SNAIL PREVENTION

Physical

- Remove vegetation
- Use of approved herbicides to control both algae and vascular plants
- Awareness of possible low oxygen related to decaying vegetation and warm water temperatures

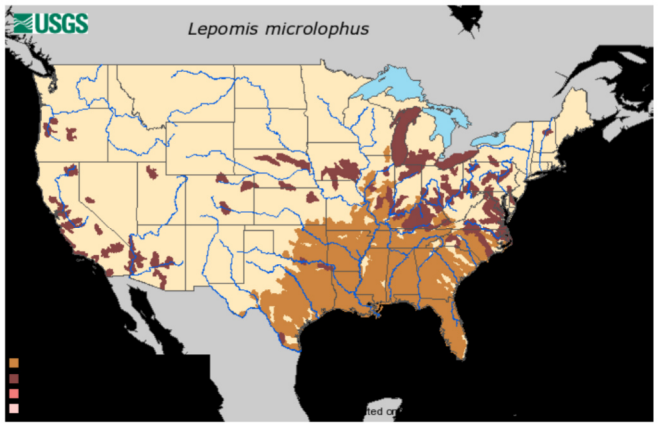
CHEMICAL

- Bayluscide™
  - Not approved for food dish
- Copper sulfate with citric acid
  - Combination of copper sulfate and citric acid along pond shore line
    - Eliminated >97% of planorbid snails
  - Uniform copper sulfate application
    - 2.5-5.0 ppm of copper sulfate effective (CC ponds)
    - Higher level may have affected fish health
      - Some species will be killed
    - Study site had >200 ppm alkalinity and hardness
  - Possible water quality problems
    - Effect on zooplankton populations
    - Low dissolved oxygen
    - Toxicity of copper to specific fish species
    - Needed awareness of the total alkalinity level

BIOLOGICAL

U.S. Geological Survey

- **Supplemental stocking of snail predators**
  - Redear sunfish (shellcracker)
    - Good snail consumption but limited by mouth gape
    - >4 inch avoid snails > ½ inch
    - Effective in controlling Physa but not rams-horn snails until fully mature
    - Limited by cold climates



BIOLOGICAL

- Hybrid redear sunfish (redear x green sunfish)
  - Larger mouth gape
  - NCRAC Project (Southern Illinois University-Carbondale)
    - 4.7 – 5.5 TL consumed Physa and Planorbella up to 12.0 mm (0.5 in) total length; redear sunfish in this size range only consumed snails <0.4 inch total length.
    - Maximum consumption rates equivalent to those of similar size redear sunfish.
    - Stocked 4 redear sunfish and 4 hybrid redear per acre
    - Reduced snail populations over the culture period