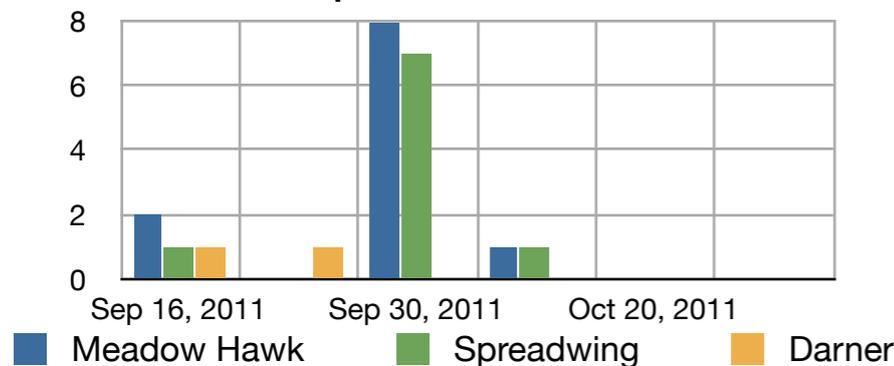
How Air Temperature Affects the Quantity of Dragonflies Through September and October



Procedure:

1. Talk with David Reed, dragonfly specialist and photographer who suggested to study two areas: pond, just downstream of the Heath Loop Trail and the central area near the Ecology Center.
2. Calculate area of locations studied, photograph locations, and find GPS coordinates.
3. Gather nets and look for dragonflies
4. Once dragonfly is caught: gather gather it's 4 wings and hold them in between two fingers
5. Photograph and analyze the dragonfly (gender, size, species, and where it was found)
6. Calculate how many dragonflies/m²
7. Graph and analyze data

The Quantity of Each Type of Dragonflies Studied From September to October



Number of Dragonflies/m² Through September and October

