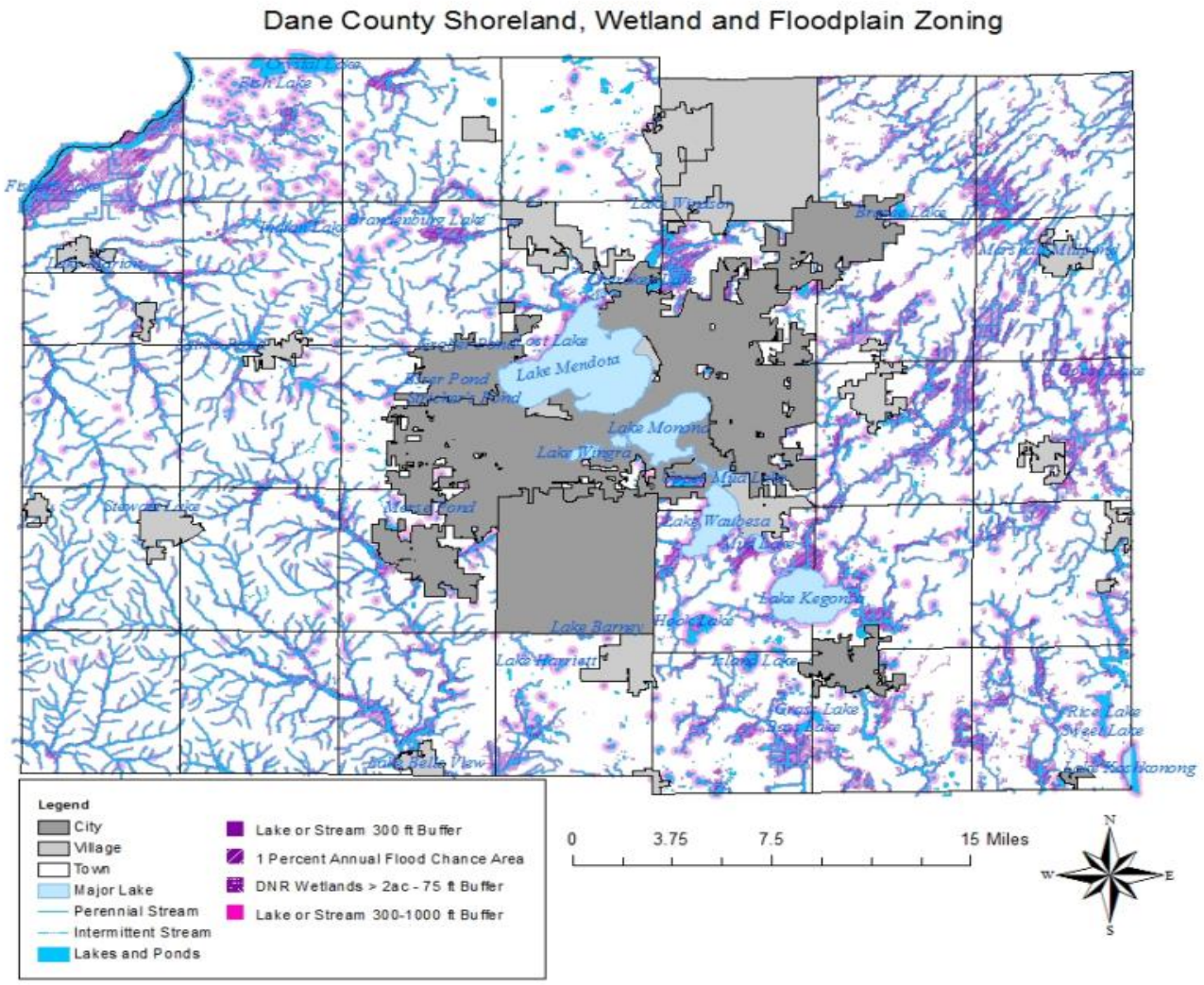
Healthy Farms Healthy Lakes Task Force

Recommendations

HFHL TF Chair
Dane County Supervisor
Mary M. Kolar

Healthy Farms Healthy Lakes Task Force

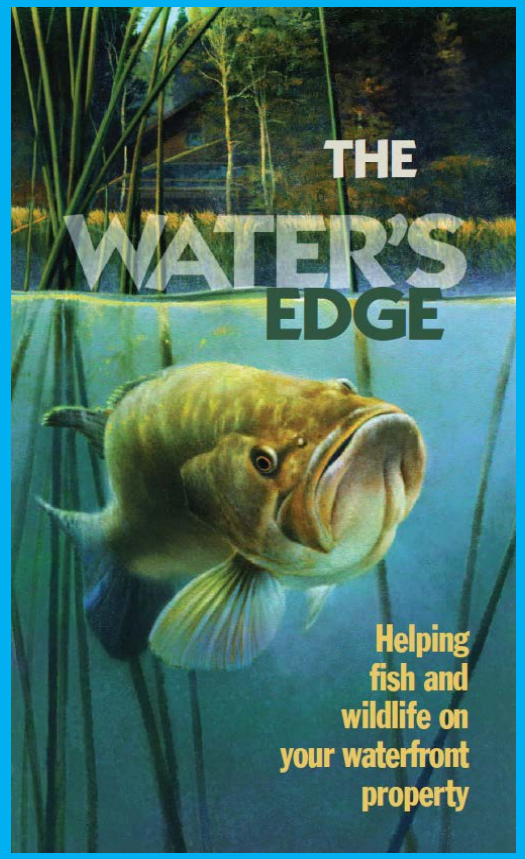


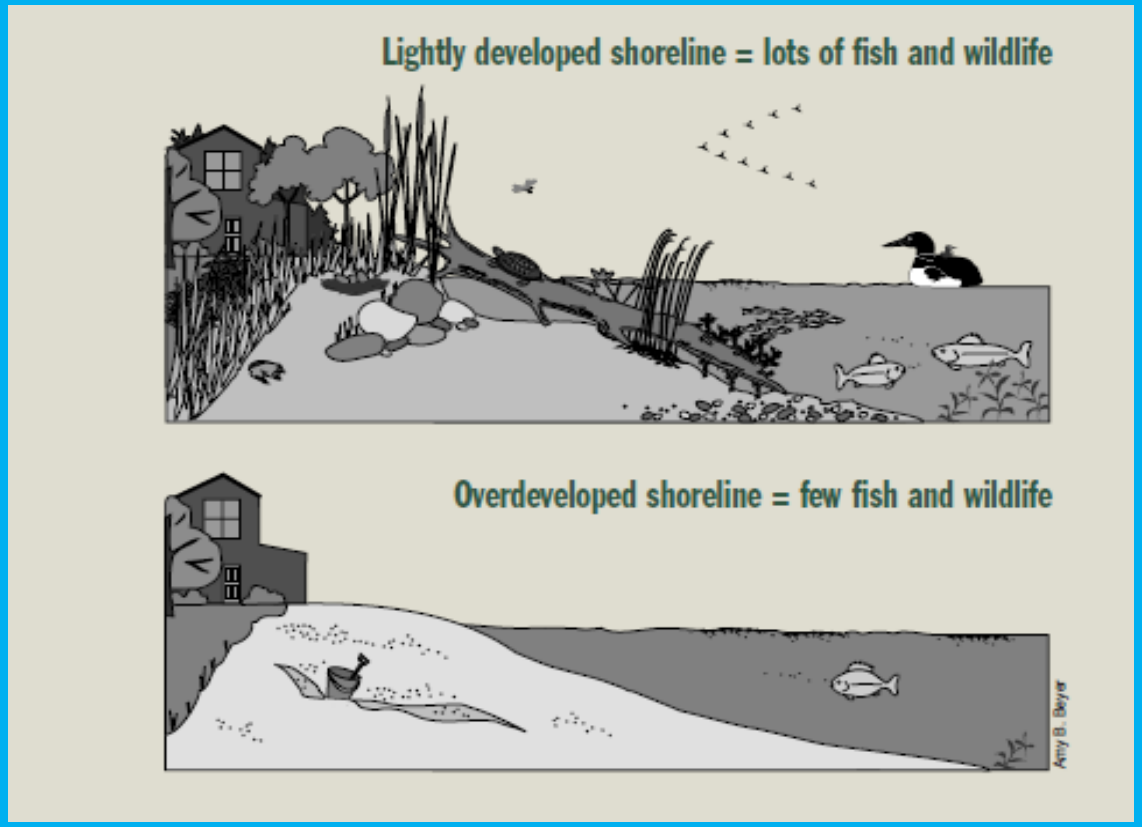
Need more people to care about shorelands

- Protect water quality
- Preserve fish and wildlife habitat
- Prevent shoreland erosion

Inform to care about shorelands

94% of all lake life is born, raised, and fed
within 30 feet of where the water meets the land. (*WI DNR, 2004)*





Heathy Farms Healthy Lakes Task Force

Bringing together

- Stakeholders and experts – from farming, environmental groups, and state and local government agencies
- Learn from experts and learn from each other
- Recommendations for increased progress

Heathy Farms Healthy Lakes Task Force

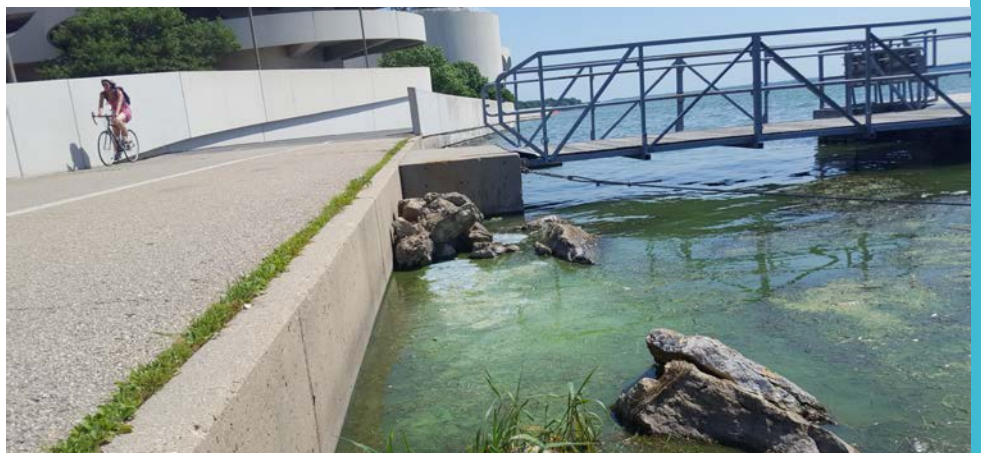
Why?

- We are the largest agricultural producing county in the state
- At the same time, our regional identity and our regional economy are as closely tied to our lakes as they are to our farms
- Task Force is "Healthy Farms, Healthy Lakes" because both our farms and our lakes are important to the future of our county

Heathy Farms Healthy Lakes Task Force

Phosphorus

- Despite our best efforts, water quality in lakes Mendota, Monona, Wingra, Waubesa and Kegonsa remains seriously impaired
- Nutrient-rich runoff contributes to excessive weed growth & toxic algae blooms
- Areas of lakes may be dangerous to swim in even after moderate rain event
- In June 2017, the Yahara Watershed saw the largest blue-green algae bloom in 25 years; we're experiencing one now that started last month and is continuing.



The top photo on the left was taken at James Madison Park on June 16th last year during one of the worst algae blooms that Lake Mendota has experienced. Not shown here is the major fish kill that resulted.

The middle photo is Lake Monona on June 12th this year

The bottom one is also Law Park the same week

Obviously, no one could enjoy our lakes during these times

Part of the Problem but not the most significant

Heathy Farms Healthy Lakes Task Force

Phosphorus

- Urban impacts such as construction-site erosion, lawn fertilizer and tree leaves contribute to the problem
- Runoff from agricultural lands is the largest source of phosphorus entering our lakes
- Challenge continues despite decades of public and private investment

Heathy Farms Healthy Lakes Task Force

More to do

- Successfully meeting our goals will avert the need for expensive water treatment practices to comply with federal clean water standards
- To protect both our environment and our economic quality of life in Dane County, we must develop new strategies

Healthy Farms Healthy Lakes Task Force

Members

- Supervisors Carl Chenoweth, Nikki Jones, and Mary Kolar
- Dave Fahey, Yahara Pride Farms Representative and President, Monona Community Bank of Middleton
- Allan Levin, President of the Yahara Lakes Association
- James Tye, Executive Director of the Clean Lakes Alliance
- Rob Klink, Agricultural Farm Advisor
- Rebecca Larson, Biosystems Engineer at UW-Madison
- Rebecca Power, Chair of the County Lakes & Watershed Commission
- Dave Taylor, Director of Yahara WINS (Watershed Improvement Network)
- Laura Hicklin, Director of the Dane County Land and Water Resources Department
- Jamie Derr, Farmer and Owner of Derr Solarmass
- Jim Matson, retired former Wisconsin DATCP counsel
- Also, Mark Riedel, DNR, participated

Heathy Farms Healthy Lakes Task Force

Education & Preparation

- History of Phosphorus reduction and related water quality impacts
- Phosphorus Cycle/Budget Science Overview
- Farm Conservation and Water Quality Standards and Laws
- Conservation Efforts – current and future
- Manure management and storage – current practices, research findings and future trends
- Nutrient Management Plans and Other Practices
- Economic impacts and Future Trends

Heathy Farms Healthy Lakes Task Force

Charged to

- Create a greater community understanding of the best practices and policies for nutrient management
- Make recommendations to the County Board regarding county policy
- Make recommendations on how to develop a cost-sharing proposal for capital investments directed at Watershed phosphorus reduction
- Report to be completed and ready for County Board action

Over 200 Recommendations consolidated into 8 Goals

1. Actively support and encourage conservation efforts by farmer-led groups and watershed organizations.
2. Enforce reasonable management regulations at the local level by adopting state agricultural performance standards into county ordinance as a complement to the state agricultural prohibitions already in county ordinance.
3. Improve the use of manure nutrients and prevent nutrient losses through improved manure management.
4. Improve soil and water quality through the expansion, adoption, and implementation of nutrient management plans along with the development and maintenance of a tracking database.
5. Continue to support, implement and evaluate the *Yahara CLEAN Strategic Action Plan* and adaptive management plans.
6. Develop and implement programs that aid in the preservation of agricultural land.
7. Expand implementation of conservation practices through streamlined cost-share program administration, new program development and improved promotion of opportunities.
8. Develop large scale watershed analyses to identify and prioritize high risk areas for phosphorus runoff and water quality degradation.

1. Increase support and encourage conservation efforts by farmer-led groups and watershed organizations to improve nutrient management and reduce nonpoint source runoff from farms.

- Engage with farmer-led groups and watershed organizations to understand how we might further support their efforts. For example:
  - Equipment needs
  - Training/education needs
  - Support needs (e.g. coordinator position, outreach, etc.)
  - Regulatory obstacles (e.g. recent WDNR streamlined General Permit for conservation efforts to remove regulatory barriers that have inhibited practices such as waterways and buffers)
  - Financial obstacles
  - Funding support through innovative or pilot programs such as "pay for performance"
- Engage with agronomists and agriculture industry partners to understand how we might support the efforts of farmer-led groups and work together to improve nutrient management and reduce nonpoint runoff from farms.
- Develop collaborations between government, community partners and farmers to promote water quality and soil health through demonstrations that:
  - Maintain continuous living cover
  - Minimize soil disturbance
  - Maximize soil biodiversity
  - Improve nutrient management and reduce nonpoint runoff risks
- Develop and promote voluntary local standards to address locally identified resource concerns and priorities (e.g. manure and fertilizer handling and management).

2. Enforce reasonable management regulations at the local level by adopting state agricultural performance standards into county ordinance as a complement to the state agricultural prohibitions already in county ordinance.

- Update Chapter 2 and Chapter 14, Dane County Ordinance, to include the state's agricultural performance standards for local implementation and enforcement:
  - Sheet and rill erosion
  - Wind erosion
  - Tillage setback
  - Phosphorus Index
  - Manure storage facilities
  - Process wastewater handling
  - Clean water diversion
  - Nutrient management
- Update the Dane County Land & Water Resources Management Plan to align implementation procedures with current initiatives and ordinance requirements.

3. Improve the use of manure nutrients and prevent nutrient losses through improved manure management.

- Update and expand Chapter 14, Dane County Ordinance, manure storage permitting language, to include:
  - Stay current with technical standard requirements for manure storage
  - Expand definitions to include new and emerging manure management techniques (i.e. composting, pelleting, digesters)
  - Expand the permitting requirements to address process wastewater (i.e. milk house waste, feed leachate)
  - Improve manure storage application form
- Create and administer a manure storage "certificate of use" program through updates to Chapter 14, Dane County Ordinance. The certificate would apply to all manure storages in the county to evaluate safety and maintenance, track storage use and volumes, and improve implementation of nutrient management planning.
- Continue to pursue innovative manure processing, management and treatment options including but not limited to:
  - Composting
  - Digesters
  - Community manure storage and/or processing into new products
  - Exportation and/or exchange of manure
  - Low disturbance manure injection
  - Nutrient concentration systems
- Update and expand Chapter 14, Dane County Ordinance, winter spreading permit program, to include:
  - Align permit conditions with the new winter spreading requirements in the current 590 nutrient management technical standard
  - Expand winter spreading permit requirement to all manure types (i.e. solid, liquid)
  - Tie winter spreading requirements to nutrient management planning

4. Improve soil and water quality through the expansion, adoption and implementation of nutrient management plans along with the development and maintenance of a tracking database.

- Develop a systematic approach for achieving nutrient management plan implementation on 100% of all eligible agricultural land within the county.
- Develop and maintain a robust and comprehensive county-wide nutrient management plan database including:
  - The extent of nutrient management plan coverage
  - Planned rotational average phosphorus index levels
  - Soil test phosphorus levels
  - Ability to conduct periodic data evaluations and reporting of aggregated trends
  - Ability to integrate with other county conservation data management systems
  - Report aggregate phosphorus balance trends (by watershed / sub-watershed / TMDL stream reach)
  - Ability to integrate electronic nutrient management plans
- Focus on field Phosphorus Index level, determined according to state nutrient management standards, as an indicator of farm landscape propensity for phosphorus runoff and on soil test phosphorus as an indicator of long-term resilience. Work to record and monitor these and other key indicators across the Yahara watershed, and to identify improvements that may be needed to achieve water quality goals (including TMDL and Yahara CLEAN goals). Focus community attention, resources and support, including possible "pay for performance" initiatives, to achieve needed improvements in key indicators.

5. Continue to support, implement and evaluate the Yahara CLEAN Strategic Action Plan and other Yahara watershed water quality efforts.

- Reconvene the Yahara CLEAN partnership coalition for the purpose of evaluating, updating and adopting the *Yahara CLEAN Strategic Action Plan for Phosphorus Reduction* (2012). Updates shall account for progress from implemented actions, new information and assumptions used in estimating needed phosphorus reductions, revised cost estimates, staffing needs, implementation roles, and a timeline necessary for full implementation of all action items. The *Yahara CLEAN Strategic Action Plan for Phosphorus Reduction* addresses fourteen specific actions for a 50% reduction in the average annual phosphorus load from direct drainage sources in the Yahara chain of lakes.
- Collaborate using an adaptive management planning framework as a way to implement both the *Yahara CLEAN Strategic Action Plan* and to work towards permit compliance for regulated entities such as the Madison Metropolitan Sewerage District. Nutrient and sediment loading to the Yahara lakes should be reviewed and action plans adapted as needed to meet the twin goals of healthy farms and healthy lakes, with a maximum period between reviews of 10 years. This planning should be informed by the aggregated data provided by the nutrient management database (goal 4), priorities identified by watershed modeling (goal 8) and relevant water quality data.
- Continue to work with full implementation of the Yahara WINS adaptive management project with the Madison Metropolitan Sewerage District and other partners.
- Document progress towards meeting Rock River TMDL (WDNR is already tackling this) and other community goals to protect water quality:
  - Progress towards Rock River TMDL targets and compliance with Agricultural Performance Standards (NR151 ATCP 50)
  - Progress towards Yahara CLEAN goals (separated out by recommended actions and practices)
  - Progress towards Yahara WINS targeted reductions

6. Develop and implement programs that aid in the preservation of agricultural land.

- Develop a county wide agricultural conservation easement program to:
  - Ensure agricultural viability
  - Provide financial support that will encourage conservation practices not easily covered by existing cost-share programs
  - Maintain and monitor compliance with state performance standards or other conservation goals
- Continue support for the Dane County Farmland Preservation Program, which allows farmers and landowners to be eligible for state tax credits under the Working Lands Initiative by maintaining land in agricultural uses.
- Encourage the development of Agricultural Enterprise Areas (AEAs) in areas of the county not covered by County or local zoning. AEAs are community led efforts to establish designated areas for continued long-term agricultural production and investment in the agricultural community. Landowners in AEAs are eligible to enter into voluntary farmland preservation agreements with Wisconsin Department of Agriculture Trade and Consumer Protection and claim tax credits.
- Encourage the preservation of agricultural land within urban areas.

7. Expand implementation of conservation practices through streamlined cost-share program administration, new program development and improved promotion of opportunities.

- To assist with public awareness and validation, stakeholders should partner with the University of Wisconsin and other scientific experts to model nonpoint pollution reductions from conservation practices.
- Evaluate and assess current cost share programs for their limitations in funding conservations practices and identify obstacles with program and individual contract administration that are burdensome to both landowners and administering staff.
- Develop a Dane County agricultural cost-share guide to outline funding opportunities, procedures and policies for staff, program participants, policy makers and the public. Include information regarding:
  - Funding opportunities
  - Application and planning procedures
  - Conditions and requirements for funding
  - Administrative procedures
- Develop funding opportunities to assist landowners and producers with improvements to soil health such as cover crops, nutrient management plans, no-till planting, and other cropland conservation systems.
- Consider an Agricultural Water Quality Grant program that provides funding opportunities for organizations or individuals for the implementation of conservation practices and systems beyond current cost-share and other existing funding opportunities.
- Work with partners to support the implementation of a pay for performance pilot.
- Explore the feasibility of new incentive programs such as incentives for submittal of nutrient management plans or other data.
- Consider new revenue sources to cover proposed and existing programs.

8. Develop large scale watershed analyses to identify and prioritize high risk areas for phosphorus runoff and water quality degradation.

- Develop a high level (macro scale) analysis for the entire county that quantifies the amount of phosphorus loading to nearby surface waters. Use the analysis to identify priority watersheds.
- Develop a mass balance of pounds of phosphorus and types of phosphorus imported and exported annually by watershed and develop a long-range approach to address any imbalance.
- Update the Yahara River Soil and Water Assessment Tool (SWAT) analysis to gauge progress. The SWAT model was initially conducted by Montgomery & Associates in 2010 as part of Yahara CLEAN and updated in 2014 for Badfish Creek.

Example of Implementation Proposal-Dr Nadeau

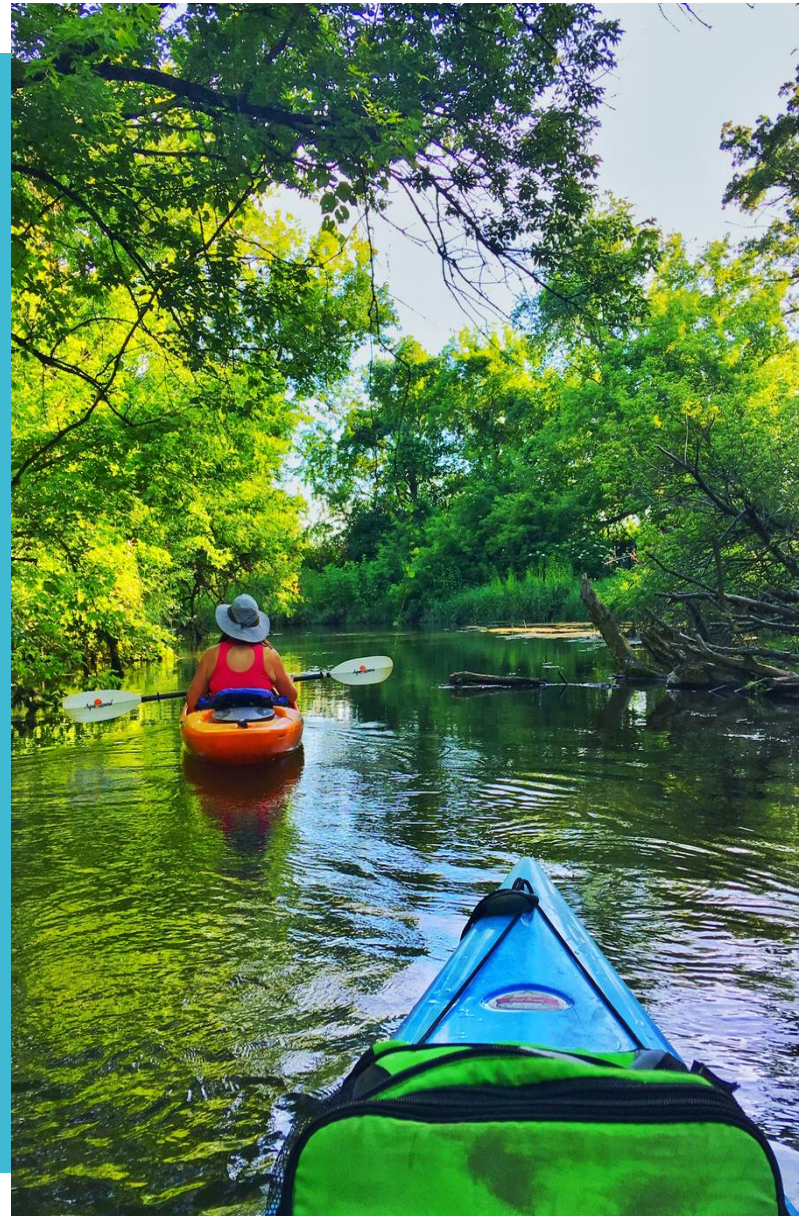
8B. Develop a mass balance of pounds of phosphorus and types of phosphorus imported and exported annually by watershed and develop a long-range approach to address any imbalance.

Components of the recommendation

- Develop an approach/methodology for measuring the P balance in the watershed on an annual basis
- Collect and report the P balance data annually
- If an imbalance is found, develop a specific, measurable set of long-range actions to address this imbalance.
- Implement the long-range actions identified above

Proposed implementation strategy

- Form a scientific advisory committee, consisting of 5-7 members
- Committee charged to carrying out the first three components of the recommendation presented above.
- Establish an implementation team coordinated by the Dane County Environmental Council (?) to carry out the long-range actions identified by the scientific advisory committee.
- Have scientific advisory committee continue to play an annual review and evaluation ion role in the implementation of the long-range actions.



https://board.countyofdane.com/Healthy-Farms-Healthy-Lakes-Task-Force

Helping keep our lakes clean

Together we can make lasting changes