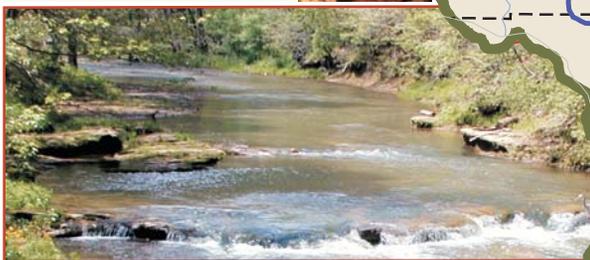


IMPLEMENTATION IDEAS FOR RESTORATION

- Fence out livestock from stream and riparian buffer
- Allow riparian buffers to grow around stream which
 - stabilizes the banks
 - decreases sedimentation
 - prevent algal growth (shade)
- ID/fix failed septic systems



Habitat and Flow



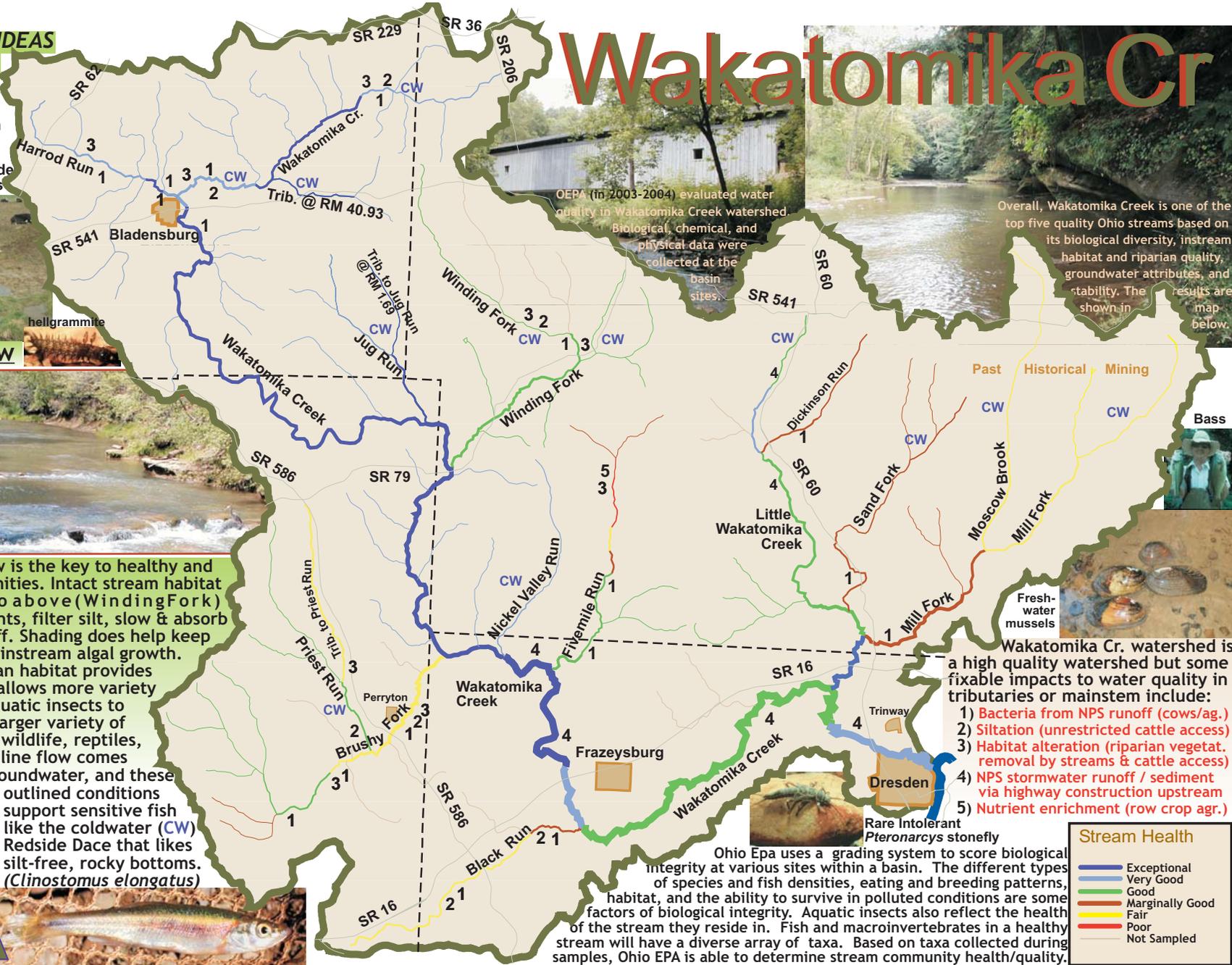
Habitat quality and flow is the key to healthy and diverse stream communities. Intact stream habitat like that shown in photo above (Winding Fork) helps to bind up nutrients, filter silt, slow & absorb water from storm runoff. Shading does help keep streams cool & inhibits instream algal growth. Good instream & riparian habitat provides more diverse niches & allows more variety of fish, mussels, and aquatic insects to reside. There is also a larger variety of amphibians, terrestrial wildlife, reptiles, and birds present. Baseline flow comes from cool, perennial groundwater, and these

outlined conditions support sensitive fish like the coldwater (CW) Redside Dace that likes silt-free, rocky bottoms. (*Clinostomus elongatus*)

Wakatomika Creek
 Drainage area: 234 sq. mi.
 Length: 42 mi.
 Gradient: 9.3 ft./mi.
 Fish species: 65
 Macroinvertebrate taxa: 158



Wakatomika Cr



OERA (in 2003-2004) evaluated water quality in Wakatomika Creek watershed. Biological, chemical, and physical data were collected at the basin sites.

Overall, Wakatomika Creek is one of the top five quality Ohio streams based on its biological diversity, instream habitat and riparian quality, groundwater attributes, and stability. The results are shown in map below.

Wakatomika Cr. watershed is a high quality watershed but some fixable impacts to water quality in tributaries or mainstem include:

- 1) Bacteria from NPS runoff (cows/ag.)
- 2) Siltation (unrestricted cattle access)
- 3) Habitat alteration (riparian vegetat. removal by streams & cattle access)
- 4) NPS stormwater runoff / sediment via highway construction upstream
- 5) Nutrient enrichment (row crop agr.)

Ohio EPA uses a grading system to score biological integrity at various sites within a basin. The different types of species and fish densities, eating and breeding patterns, habitat, and the ability to survive in polluted conditions are some factors of biological integrity. Aquatic insects also reflect the health of the stream they reside in. Fish and macroinvertebrates in a healthy stream will have a diverse array of taxa. Based on taxa collected during samples, Ohio EPA is able to determine stream community health/quality.

Stream Health	
█	Exceptional
█	Very Good
█	Good
█	Marginally Good
█	Fair
█	Poor
█	Not Sampled

