

Uses of Stream Team Data in Missouri

Chris Riggert

Missouri Dept. of Conservation

Established In 1989

- Education
- Stewardship
- Advocacy



The Partners



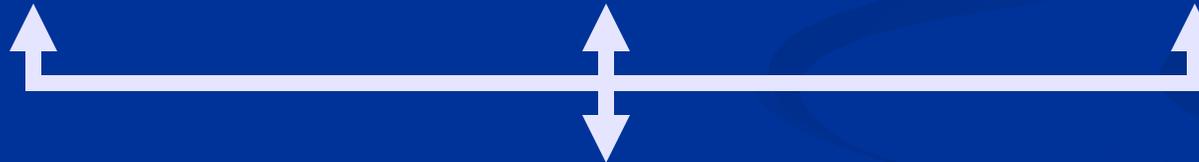
CFM



MDC



DNR



MO Stream Team Program

- It is a comprehensive program offering over 30 types activities
 - Litter pickups, WQM, Photo Point Monitoring, Adopt-an-Access, and more!
- ST Academy Wks.
- Nearly 4200 Teams
 - Nearly 140,000 hours
 - >\$2.5 million of labor



Fulton Middle School ST #3098

Volunteer WQM

- One of the Stream Team activities
 - Second only to Litter Pickups
 - Began in 1993
- Only activity requiring training (5 levels)
 - Introductory Level
 - Level 1
 - Level 2
 - Level 3
 - CSI/Special Projects



Bill Miller ST #2895

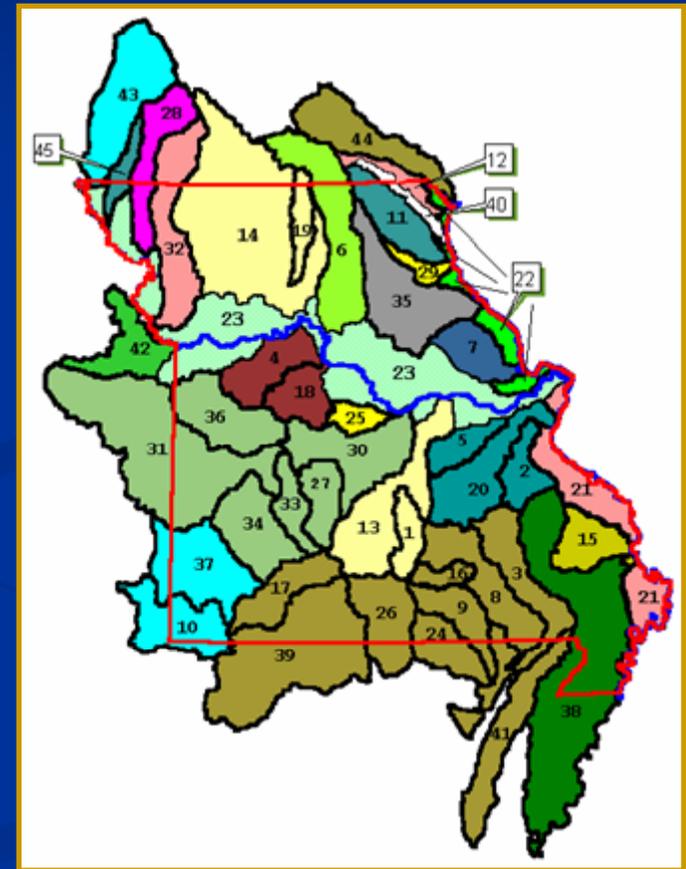
Introductory Level

(Nearly 3,500 volunteers)

- Entry level of monitoring
 - Watersheds
 - Stream Discharge
 - Biological Monitoring



Cambarus maculatus



The “real” Missouri

Level 1

(Over 2,700 volunteers)

- Includes chemical and physical monitoring (visual survey)
- Class in which they qualify to receive chemical equipment
- Standard parameters:
 - Temp
 - DO
 - Cond.
 - pH
 - Nitrate
 - Turbidity
- Other parameters:
 - Chlorides
 - Hardness
 - Alkalinity



Ladue Middle School ST #76

Level 2

(Over 700 volunteers)

- QA/QC workshop
- Check chemical equipment/methods against known standards
- Invertebrate exam
 - ID 75% of bugs
 - Miss no more than 2 EPT
- Qualify for colorimeters
 - (if appropriate)

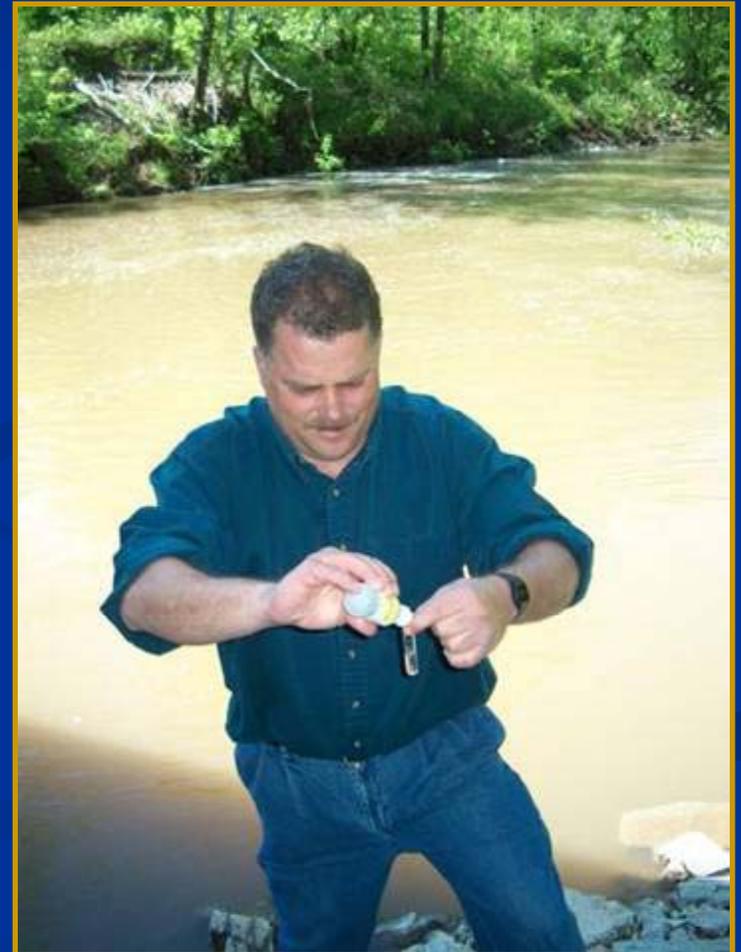


Amy Jordan ST #3327

Level 3

(Approx 90 volunteers)

- QA/QC “audit” on-site with ST Program Personnel
- Meet accuracy limits on 5/5 chem parameters
- ID 90% of inverts (100% EPT)



Wayne Davis ST #346

CSI

(Cooperative Stream Investigator)

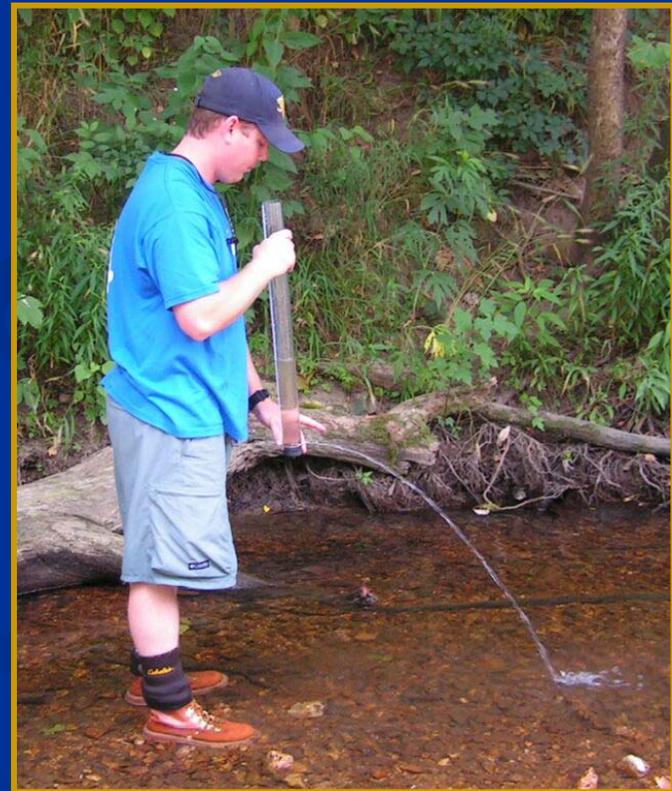
- Level 2 and 3 Vol. Monitors performing sampling for special projects
- *E. coli*
 - Collect baseline data **prior to** and sampling **throughout** a stream restoration project
 - Must also attend DNR Basic Sampling Class
- Temp monitoring on coldwater streams
- Sampling plan
- Approx 20 volunteers



Turkey Creek, Madison Co.

Special Projects

- CSI 'light'
- List of streams/locations of concern/priority to sponsoring agencies
- Three year commitment
- Sampling plan



Assessing stream turbidity

Data Uses

- What it all boils down to...is the VWQM Program about the data or about the education??

➤ **YES!!**



Ladue Middle School ST #76



ST #2000

Data Uses

- Inform and educate
- Gather baseline information
- Locate emerging problems
- Identify long term trends
- Supplement other agency data
- Supplement sponsoring agency data
 - Level 2, Level 3, Special Project, CSI

Data Uses

(Inform and Educate)

- Implemented into curriculum
- ST #432 Reeds Spring H. S.
- ST #903 Farmington H. S. Eco-Rats
- ST #218 Waynesville M. S. & ST #779 Chillicothe M. S. Exchange Program
- Dominoes!



Display at a Columbia watershed festival

Data Uses

(Gather Baseline Information)

- MO has about 110,000 mi. of streams
- Recently added a “Fish Present” check box to all data sheets



Perlidae sp.



Liberty High School ST #1715

Data Uses

(Locate Problems)

- ST #346 Francis Howell H. S. Env't Studies discovered a sewer line break
- ST #2893 The Clark Family Farm discovered the local pool draining
- ST #1012 discovered several barrels dumped in the stream
- Several volunteers have discovered and reported fish kills



Reeds Spring High School ST #2108

Data Uses

(Locate Problems)

- Kansas City requested all volunteer data w/in city limits
- Planning by local agencies, such as zoning regulations



Dot Anderson & Karen Meyer ST #2108



Intro WKS Field Portion 03/06

Data Uses

(Identify Long-Term Trends)

- Data from one location over long period of time
- 50+ volunteers
- Goal vs. reality, hah!
 - 4.75 FTE's



Friends of Lakeside Nature Center ST #175

Data Uses

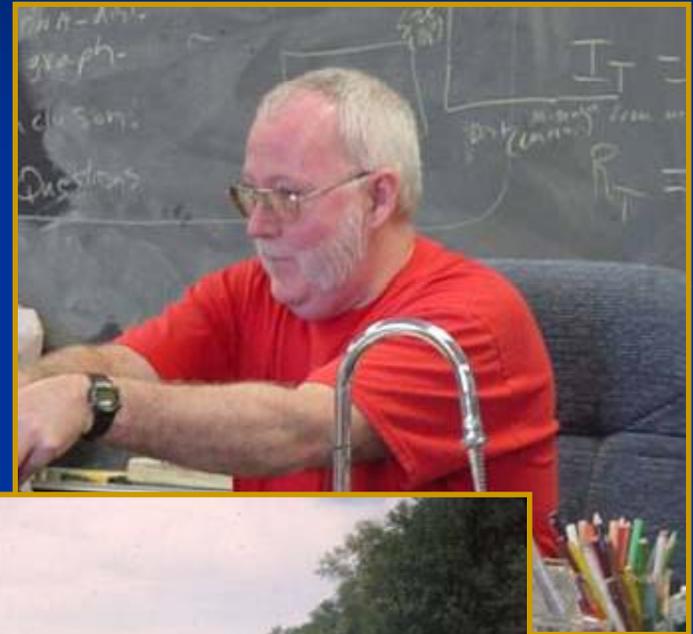
(Supplement Other Agency Data)

- Army Corps of Engineers
 - Biological data
 - Environmental statement
- MODOT
 - Biological data
 - Env't. Impact Stmt.
- US Forest Service
 - All data
- 319 and SALT projects
 - As monitoring component



Data Uses (MDC)

- Aquatic education
- Related projects
- Sensitive watersheds?
- Aquatic COA's



Data Uses (DNR)

- Intro and Level 1 – screening data
- Level 2 & 3, and CSI data – treated as agency collected data
- Evaluate Best Management Land Use Practices (BMPs)
- Planning and Permitting



Caddisfly (*Limnephilidae* sp.)



Delwin Johnson ST #1549

Data Uses (DNR)

- 303(d) list of impaired waters
 - Listing and delisting
 - Discharge data used for TMDL modeling
- 305(b) report to EPA
 - Stream classification and designated use



Fenton Stream Cleaners ST #1857

Data Not Used For (DNR)

- Enforcement
- Use Attainability Assessments (but have input w/ survey on ST Website)



Mayfly Nymph

SUNSET →

