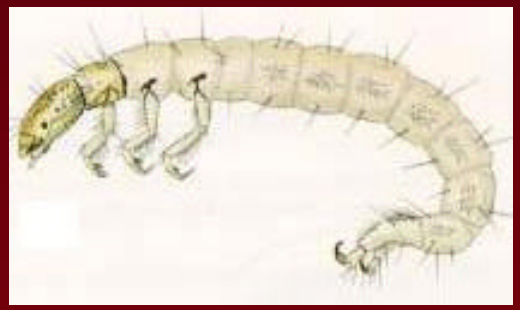
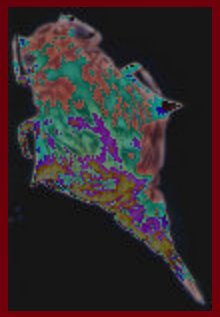
Catheys Creek Watershed: 2003 Aquatic Community Study

NC Division of Water Quality

Tools of the Trade

- Aquatic macroinvertebrates, “benthos”





- Fish communities

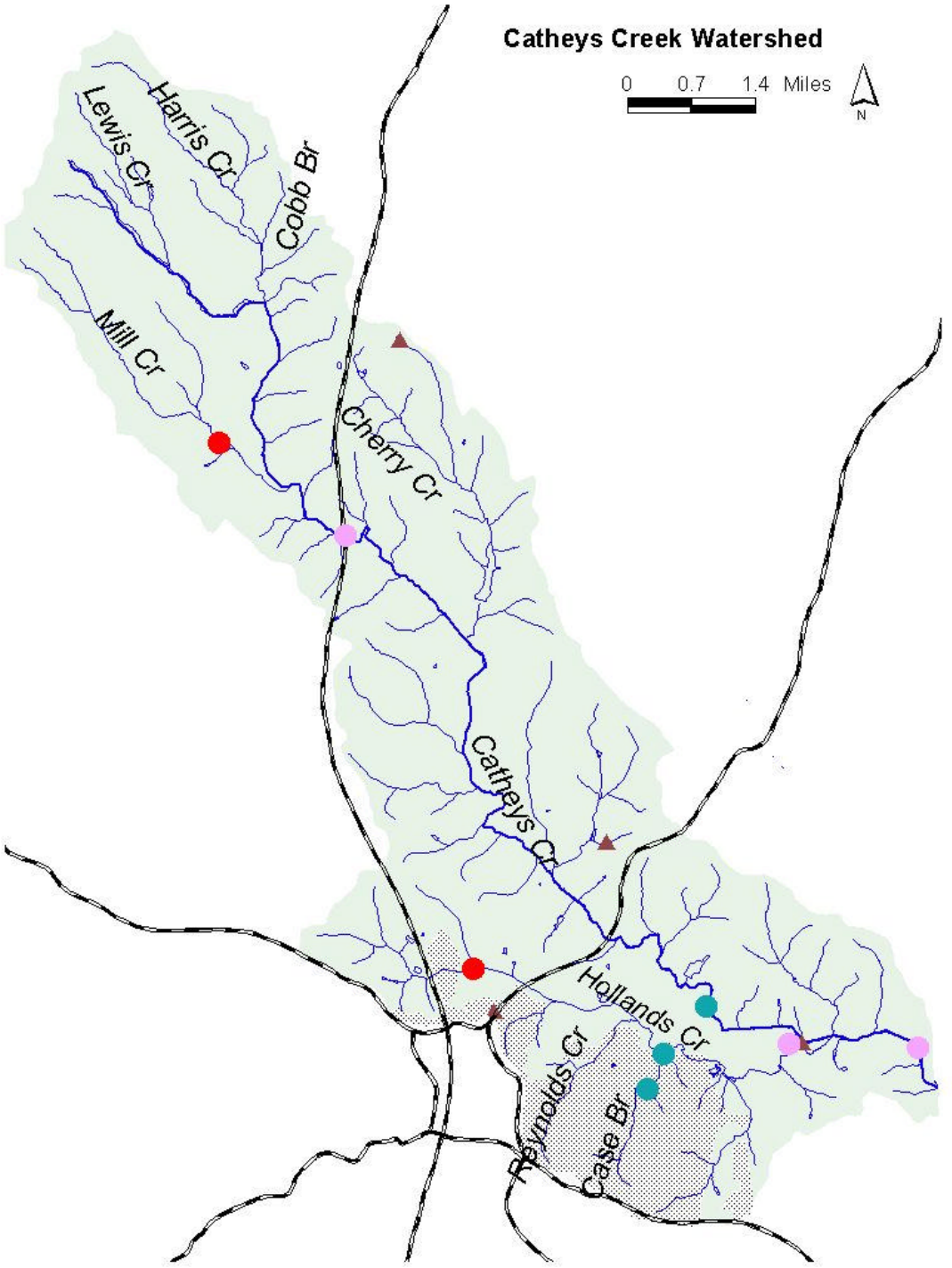
Aquatic organisms and stream integrity

- Water quality
  - Oxygen, temperature, pH, etc.
  - Pollutants
    - toxins (metals, pesticides)
    - nutrients
    - suspended sediments

Aquatic organisms and stream integrity

- Habitat quality
  - Morphology of the stream channel—riffles, pools, bends
  - Bottom substrate—sand, gravel, rock
  - Organic substrate—large wood, sticks, leaves

Benthos Monitoring: 2003



Habitat Issue: Heavy Sediment Deposits

- Many streams very sandy, limiting aquatic macroinvertebrate diversity
- Sandy streams the lower Broad basin are often characterized by benthic communities of limited diversity
- Sandy substrates susceptible to scour during storms

Habitat Issue: Eroding Banks

Anomalies

- Good habitat but poor benthos:
  - Mill Creek: pond effects?
  - Upper Hollands Creek: water quality issues?
- Urban stream:
  - Case Creek: benthos better than expected

Spindale Treatment Plant

- Moved from Hollands Creek to Catheys Creek in 1999
- Lower Hollands Creek (Poor → Marginal)
  - 1988: 2 EPT
  - 2000: 20 EPT
  - 2003: 20 EPT
- Lower Catheys Creek (Marginal)
  - 1988: 16 EPT
  - 1994: 17 EPT
  - 1995: 21 EPT
  - 2000: 21 EPT
  - 2003: 20 EPT

Spindale Treatment Plant vs. Urban Effects

- Catheys Creek decreases in community health between middle and lower sites
- Similar habitat at both sites; urban area and/or Spindale plant could impact lower site