



Michigan. Great Lakes. Great times.



Surface Water Quality Division

Volunteer Monitoring Program
for Rivers and Streams





Monitoring Efforts

- River and Stream Biological Monitoring
- Inland Lakes
- Stream Flow
- Bathing Beaches
- Fish Contaminants
- Wildlife Contaminants
- Sediment and Water Chemistry

Background



1998 – 4 groups

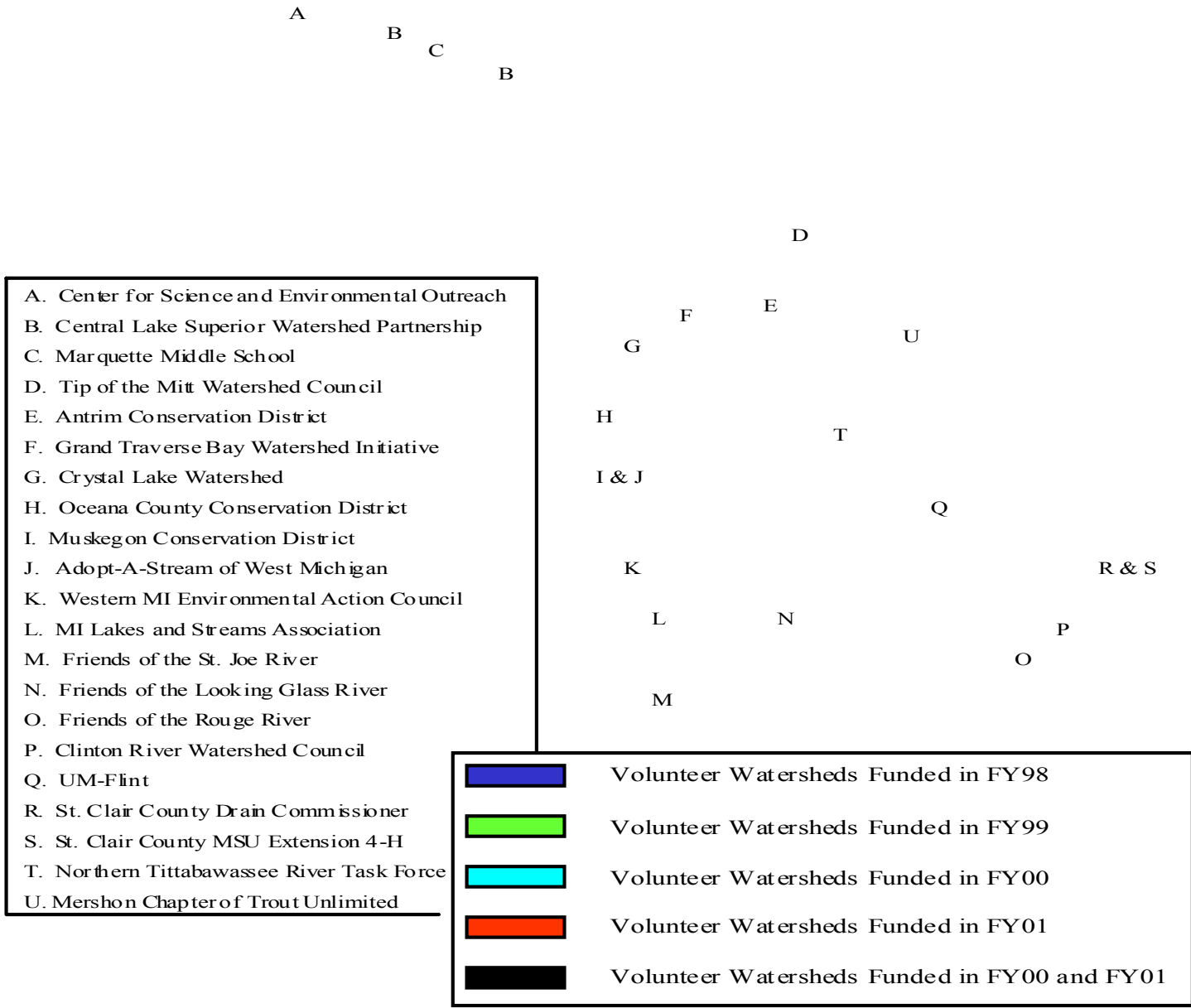
1999 – 5 groups

2000 – 5 groups

2001 – 9 groups

2002 – proposals being solicited

Funded Volunteer Watersheds, Fiscal Years 1998-2001



Objectives



Collect data that can be used by DEQ as “screening tools”.

- Reach goal of 80% coverage
- Assist DEQ in prioritizing sites

Foster public involvement in protection and surveillance of rivers and streams.

Assist with local decisions.

Volunteer Activities

*Volunteer Stories- The dredging of
Mill Creek, St. Clair County,
Michigan*



Fall 1999--Before Dredging



Spring 2000--After Dredging



Volunteer Training

Classroom

Safety Guidelines

Sampling Logistics & Procedures

Data Forms

Macroinvertebrate Identification

Field

Site Assessment

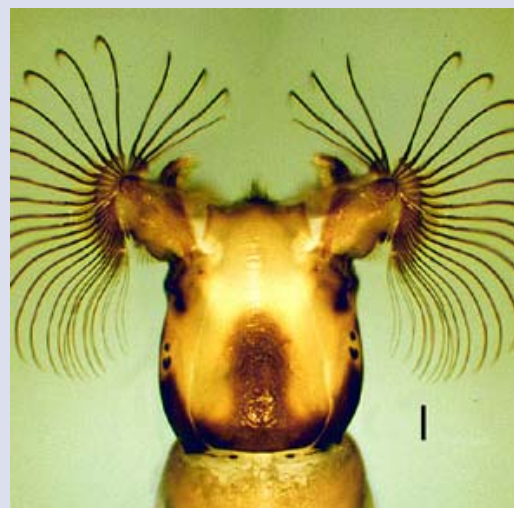
Habitat

Macroinvertebrates



Benthic Macroinvertebrates

- /// Good indicators of localized conditions
- /// Integrate effects of short-term environmental variations
- /// Easy sampling techniques
- /// A primary food source for many fish
- /// Generally abundant communities



/// From EPA













2002 Volunteer Activities

Provide Training and Technical Support

Released FY02 GAP

Draft Annual Report

Created a Database--ACCESS

Constructing WEB Site

Draft Newsletter

University of Michigan—Flint

- The MDEQ began working with the University of Michigan-Flint (U of M Flint) volunteer group in Spring of 1999.
- U of M Flint began assessing terrestrial and in-stream habitat, and the macroinvertebrate community at 15 locations twice a year, in spring and fall.
- As of Spring 2002, U of M Flint will have sampled a total of 29 sites in the Flint River Watershed.

Flint River Volunteer Monitoring Locations

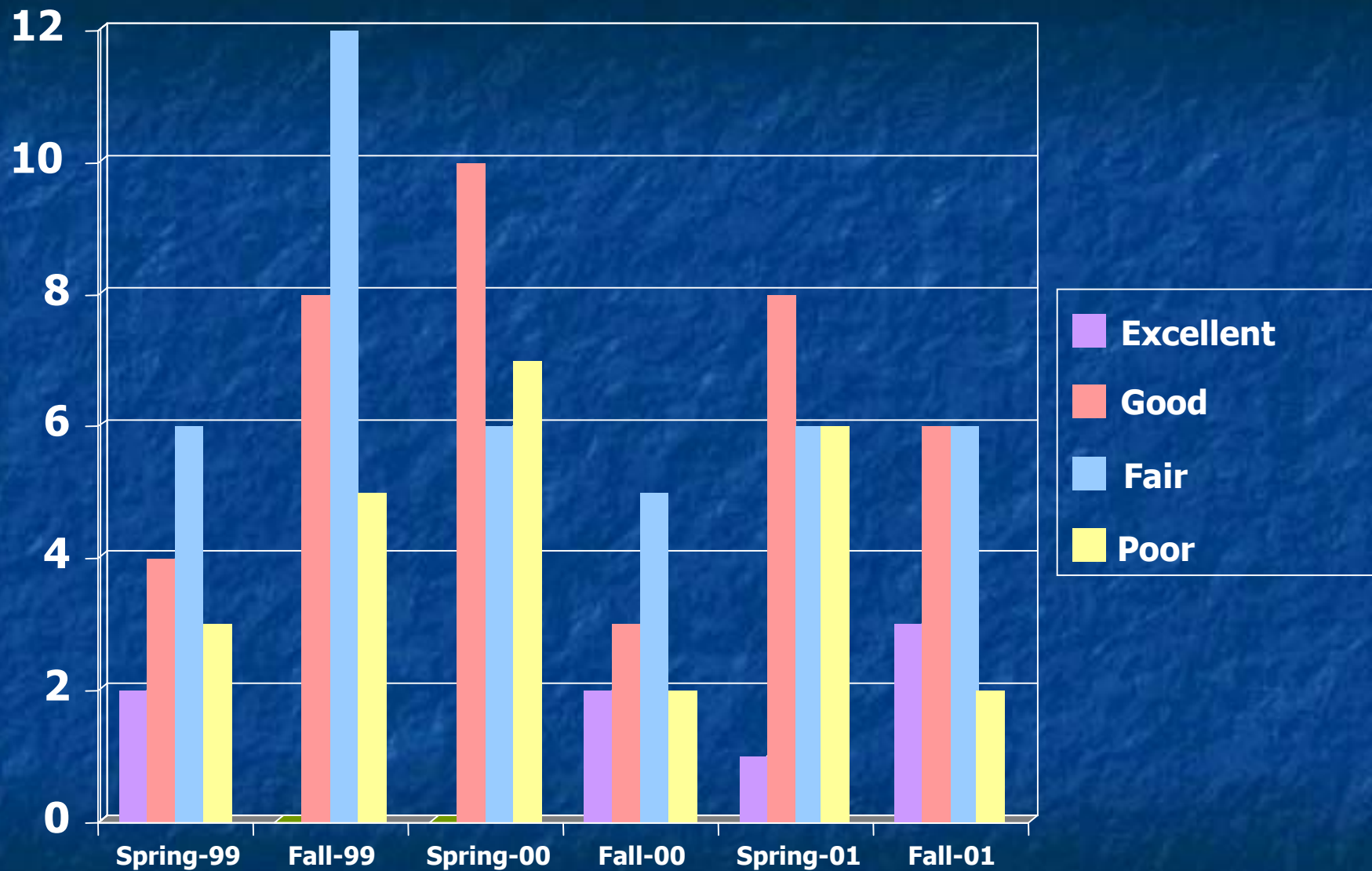


Flint River watershed

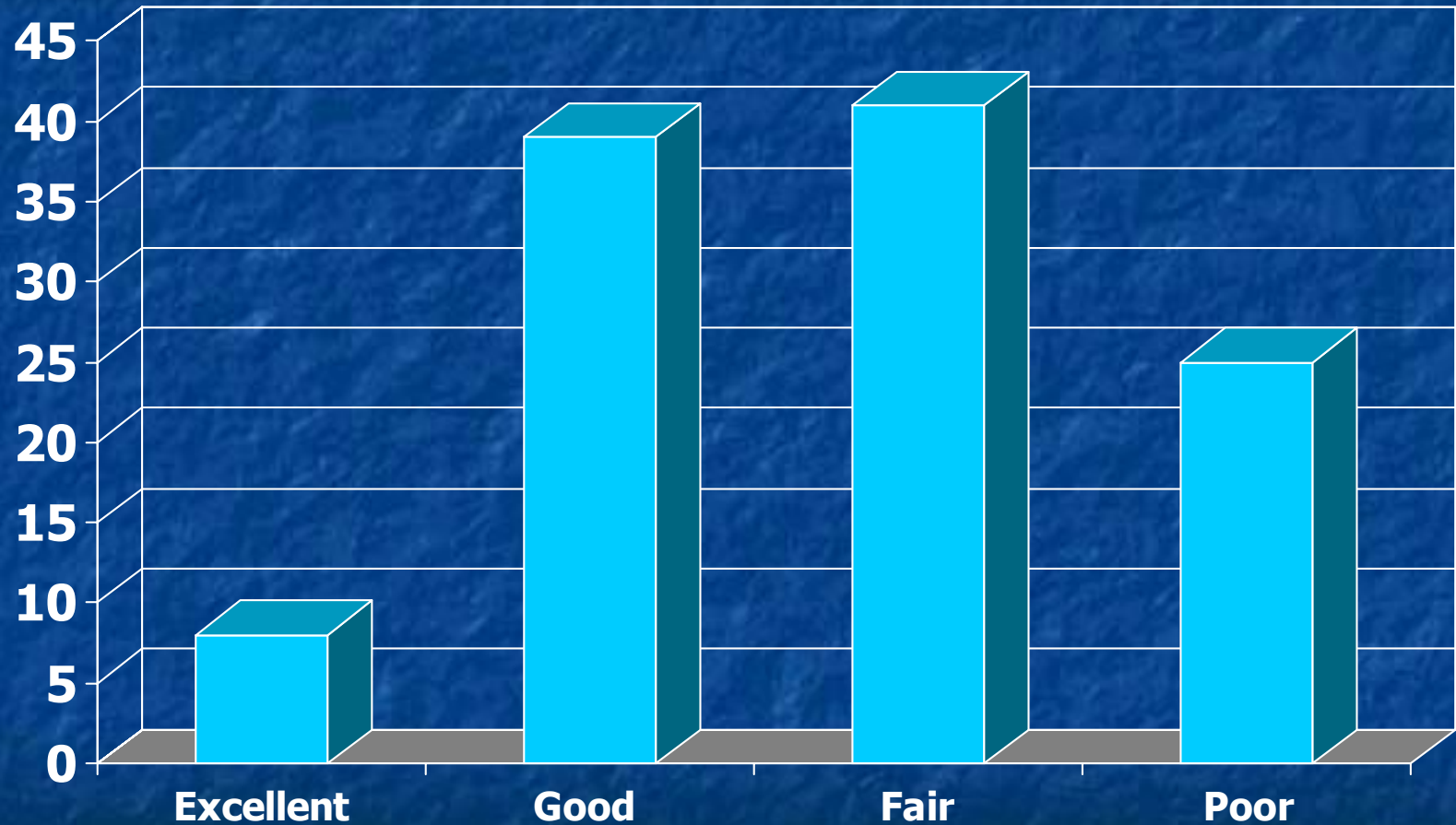
● Volunteer Monitoring Sampling locations



Seasonal Stream Rankings 1999-2001



Combined Seasonal Stream Rankings 1999-2001



Sensitive Taxa Found

- Mayflies – Baetidae, Caenidae, Tricorythidae, Heptageniidae
- Caddisflies – Helicopsychidae, Hydropsychidae, Leptoceridae, Limnophilidae, Molannidae, Uenoidae, Philopotamidae
- Stoneflies - Perlidae

Example: Misteguay Creek (Site 8)

- Spring 1999 – Good (46.6)
- Fall 1999 – Poor (9.0)
- Spring 2000 – Fair (24.3)
- Spring 2001 – Good (41.2)
- Fall 2001 – Excellent (59.4)

Quality Assurance Procedures

- MDEQ staff sampled 5 sites in September 1999 – generally found only a few additional taxa not reported by volunteers
- Recommend that several volunteers assess the same site over a one month period to assess variability

Habitat Findings

- Surface runoff, especially from new construction
- Iron-rich groundwater inputs (sediment with red tinge)
- Leaking septic tanks/previous sewage spills
- Excessive filamentous algae

Other Interesting Observations

- Fish (perch, carp, rainbow darters, minnows)
- Blue herons, sandpipers, red-winged blackbirds, hummingbirds
- Mink, muskrat, raccoons, deer, signs of beaver activity
- Turkey tracks
- Leopard and grass frogs