The Lake Mendota Priority Watershed Project: A Mid-Term Evaluation

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Wisconsin’s Priority Watershed Program

- Program began in 1978
- 90 projects selected statewide
- Technical and financial assistance from state
- Program voluntary in nature
- 1.5-yr planning & 10- year implementation period
- $18 mil./yr. budget
- Large watersheds no longer being targeted
Lake Mendota Watershed

- 232 sq. miles
- 3 cities
- 6 villages
- 12 towns
- 88% in Dane Co.
- 12% in Columbia Co.
Land Use in the Lake Mendota Watershed
Average Farm Size

- 229 dairy animals
- 358 acres of corn; 142 acres of alfalfa
- Economically prosperous
- Stable or expanding family farms

Source: Environmental Resource Center FPI, 1996
Streams
Lakes
Groundwater
Wetlands
Land Resources Team

Barnyards

Streambanks

Uplands

Urban Areas
Groundwater Analysis

157 wells tested for nitrates

Results
- 10% were <2 mg/L
- 25% were >2 and <10 mg/L
- 65% were >10 mg/L
Nutrient crediting analyzed
73% of farmers under credited or didn’t credit manure nitrogen applications
Sediment Delivery

1 acre construction

= 35-75 acres cropland
Construction Site Erosion

437 acres of land are in transition each year, representing <0.5% of the total land use in the watershed.
Sediment Delivery to Lake Mendota

- Cropland: 58%
- Construction Sites: 23%
- Existing Urban Areas: 11%
- Streambanks: 8%
Phosphorus Delivery to Lake Mendota

- Construction Sites: 19%
- Barnyards: 21%
- Streambanks: 6%
- Existing Urban Areas: 6%
- Cropland: 48%
Current Conditions

On a given day in the summer, a blue-green algae bloom will occur 60% of the time, or 3 out of 5 days.
Project Goals

- Reduce P loading by 50%
- 4 out of 5 days free of nuisance algae blooms
## Total Project Budget (in millions)

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<th>Activity</th>
<th>State Share</th>
<th>Local Share</th>
<th>Total</th>
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<td>Rural BMPs</td>
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Rural Priorities in Land Management in the Lake Mendota Watershed

Soil Erosion (T)
Nutrient Management
Water Management
Barnyard Runoff
Wetland Restoration
Etc.
Residue Management
Nutrient Management
Water and Sediment Control Basins
Clean Water Diversion

- Eaves divert roof water away from feedlot
Priority Wetland Restoration Sites

- Wetland restoration site
- Drainage area for wetland sites
- Urban area
- Open water
- Major road
Proper Well Abandonment
Rural Accomplishments 1998-2000

- 404 of 662 eligible landowners have been contacted

- Over 160 contracts signed between 1998-2000 committing > $800,000 (federal & state funds)

- Critical site farms are being addressed

- Achieved 20% of the goals
Urban Priorities in Land Management in the Lake Mendota Watershed

- CSEC Ordinance Development
- Stormwater Mgmt.
- Phase I & Co. Ordinance
- Ordinance Enforcement
- Grant Programs
- Etc.
Construction Site Erosion Control

- County has CSEC ordinance with numeric standard
- All 5 municipalities have adopted these standards
- Municipalities are contracting for enforcement work
Storm Water Management Control

- Dane County has adopted a county-wide storm water management ordinance
- Municipalities must adopt ordinance by mid-2002
- All municipalities are designated as Phase I permittees
From paper... to the ground...

... implementation may prove to be the biggest challenge
Lifeline of a Farm

Priority Watershed Project

Family Farm Ownership

1880 1900 1920 1940 1960 1980 2000 2020
Insufficient Staff to Meet Project Needs

- 160 contracts were signed between 1998-2000
- Nutrient management plans extend for 3 years
- 662 landowners are eligible to receive cost share dollars and must be contacted more than once
Who Can and Who Will Participate?

- Leaders/planners
- Financially motivated
- The wait and see crowd
- Those who distrust government
- Poor managers
- No future plans
- Financially unstable
Critical Site Barnyards

- If >260 pounds P/yr, then required to participate
- Eligible for complete barnyard system and nutrient management
Landowner was only willing to do the minimum

- Cost-share agreement signed
- Phosphorus load went from 314 pounds/yr to 257 pounds/yr, just 3 lbs/yr below what was required
Reluctance of Municipalities

- Fastest growing municipalities have competing demands
- Not enough staff
- After initial grants, must reapply using competitive process
- May be difficult to find matching funds in budgets
- May not like “strings attached” associated with grants
Conclusions

• The plan serves to guide project
• A lot has already been accomplished
• Identifying obstacles helps to address them
• Behavior changes take time