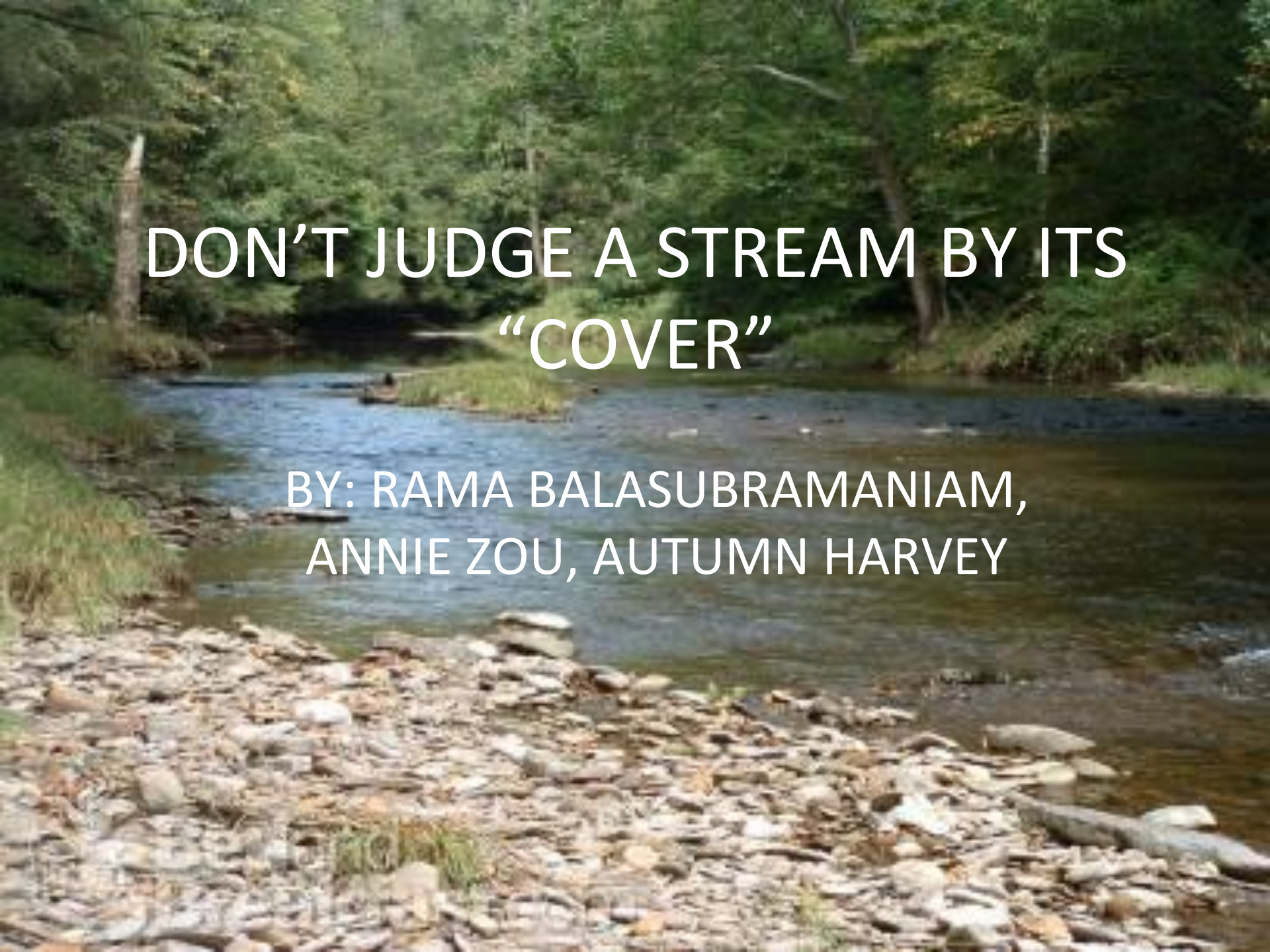


DON'T JUDGE A STREAM BY ITS "COVER"

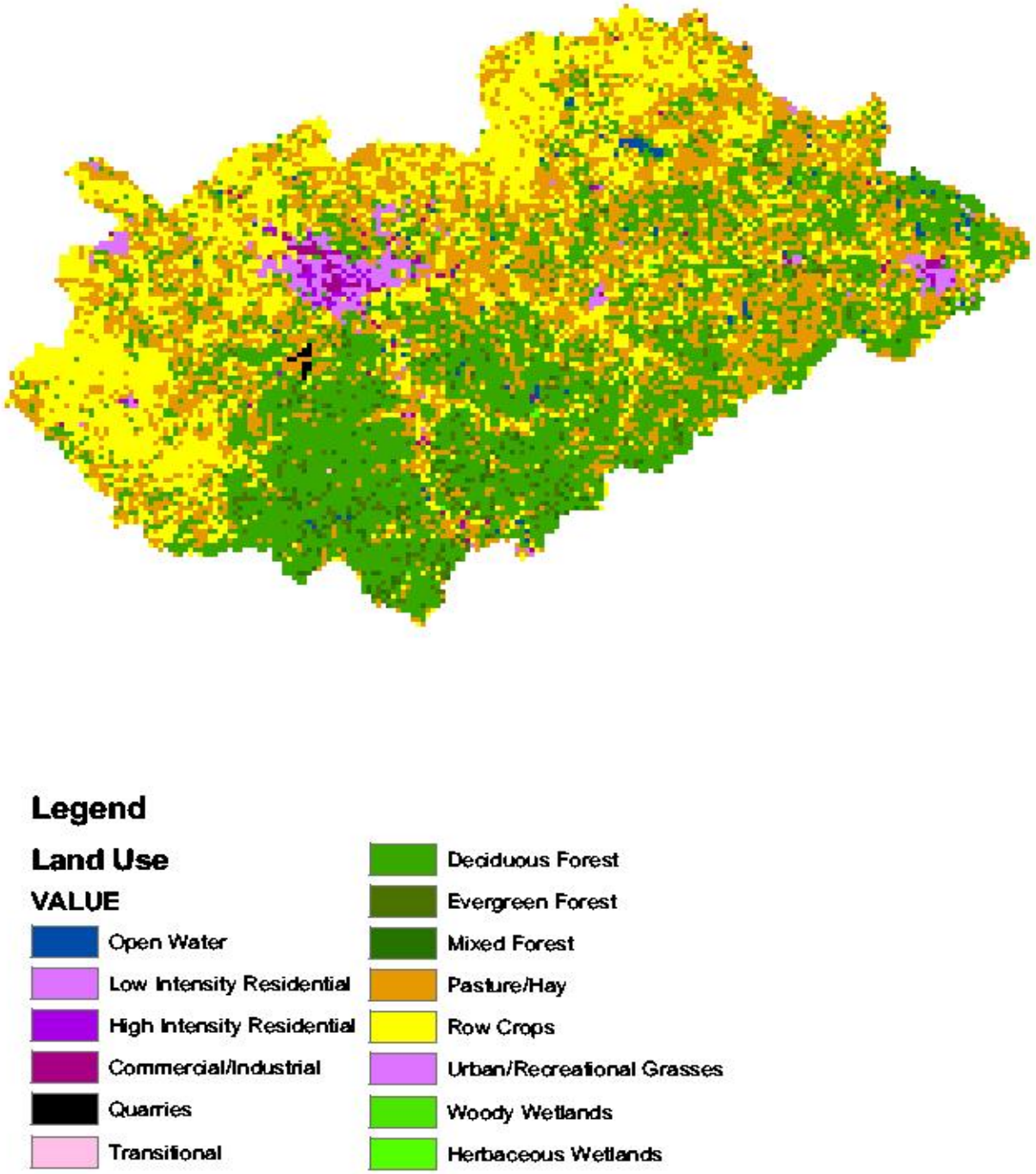
BY: RAMA BALASUBRAMANIAM, ANNIE ZOU, AUTUMN HARVEY

Upper Hocking Watershed

- In central and southeast OH
- Located in the Hocking, Perry, and Fairfield counties
- Includes city of Lancaster
- Watershed empties out into the Ohio River

Land usage:

- 62% Forest
- 14% Pastureland
- 13% Row Crop
- 9% Urban
- 2% Other



River Issues and Facts

Impairments

1. Siltation

2. Habitat Alterations

3. Nutrient Enrichment

4. pH

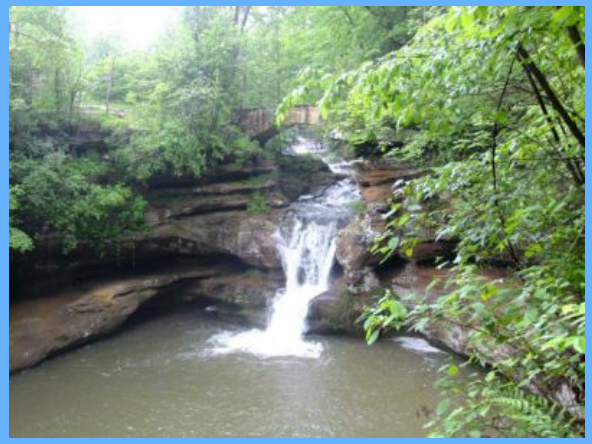
5. Flow Alterations

6. Oil and Grease

7. Metals

Miscellaneous Facts

- The watershed is located in one of the fastest growing counties in the state.
- Hunters Run Conservancy District is trying to restore the watershed.

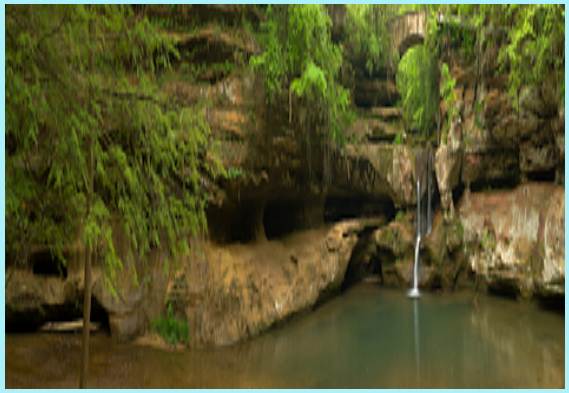


It looks healthy... but is it?

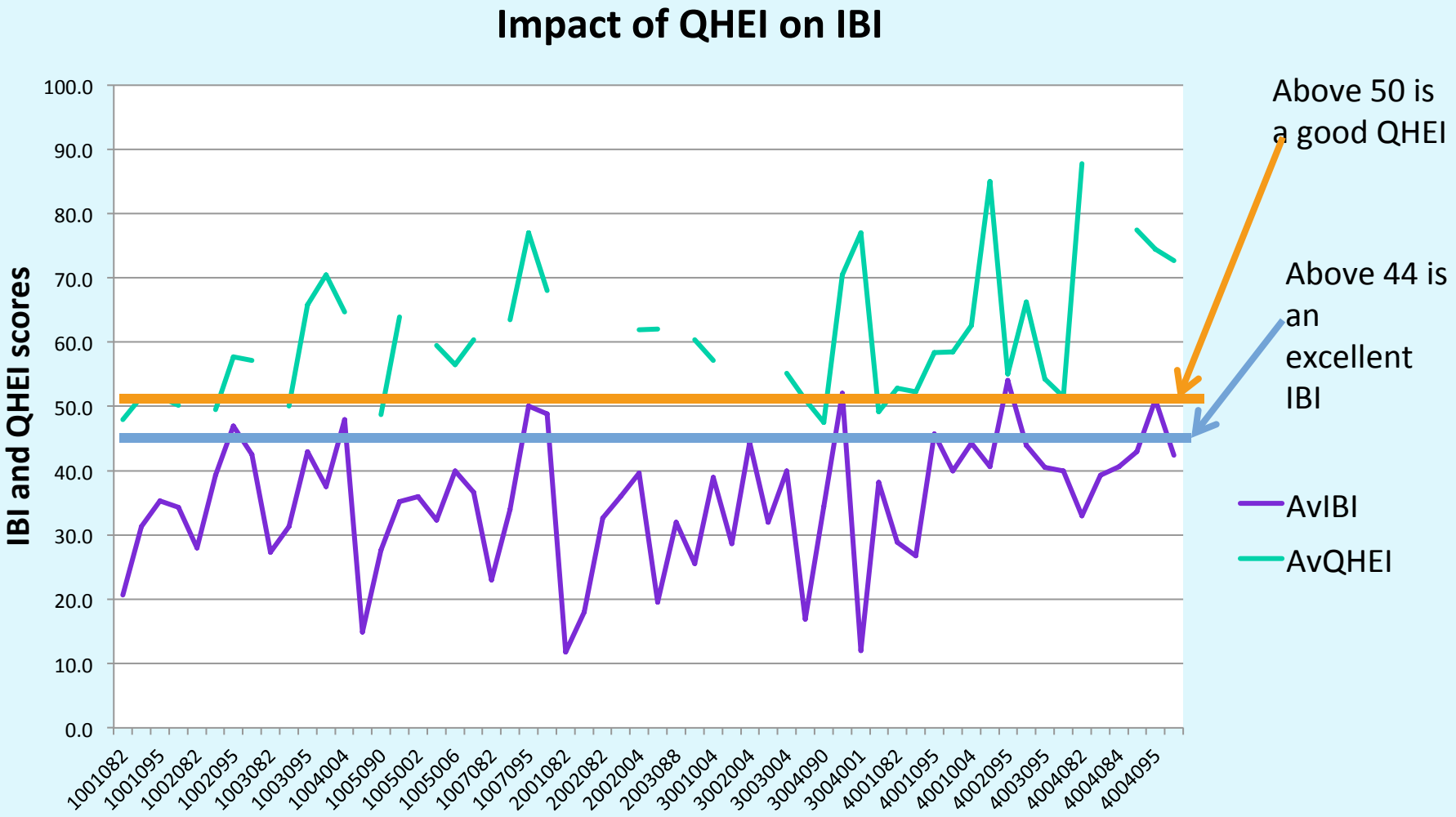
ANNIE'S HYPOTHESIS

- When QHEI (Qualitative Habitat Evaluation Index) values decrease, IBI (Index of Biotic Integrity) values decrease, and when QHEI values increase, IBI values increase.

- QHEI is a measure of the quality of a stream's habitat.
- IBI is a measure of fish diversity.

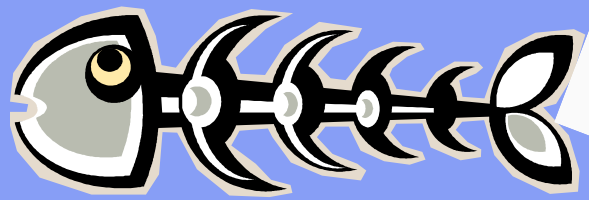


The data below supports my hypothesis and shows that QHEI and IBI are directly related.

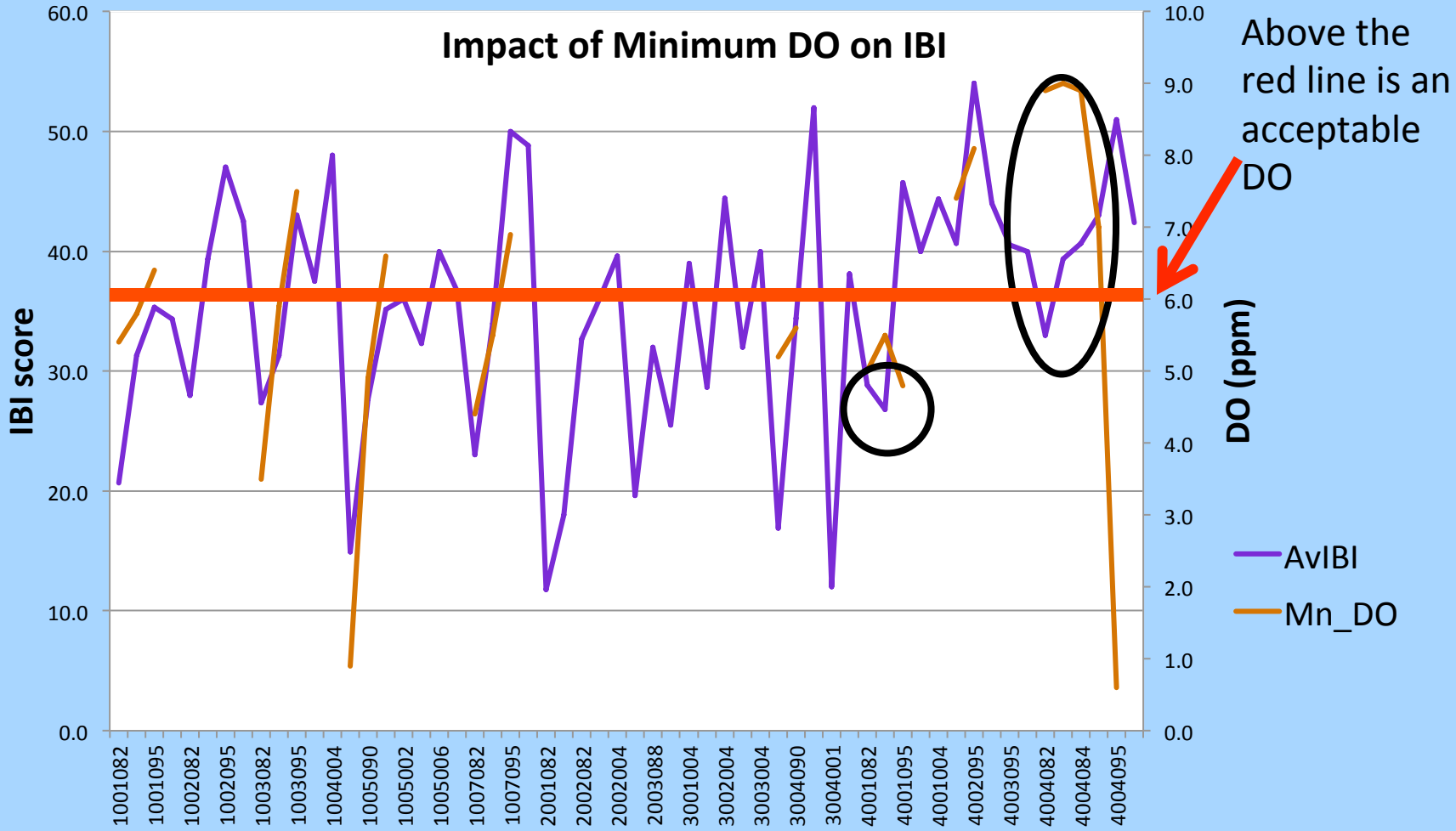


RAMA'S HYPOTHESIS

- When DO(dissolved oxygen) levels decrease, IBI(Index of Biotic Integrity) levels decrease.
- Dissolved oxygen is needed for fish to breathe.



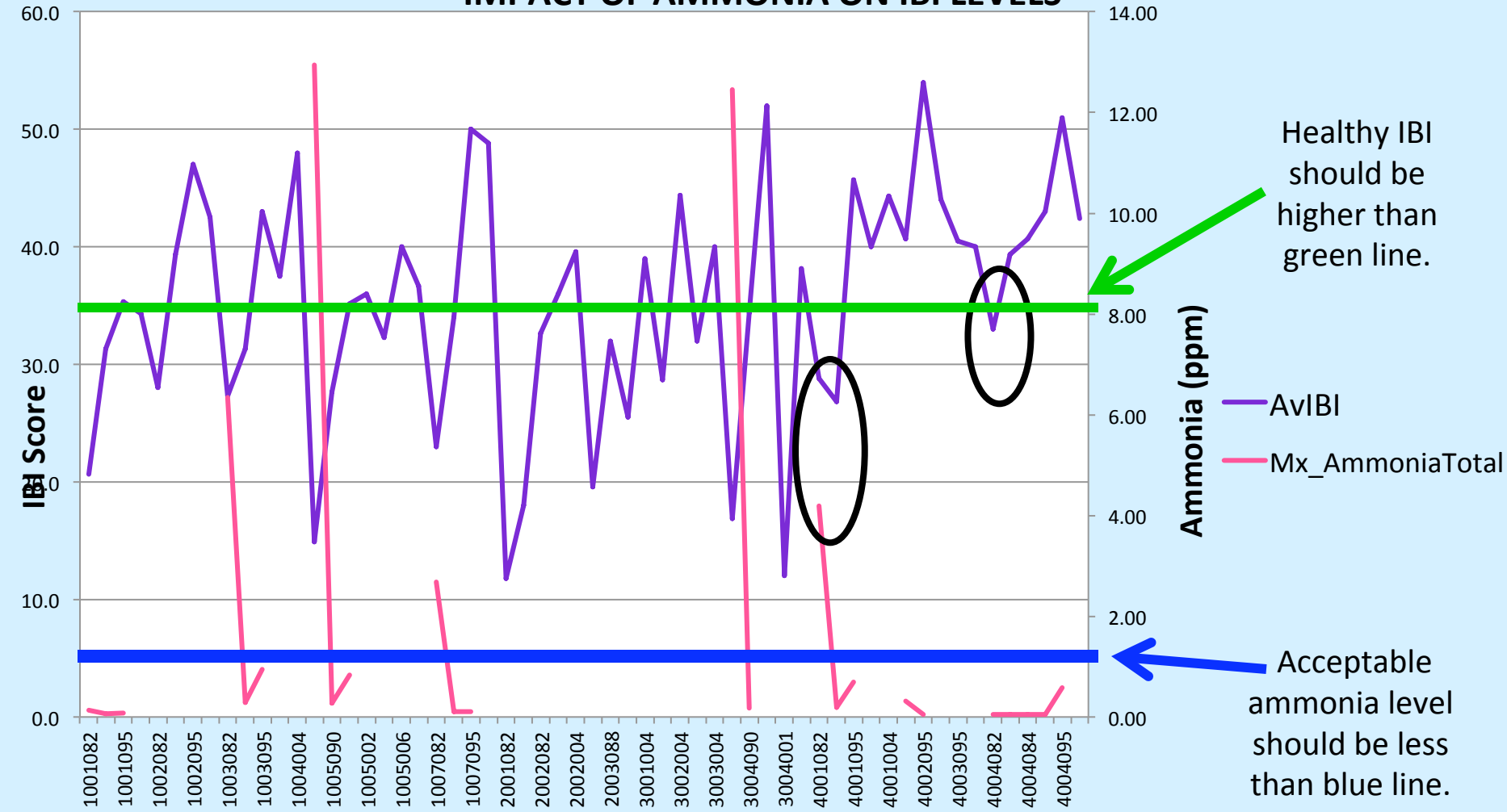
The graph below supports my hypothesis that DO levels and IBI levels are directly related.



AUTUMN'S HYPOTHESIS

- When ammonia levels spike the IBI (Index of Biotic Integrity) decreases.
- Ammonia is a deadly toxin to fish…NOT GOOD!

The graph below shows that the ammonia is a cause for the IBI to decrease.



WHY SHOULD YOU CARE ABOUT YOUR WATERSHED?

- Watersheds…
  - Provide us with most of our drinking water
  - Any pollution in your area could affect your watershed, and therefore your water supply
  - Your storm sewer drains directly into your stream
    - Example: Washing your car in your driveway
- What can you do?
  - Use “green” laundry detergents and cleaners
  - Limit pesticide and fertilizer use
  - Dispose of household chemicals properly

DON'T JUDGE A STREAM BY ITS "COVER"

- Looking at the stream, it seems to be healthy, because it has all the physical qualities of a good stream.
  - Meanders, cover, rocky substrate, pool, riffle, run
- Although a stream looks good, it may not be, because of chemical factors.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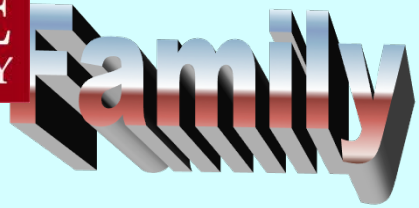
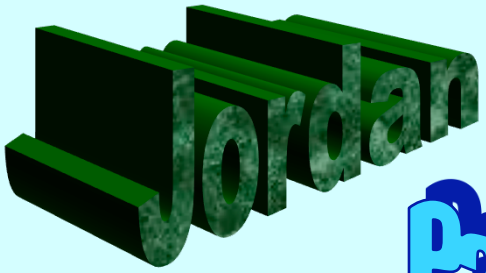
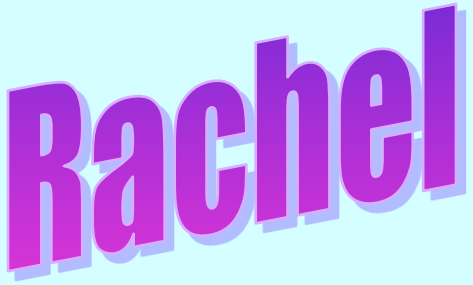

Family


Jordan


Paula


Rachel


Kersey

THANK YOU ☺


Teachers


Kathryn


Ohio Supercomputer Center


steve


ywsi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