

**Using Your Volunteer Monitoring
Data
and
Other Ways to Make Your Program
Successful**

2nd Annual MiCorps Conference

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Topics

- Summarizing and illustrating your data
- Communicating your message
- Moving from data collection to data use

What kind of analysis can be done with MiCorps stream data?

- Stream Quality Score
- Trends
 - In Stream Quality Score
 - In particular groups of invertebrates
 - In habitat parameters
- Relationships
 - Between physical and biological variables

What kind of analysis can be done with MiCorps lake data?

- Carlson Trophic Index
- Trends
 - In Carlson Trophic Index
 - In water quality parameters
 - In physical parameters
- Relationships
 - Between physical and chemical variables

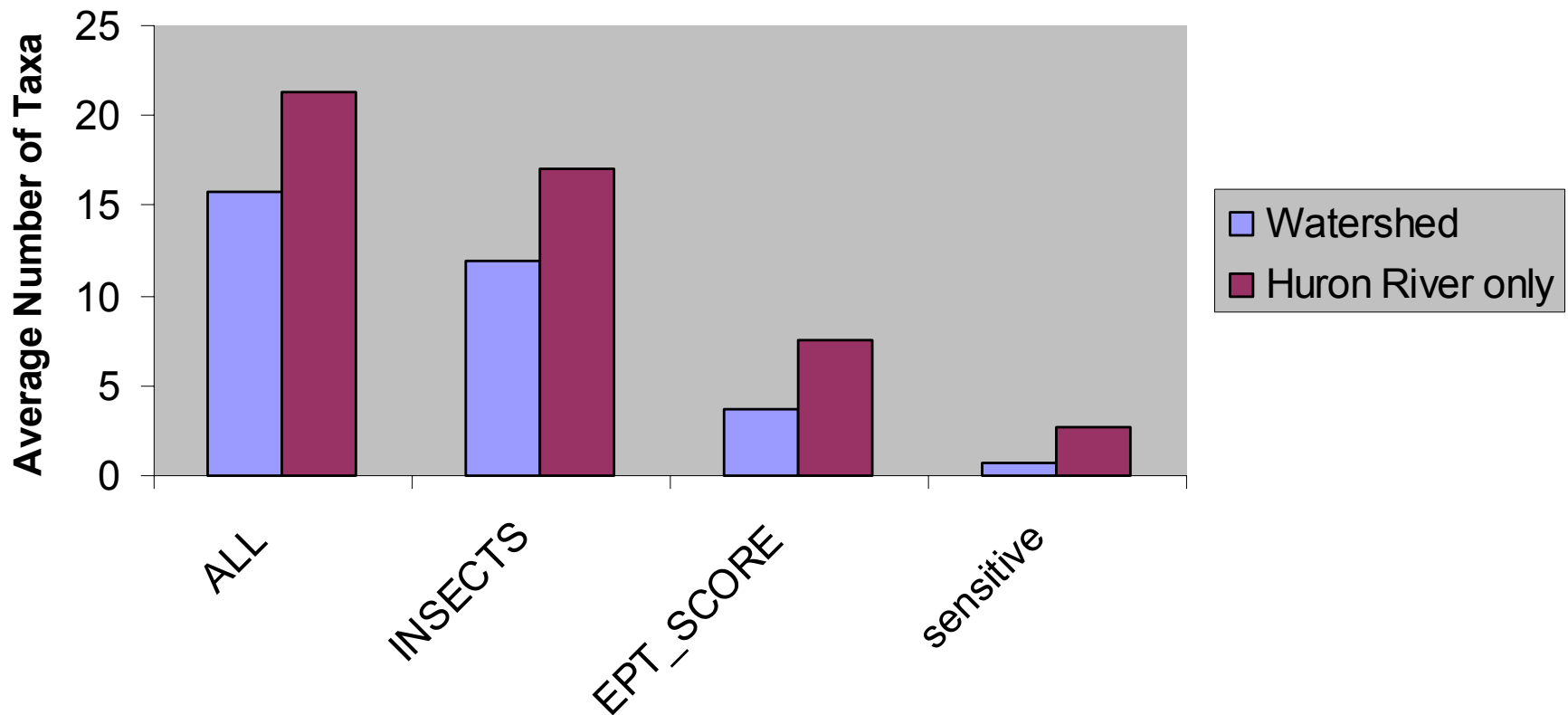
Graphic Display of Data

- Often useful to create summary tables first, so you can look for broad trends
- Graphs are even more meaningful to the eye
- Plot independent versus dependent variables
 - Independent, like time or site, on X (horizontal) axis
 - Dependent, like temperature or number of bugs, on Y (vertical) axis
- Examples
 - Compare Stream Quality Scores of two sites
 - Trends at one site over time

Bar Graphs

For comparing discrete data points across space or time

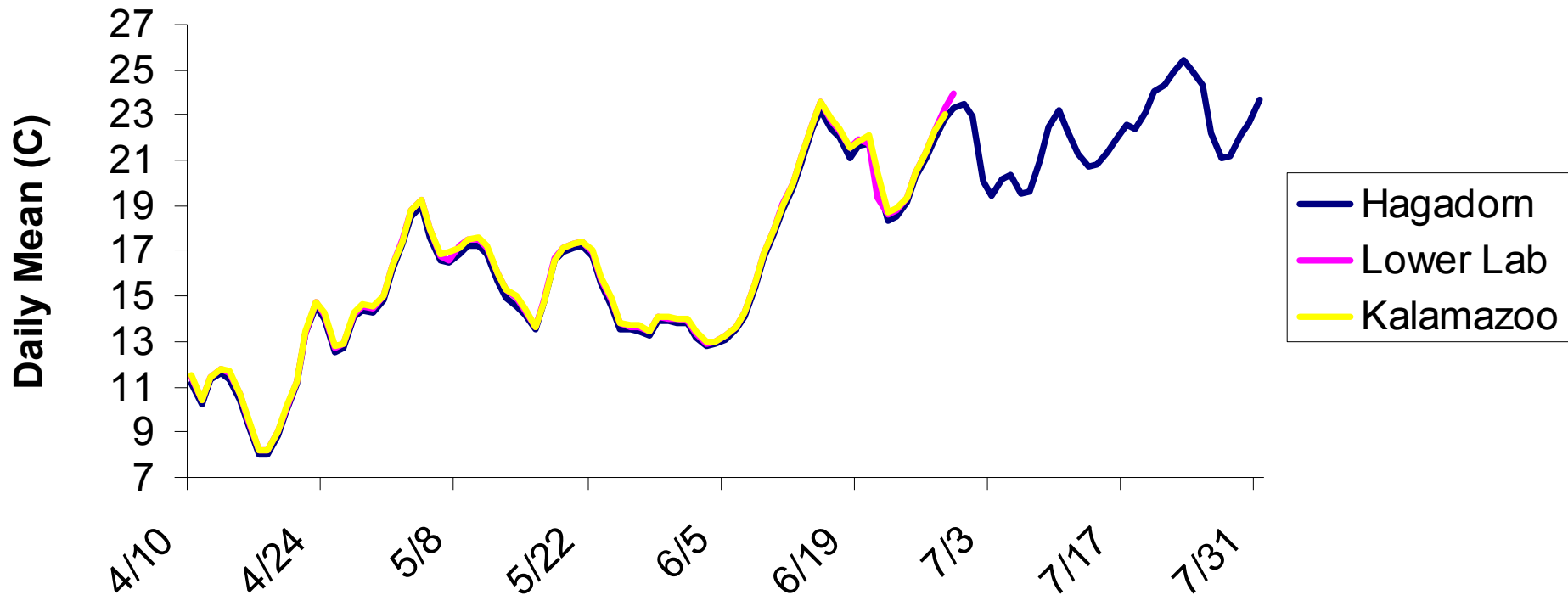
**Huron River vs. Entire Watershed
Fall 2005**



Line Graphs

For continuous data or comparing trends in two variables

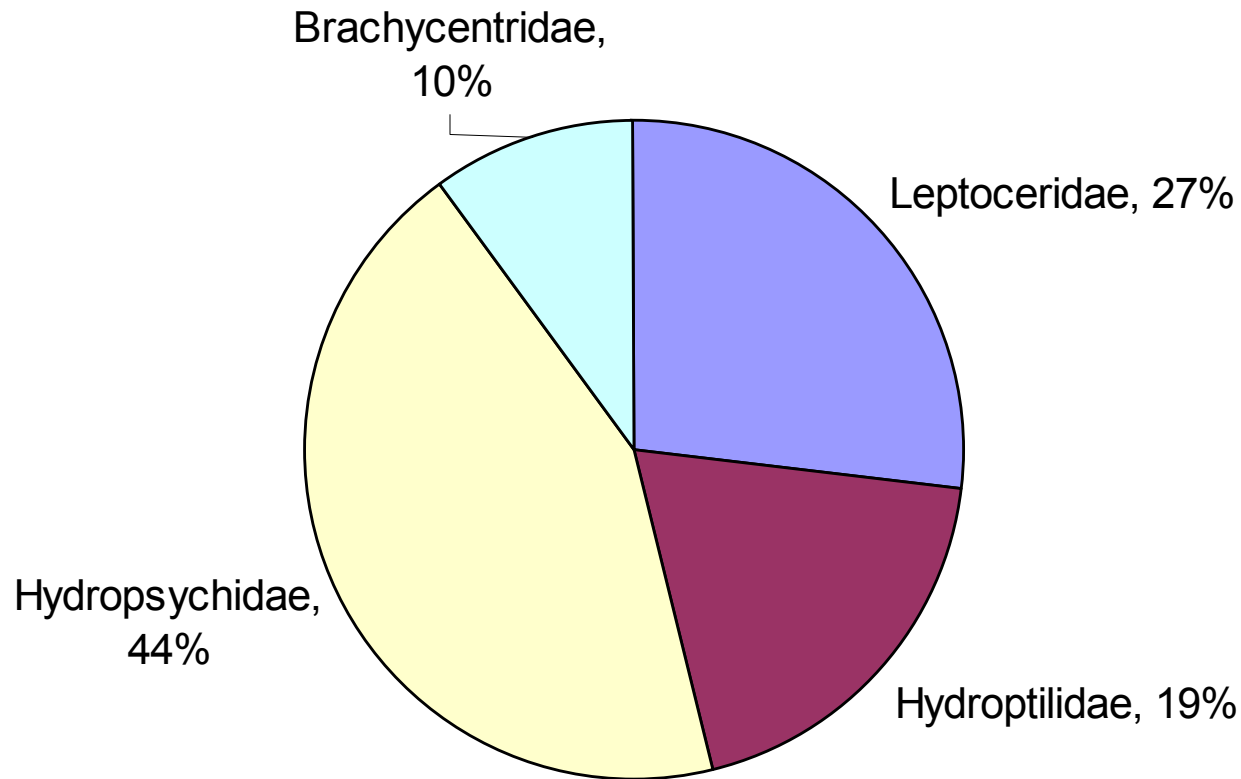
River Water Temperature



Pie Charts

For illustrating percentages

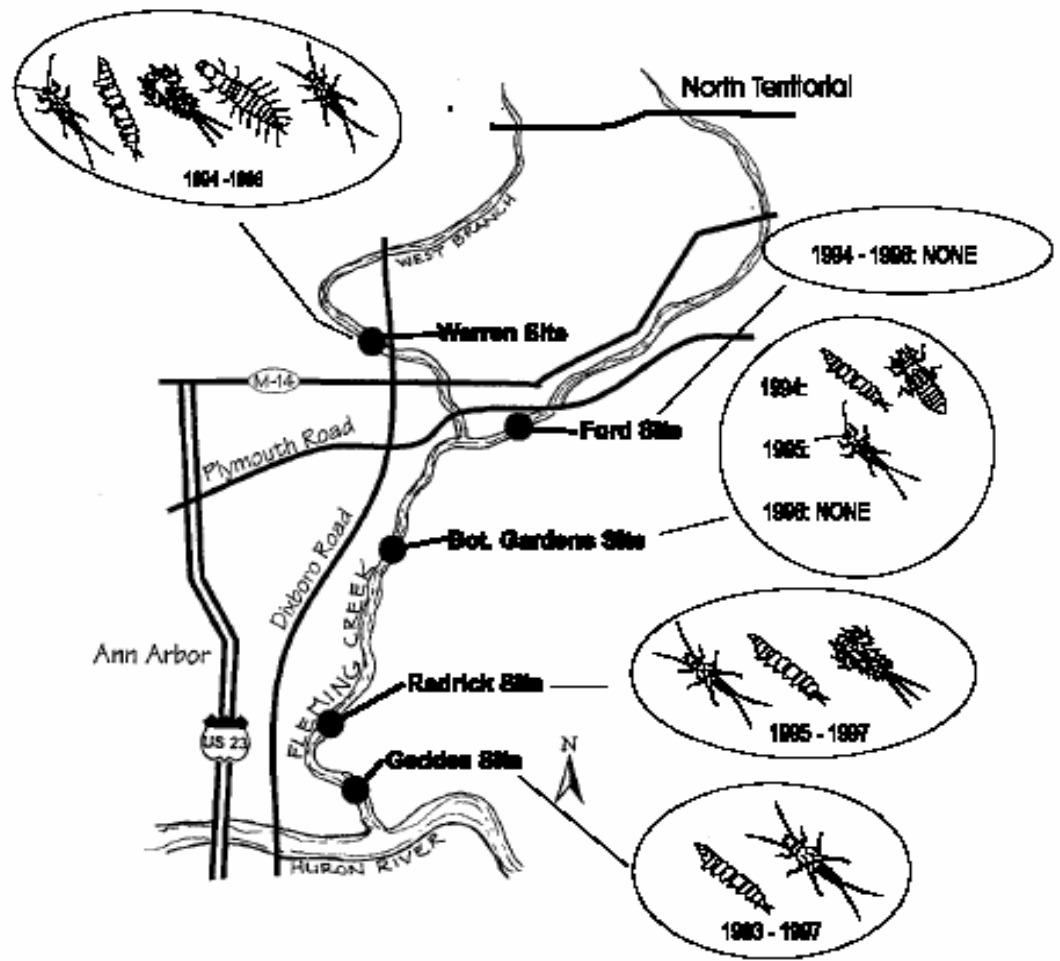
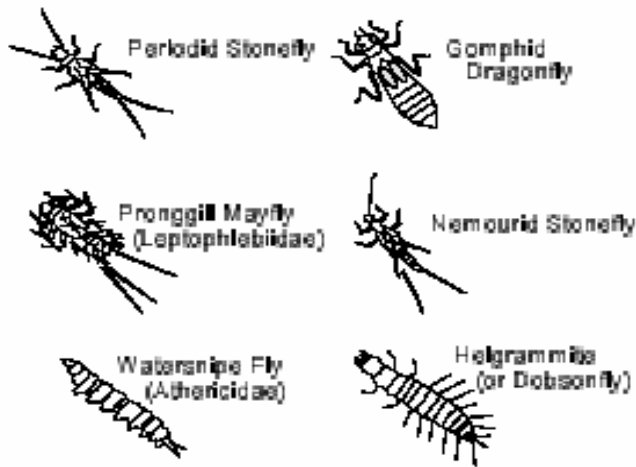
Caddisfly Fauna of the Huron River



Graphic presentations of data

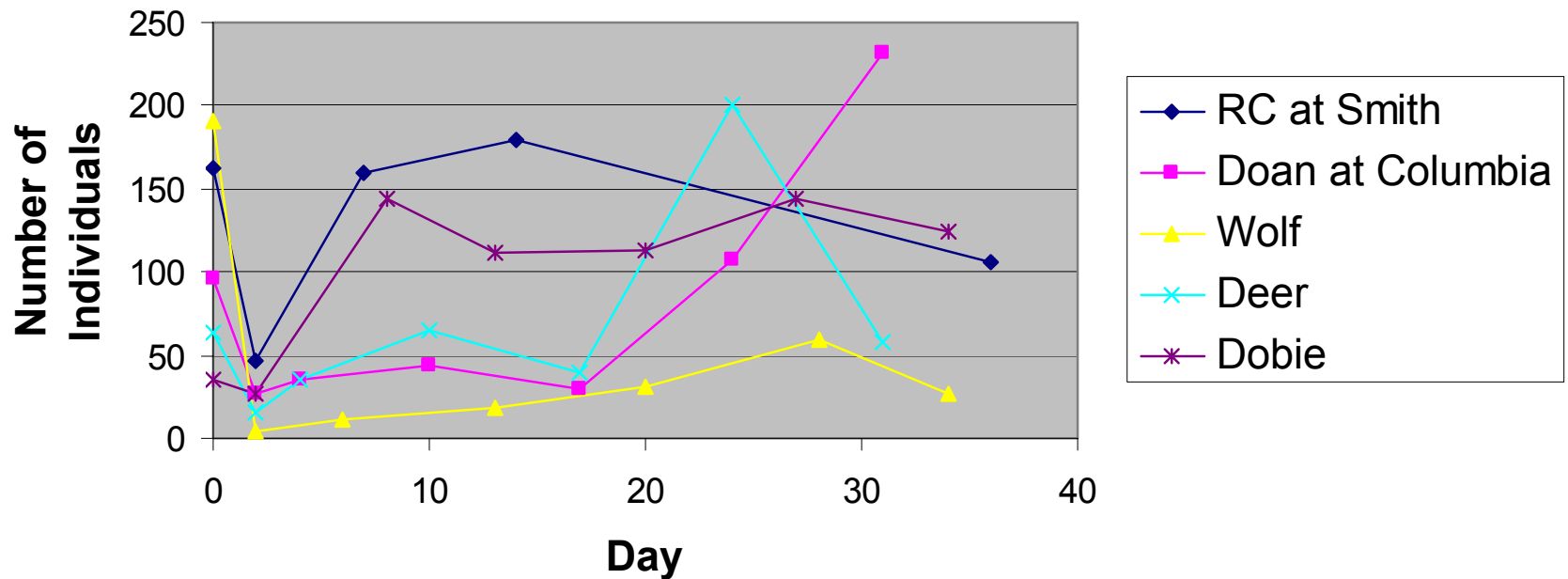
Sixteen of the 77 benthic families living in the Huron system are highly **sensitive** to organic pollution. The presence of these sensitive families at a site indicates that the site (and upstream of it) has high quality.

These are the very sensitive families that live in Fleming Creek:



Avoid Busy Charts!

Fish Collections Red Cedar River Tributaries



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It's never too early to begin thinking about data presentation...

- When you are designing your monitoring program, think about:
 - Your central message
 - Your target audience
 - How (you hope) they will use your data
 - How best to deliver the data to them, to get the desired action

Huron River Watershed Council's Creek Reports

- Message:
 - Major threats include widespread development and individual behaviors
- Audience:
 - Volunteers, decision makers, community members
- Desired action:
 - Better site design, zoning protections, creek-friendly behavior
- Delivery vehicle:
 - An engaging, informative report that people will read

The Substance of the Creek Reports

- Explanation of study methods
- Monitoring data and interpretation
- Identification of problems
- Conclusions pointing to protective actions
- Includes things the reader can do

What Makes Them Engaging?

- LOTS of pictures!
 - To convey results
 - Illustrations of the creek and its features
 - Maps
- Sidebars to explain key concepts
- Fun and interesting facts and history

What Makes Them Effective?

- Presentation of the creek as a valuable community resource
- Reader-friendly format
- Straightforward explanations of the health of the creek, and how it can be protected at individual, local, and regional levels

Tips for Written Materials

- Plan before diving in
 - Focus on your message
 - Target audience
 - Something to get attention
 - Consider the layout
- Proofread
 - Have OTHER people edit it, including members of the intended audience and people who know nothing about the ideas of caring for waterbodies, as well as experts.
- Grammar
- Use active voice
 - “Our volunteers collected bugs.”
 - NOT “Bugs were collected.”

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From Data Collection to Management Action: Lessons Learned

1. Build recognition
2. Produce defensible data
3. Report clearly
4. Be active, but cautious

Build Recognition

- Work with the media before and after your events
- Provide pictures
- Have a clear message regarding what you are doing, and WHY

THE
ANN ARBOR NEWS

Detroit Free Press
freep

LIVINGSTON COUNTY DAILY
PRESS & ARGUS
Online

The Chelsea Standard

THE DEXTER LEADER

THE DAILY
OAKLAND PRESS

MILFORD
Times

SPINAL COLUMN ONLINE

Produce Defensible Data

- Have a strong Quality Assurance Project Plan (QAPP)
 - Ensure volunteers can find the sampling sites
 - Keep your bug samples
 - Trustworthy sample analysis
 - Have a plan to deal with problems

Guidance for Michigan Clean Water Corps (MiCorps) member programs for developing Quality Assurance Project Plans (QAPPs)

Adapted from MDEQ guidance for Water Quality Monitoring Studies

Version 1.2

Last updated June 17, 2005

All volunteer monitoring programs participating as MiCorps member programs, or grantees receiving federal or state monies for the purpose of conducting water quality monitoring, are required to prepare a quality assurance project plan (QAPP). A QAPP is a written document that provides the framework for how environmental data will be collected to achieve specific project objectives and describes the

Report Clearly

- Actively share your findings
- Encourage volunteers to do so, too
 - Enlist as many volunteers as possible to promote the findings and talk to people about the need to attend to the water system.
 - How to train them? One way is to use the leader role, giving people information to tell the rest of the team about while out monitoring.
- Present results clearly and concisely
- Focus reporting towards a water resource goal



Monitoring Gazette

Study results of HRWC's Adopt-A-Stream Program

Fall 2003

Stream Patrol

In the summer of 2003 the Adopt-A-Stream Program tested a new

make a few measurements, and record their observations. Participants experienced many

know. Your interest will influence our

Trends p4
Surprising Finds p6
Fall Volunteers p7
For more, see p 2

Recent Results of the Stonefly Search

S = Winter stoneflies found, X = Searched but no winter stoneflies found

HRWC site #	LOCATION	2001	2002	2003	2004	2005
1	Arms Creek: Walsh Road	S	S	S	S	
2	Boyden Creek: Delhi	S	S	S	S	
3	Boyden Creek: Golf Course	S	S	S	S	
4	Boyden Creek: Huron River Drive	X	X			
45	Chilson Creek: Brighton Road	X				

Glossary of Terms

Ecological Conditions --"acceptable" indicates that the quality of a site is at least equal to or slightly above expectations, while poor sites are well below expectations due to a great diversity of insects and good physical conditions.

Ecological Condition is determined by the biological and physical conditions. Biological conditions include the diversity of insect families, EPT families and the number of stoneflies. Physical conditions are determined by conductivity results and "measuring" stream temperature. These assessments involve examining characteristics such as the stream bank stability, stream bank composition, stream bank vegetation, stream bank shading, stream bank erosion, stream bank sedimentation, stream bank siltation, stream bank sand, stream bank gravel, stream bank rocks, stream bank debris, stream bank litter, stream bank trash, stream bank litter, stream bank trash, stream bank litter, stream bank trash.

Be Active, But Cautious

- Collect plenty of data
 - Actively share your findings
- ...BUT
- Don't jump to hasty conclusions!

