Ecosystem Restoration with Guerilla Tactics

Grand Lake St. Marys

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We are at War……

   We understand the enemy…..
   We have the commitment……
   We have the weapons……

But…….we are an insurgency
Guerilla Tactics – The application of unconventional approaches by small groups of individuals against a larger more formidable opponent that seeks to utilize the strengths of the opponent against itself.
Grand Lake St. Marys

- 21 square mile man made lake in West Ohio
- 52 square mile watershed
- 425 million in agricultural production
- 125 million in tourism

Key issues

- Excessive nutrient loading resulting in Hypo-trophic condition in lake and watershed
- Blue Green algal blooms producing mycosystin toxins
Impacts

- Algal blooms shut down all use of the lake in 2009/10
- Estimated loss of $77 million to local economy
- Loss in housing value of 25 million
- No Freddie Mac/Fannie Mae funding for homes in proximity to lake
- Identified public health threat
Primary Responses

- State of Ohio TMDL
- Emergency watershed regulations put into place
- NRCS funding of conservation practices
- Local formation of the Grand Lake St. Marys Restoration Commission
Grand Lake St. Marys Strategic Plan

- Grand Lake St. Marys Strategic Restoration Plan
  - Re-vitalization focus
  - Integration of existing efforts
    - NRCS
    - OEPA
      - Lake Improvement Association
  - Self perpetuating approach (economically sustainable)

- Cornerstone Elements
  - Simultaneous and coordinated attack
    - Historic residual problems
    - Existing processes
    - Future Direction
Grand Lake St. Marys Strategic Plan

- Developed 8 Critical Response Actions to address
  - Chemical Treatments
  - Dredge Accumulated Sediments
  - Beneficial Use of Organic Waste
  - Watershed Best Management Practices
  - Rough Fish Removal
  - Lake Manager
  - Natural Resources Capital Improvement Program
  - Water Pollution Control Loan Fund
  - Economic Infrastructure
Results

Restoration Investment

- Investment of over 7 million in response efforts by project partners
  - In lake Alum treatment
  - Development of systems to treat nutrient loading
  - No major blooms since 2010

Economic Response

- Estimated Return on Investment of nearly 65 million to local economy
  - Initiation of multiple corporations using stressors as material
  - Lowest un-employment rate in Ohio (4.9%)
  - 20% increase in tax collections
  - 32% increase in real estate conveyances
  - Resurgence of recreational economy hotels, restaurants, facilities, events
Conclusions

- Ecosystem restoration is a societal endeavor not just a rural initiative
- Solutions to mitigate the existing problem and resolve the future ones must integrate the concepts of sustainability and economics
- Collaboration between key stakeholder groups is imperative to generating and sustaining momentum to win the war
QUESTIONS