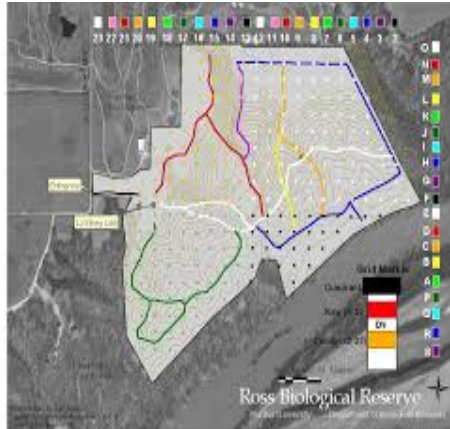


Small Streams with a Big Impact

Introduction:

- The amount of water available in the soil can determine what tree species can grow in a specific area.
- Permanent bodies of water influence the species of trees that are able to grow in the area surrounding them by increasing the amount of water that is available in the soil.
- Seasonal streams may not contain water for weeks or even months of the year so do they provide enough water to influence the tree species that grow around them like permanent water bodies do?

Reid Prindle
BIOL 59100, Purdue University



All data was gathered from around a stream located in the Ross Reserve, a forest site owned by Purdue University.

Hypothesis and Predictions:

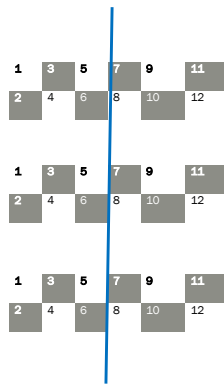
- I hypothesized that the possible tree species of an area were determined by the availability of water in that area because different species of trees require different amounts of water.
- I predicted that the the present tree species would change as the distance from the seasonal stream changed.

Significance:

- Forest ecosystems are extremely important for the health of the Earth and when they are damaged or destroyed we should do what we can to restore this valuable environment.
- The results of this study can be used in forest restoration programs to place the correct tree species around temporary bodies of water.
- Ensuring that the restoration is done naturally ensures that the system remains healthy and able to provide valuable ecosystem services.

Methods:

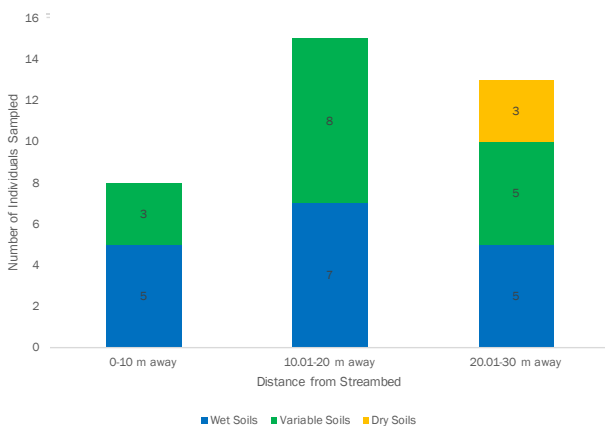
- Three transects were used to collect data on the species and the distance that each individual was growing from the stream.
- This data was used in statistical analyses to test the validity of the hypothesis and predictions.



Results:

- The data of this study shows that the tree community changes as the distance from a seasonal stream changes.
- Trees that have been documented to be more common in wet soils were found closer to the stream and tree species that have been documented to be more common in dry soils were found further away from the stream.

Most Common Soil Type of Trees Found in Each Distance Range



Average Distance from Streambed

