Food · Land · & Water
Toward a Sustainable Wisconsin

Food, Land and Water: Moving Forward

Summary of the *Wisconsin Food, Land and Water Project*

Overview

Over the past 2 years, the *Wisconsin Food, Land and Water Project* has brought Wisconsin civic leaders together for a serious, in-depth discussion about the future of Wisconsin's food, land and water. This was a chance for stakeholders of all kinds to come together, look beyond the present moment, see the big picture, and think about our shared resources in a more systematic and collaborative way. The result is a collective call to action to address the conservation challenges and possible solutions developed by workgroups on 4 critical topics related to our food system and environment:

- Surface Water Quality
- Groundwater Quality
- Groundwater Quantity (Central Sands)
- The Future of Wisconsin's Working Lands

The workgroups involved a wide range of stakeholders, including representatives from agriculture, business, local communities, civic and environmental groups, government and academia. Federal and state government representatives participated as advisors.

Each workgroup met 4 times. The discussion was lively, but respectful. In the end, the workgroups reached a surprising degree of consensus, and developed some very impressive recommendations. The Workgroup recommendations represent the general consensus of each workgroup. While not every workgroup participant agreed with every recommendation, fundamental disagreements were rare.

Workgroup recommendations are briefly summarized below. Complete workgroup reports, including key issues, goals and strategies, are provided in Chapters A through D. We think the reports make for compelling reading, and provide a strong foundation for collaborative action. We hope that you will agree.

Surface Water Quality Workgroup

The Surface Water Quality Workgroup focused on one of Wisconsin's most critical water quality problems – namely, phosphorus pollution from farms. This is a problem that highlights the powerful, and often troublesome, connections between food, land and water.

Phosphorus (P) is one of the most widespread pollutants of Wisconsin lakes and streams. High P concentrations play a decisive role in algae blooms, lake eutrophication, and "dead zones" like the one in Green Bay. Algae blooms now degrade hundreds of Wisconsin water bodies, including drinking water sources such as Lake Winnebago and Lake Michigan. In some cases, algae blooms can be toxic to people and pets. Wisconsin has set watershed cleanup targets (but no deadlines), and has a long way to go to meet those targets.

Farm runoff is the largest statewide source of P loading to surface waters (although it is not the only source). P is an important crop nutrient. Farmers apply P to crop fields, in the form of fertilizer and manure, to ensure abundant crop yields. But this "good" crop nutrient becomes a "bad" water pollutant when it runs off of farm fields and into surface water. Farm runoff is a complex problem, and solutions can be costly. Not surprisingly, there are differing views about who should pay. Wisconsin has thus far made limited headway in reducing P runoff from farms; and, in some ways, we are going backwards. Current funding for conservation practices falls far short of statewide conservation compliance needs.

Goals

The Workgroup came to consensus on the following Goals:

1. Reduce statewide farm P runoff by at least 30% by 2035 (reductions may vary between watersheds), and make steady interim progress toward that goal.
2. Meet all watershed Total Maximum Daily Load (TMDL) targets (combined P loading from farm *and nonfarm* sources) within 20 years, or within 20 years of TMDL approval, whichever date is later, and make steady interim progress toward those targets.
3. Meet P concentration standards for P-impaired waters, so as to remove 90% of all P-impaired waters from the Wisconsin impaired waters list by 2050.

The Workgroup believes that, by achieving these goals, we can dramatically improve water quality in Wisconsin's lakes, rivers, and streams.

Objectives and Strategies

In order to achieve the above goals, the Workgroup proposes the following Objectives:

1. Meet current state agricultural performance standards on all farms in P-impaired watersheds by 2027, and on all Wisconsin farms by 2035.

2. Design and implement clear strategies to meet TMDL targets in P-impaired watersheds.
3. Create strong farm conservation incentives, and provide enough resources to get the job done.
4. Address acute local manure and bio-solids management challenges.
5. Improve data collection and monitoring.
6. Work together as a community.

The Workgroup Report spells out specific Strategies for achieving these Objectives (see full report in Chapter A). Success will require a coordinated statewide effort, and strong public and farm support.

Groundwater Quality Workgroup

Two-thirds of Wisconsin residents get their drinking water from groundwater sources. But in many parts of the state, groundwater has been contaminated – often as a result of common agricultural practices. Key contaminants include nitrates and pathogens. The Groundwater Quality Workgroup focused on these critical problems.

Nitrate contamination is Wisconsin's most pervasive groundwater pollution problem. Nitrate comes from many sources, but nitrogen-rich farm fields are the primary source. Nitrate contamination is a significant public health concern, and a costly problem for private well owners and local communities. In some heavily farmed areas, 20-30% of private wells exceed state standards for nitrate. Heavy applications of nitrogen fertilizer and manure increase nitrate contamination risks.

Pathogens are microorganisms, such as bacteria and viruses, which can contaminate drinking water and cause water-borne disease. Pathogen contamination from agriculture appears to be growing, although it is less widespread than nitrate contamination. Pathogen contamination can occur when manure is applied to fields with shallow soils and fissured karst bedrock (such conditions exist in parts of Wisconsin, such as Kewaunee County). In those areas, there is a risk of rapid, unfiltered manure runoff to groundwater. Excessive or inappropriate manure applications can increase pathogen contamination risks.

Goals

The Groundwater Quality Workgroup came to consensus on the following Goals:

1. Ensure safe drinking water for all Wisconsin residents.
2. Reduce nitrate and pathogen contamination of groundwater.
3. Maintain compliance with state groundwater standards where those standards are currently being met, and accelerate efforts to restore compliance where the standards are not being met.
4. Keep Wisconsin agriculture and rural communities vibrant and economically sustainable, while achieving our groundwater quality goals.

Objectives and Strategies

In order to achieve these goals, the Workgroup proposes the following objectives:

1. Increase groundwater monitoring and research.
2. Meet current state nutrient management standards on all Wisconsin farms, but especially in key areas of concern.
3. Address acute regional nitrate contamination problems.
4. Address acute regional pathogen contamination problems.
5. Expand assistance to well owners affected by groundwater contamination.
6. Understand the connection between land use practices and groundwater quality.
7. Find the will and resources to get the job done.

The Workgroup Report spells out specific Strategies for achieving these Objectives (see full report in Chapter B). Success will require a coordinated statewide effort, and strong public and farm support.

Groundwater Quantity Workgroup (Central Sands)

The Groundwater Quantity Workgroup focused on the pumping of groundwater for irrigated agriculture in Wisconsin's Central Sands. Irrigation has allowed very high agricultural production, and has boosted the whole Central Sands economy. But it is also affecting the region's groundwater and surface water resources.

There are now about 3,000 high capacity wells in the Central Sands, compared to just 100 in 1950, and pumping demand continues to grow. Most of the pumping demand is for irrigated agriculture; but municipal and industrial wells, where present, also have an important impact. Conflicts over pumping rights and surface water impacts are increasing, and have sparked litigation and high profile legislative battles. Conflicts may grow as the Central Sands population and economy expand, and as Central Sands agriculture continues to intensify.

Groundwater pumping is *not* depleting the overall supply of groundwater in the Central Sands. But it *is* affecting groundwater levels and connected lake and stream levels – particularly on a seasonal basis. Reduced surface water levels can affect property owners, recreational use, navigation, and biological processes including spawning in trout streams.

Goals

The Groundwater Quantity Workgroup came to consensus on the following Goals:

1. Ensure that "public rights" in Central Sands waters of the state, including, but not limited to reasonable base stream flows and lake levels, are not impaired by groundwater pumping.

2. Accommodate, to the extent feasible, the reasonable use of Central Sands groundwater by agriculture, industry, communities, and other users – consistent with the protection of "public rights" in waters of the state.
3. Ensure reasonably fair and reliable access to groundwater among competing users, both now and in the future.
4. Provide reasonable continuity of access to existing groundwater users, and reasonable opportunity for access to new users.
5. Encourage water conservation by all, for the benefit of all.
6. Act on the basis of sound information.

Objectives and Strategies

To help achieve the above goals, the Groundwater Quantity Workgroup proposes the following Objectives:

1. Continue to expand our current knowledge.
2. Clarify "public rights" in Central Sands waters of the state.
3. Support voluntary cooperative efforts and appropriate public mechanisms to ensure that "public rights" in Central Sands waters of the state are not impaired by groundwater pumping.
4. Improve education and communications.

The Workgroup Report spells out specific Strategies for achieving these Objectives (see full report in Chapter C).

Working Lands Workgroup

Wisconsin, one of the top food-producing states in the nation, is facing a quiet crisis: We are steadily losing our farmland – the indispensable foundation of our food system. If current trends continue, we could undermine our farm and food economy, our quality of life, and our hopes for a sustainable future.

Wisconsin residents consume roughly 30 million lbs. of food every day. Our population is growing, and we aspire to eat more fresh, locally grown, and sustainably produced food. Wisconsin's dairy and food industry is a central pillar of our state economy, and an important source of jobs. But as we continue to lose farmland, it becomes harder to grow our dairy and food economy, and harder to build a sustainable food system for the future.

Since 1950, Wisconsin has lost 40% of its farmland to other uses, including urban development and reforestation of marginal land. Each year, we lose over 22 thousand acres of cropland to urban development alone (in just 35 years, that adds up to an area the size of Dane County). Most of that loss is occurring within commuting distance of urban centers. Commuter areas contain a disproportionate share of the state's best cropland, and are an important source of fresh local food for urban markets.

Soil erosion is also depleting Wisconsin farmland at a rate of over 60 million tons a year, contributing to the pollution of Wisconsin lakes and streams. Wisconsin soil erosion has *increased* steadily over the last 25 years, reversing an earlier downward trend.

Wisconsin has one of the most comprehensive FP programs in the nation, and program participation has been relatively stable. But FP zoning and agreements cover only about 1/3 of Wisconsin farmland, and Wisconsin continues to see a steady *overall* decline in farm numbers and farmland acreage. There are various underlying reasons identified in the Workgroup Report.

Farmland cannot be preserved for future generations if farming is not profitable and if future generations lack incentives to enter farming. In recent decades, farmers have faced serious challenges:

- Intense national and global competition.
- Increased market volatility and risk.
- Steady loss of farms (especially medium-size family farms).
- Growing concentration of farm ownership. In 2007, according to USDA, just 13% of Wisconsin farms accounted for 76% of farm product sales and 43% of all Wisconsin farmland. Just 3% of Wisconsin dairy farms now produce roughly 40% of our milk.
- Growing concentration of economic power in input and commodity markets, putting farmers at an economic disadvantage.
- Intense market pressure to squeeze more production out of every acre.
- Weakened rural communities and infrastructure.
- More absentee and speculative ownership of farmland (absentee owners now control about 1/3 of Wisconsin farmland).
- Land shortages, and high land acquisition costs.
- Aging farm owners (the average Wisconsin farmer is nearly 60 years old), and a younger generation that is leaving the land.
- Difficulty in attracting young talent.

Goal and Enabling Conditions

The Working Lands Workgroup identified an overall goal, *to maintain economically and environmentally resilient working landscapes*. Success in achieving this goal will depend, according to the Workgroup, on the following *enabling conditions*:

- Public understanding.
- Compact and livable urban communities (to prevent wasteful “sprawl” that destroys farmland).
- Strong rural communities and infrastructure.
- A strong agricultural economy.
- Successful and diverse family farms that have roots in the land.

Objectives and Strategies

The Working Lands Workgroup came to consensus on the following strategic Objectives, as part of a broad civic effort to achieve the above goal and enabling conditions:

- Increase public awareness.
- Support compact, livable urban communities.
- Make use of key farmland preservation tools, including *land conservation easements*.
- Take a regional approach to farmland preservation.
- Support diverse and profitable family farms, and the next generation of farmers.

The Workgroup Report spells out specific Strategies for achieving these Objectives (see full report in Chapter D).

Please Note: Unless otherwise attributed to another source, research, data, and other information referenced in the individual workgroup reports can be found in the background document prepared for this project, *"Food, Land and Water: Can Wisconsin Find its Way?"* by James Matson. It can be accessed on-line at this site:
http://wisconsinlandwater.org/files/events/Food,_Land_and_Water_(3-28-16)_Finalreduced.pdf

Next Steps

The Wisconsin Land and Water Conservation Association (WI Land+Water) is the primary organizer of the *Wisconsin Food, Land and Water* project. WI Land+Water represents county land conservation committees and conservation professionals, and works with a wide array of stakeholders on food, land and water issues. WI Land+Water will work toward implementing the vision outlined in this report. Beginning with its *Food, Land and Water Conference* on October 16-17, 2017 in Elkhart Lake, Wisconsin, WI Land+Water will seek stakeholder input on how it can help to advance the key priorities outlined here.

However, the civic vision outlined in this report is much larger than any one organization, and ultimately involves all the people of Wisconsin. WI Land+Water hopes that this project will provide an organizing framework and catalyst for action by many different people and organizations, at many different levels, to secure a sustainable food, land and water future for Wisconsin.

Key actors will include farmers, farm organizations, dairy and food businesses, civic and community organizations, trade associations, state and federal agencies, local government entities, academic institutions, state legislators, news media and ordinary citizens. We are all in this together, whether we like it or not; and we must all do our part.