



Livestock Agriculture: Environmental Impacts & Opportunities

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Improving Midwestern Agriculture and the Environment, November 20, 2019

An aerial photograph of a rural landscape. The foreground is dominated by a dense forest with trees in various shades of green and yellow. Beyond the forest, there are rolling hills with patches of green grass and golden-brown fields, likely corn. A small farmstead with red barns and white buildings is visible on the right side. The background shows a vast, flat expanse of land stretching towards a hazy horizon under a clear blue sky.

WI Land+Water's mission:

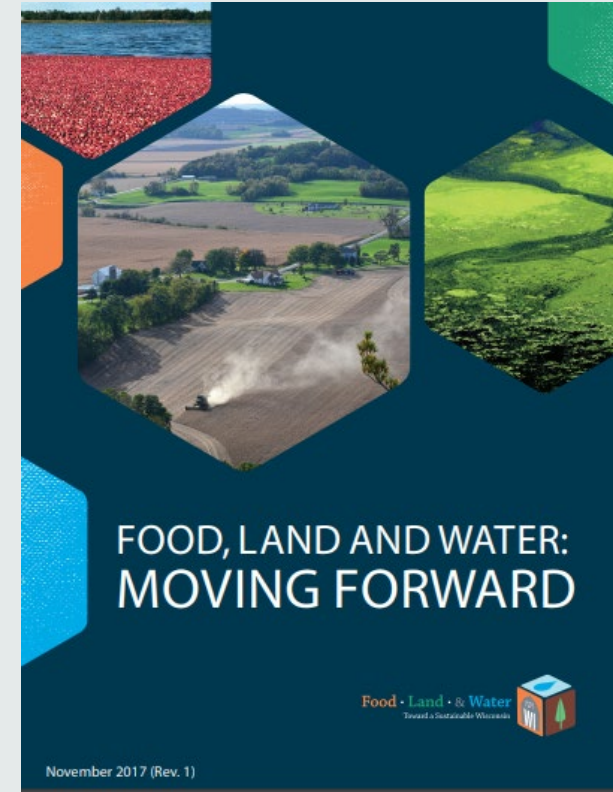
To protect, conserve, and enhance Wisconsin's natural resources by advocating for and supporting county conservation efforts, for current and future generations.

Outline

- Background statistics and trends
- Environmental impacts of livestock agriculture, shift toward Concentrated Animal Feeding Operations (CAFOs)
- Opportunities going forward

Food, Land, and Water Report

- Wisconsin faces multiple challenges as it relates to water quality and agriculture.
- Water quality not the sole responsibility of agriculture, BUT agriculture has a critical role in influencing water quality.
- Consensus exists that we must do a better job on water quality, and we must invest in it



Background statistics and trends – livestock agriculture in Wisconsin

Statistics

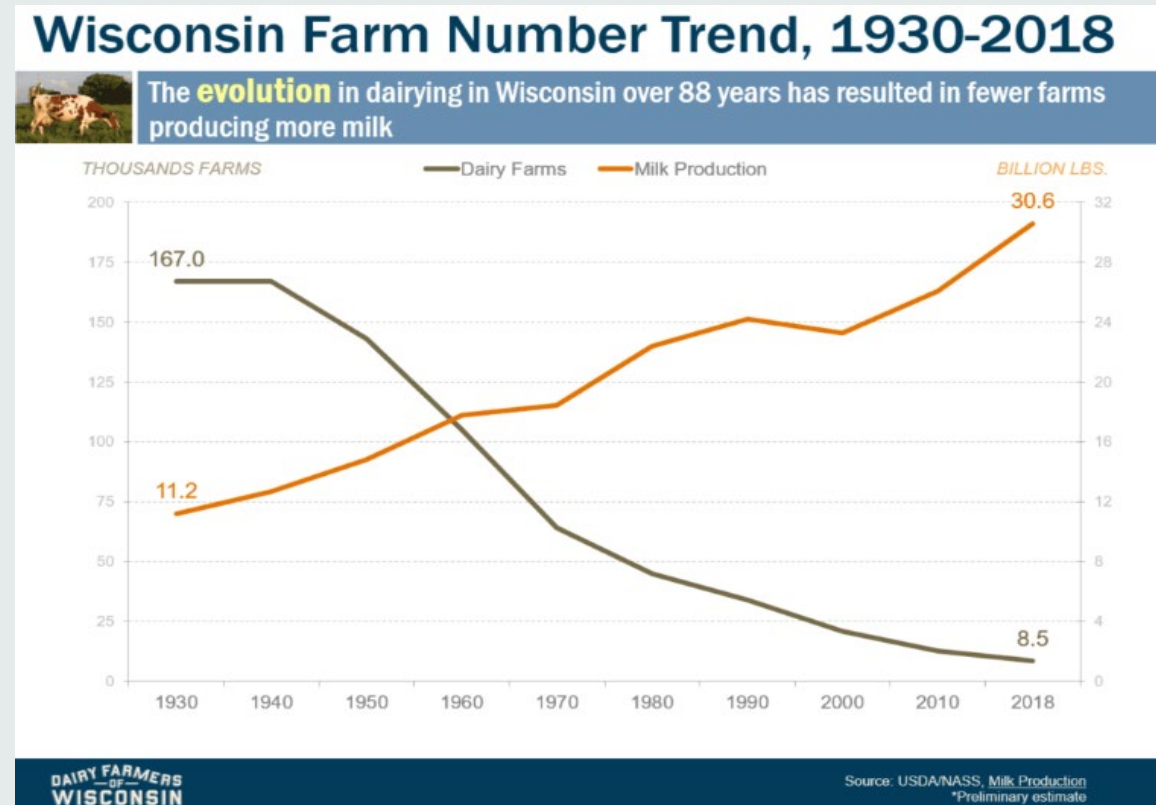
- “Dairy State”
- 8,000 dairies (312 CAFOs)
- 1.27 million dairy cows
- Produced 30.8 billion lbs milk in 2018
- Economic driver



Source: Dairy Farmers of Wisconsin

Trends – multiple stressors on livestock agriculture

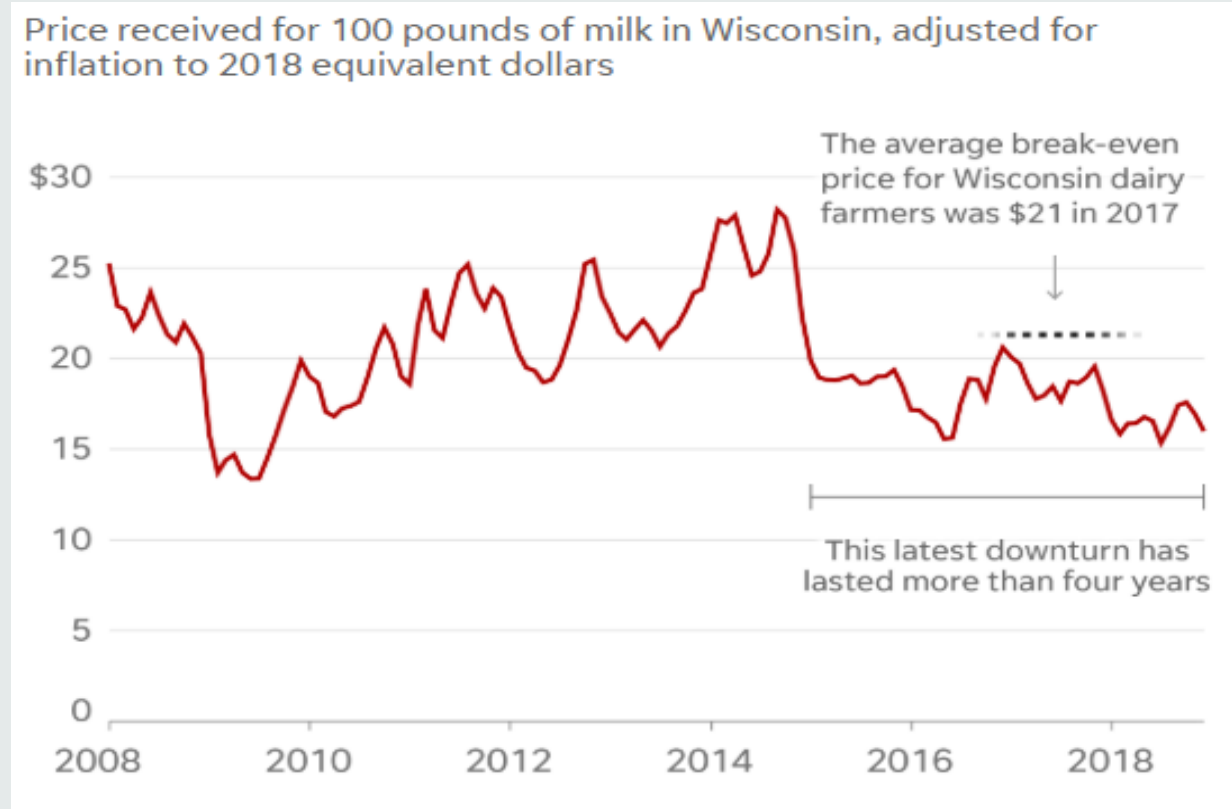
- Dairy farms in decline
- Milk production continues upward trend
- Milk prices down
- Greater public scrutiny



Source: Dairy Farmers of Wisconsin

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Source: Milwaukee Journal Sentinel

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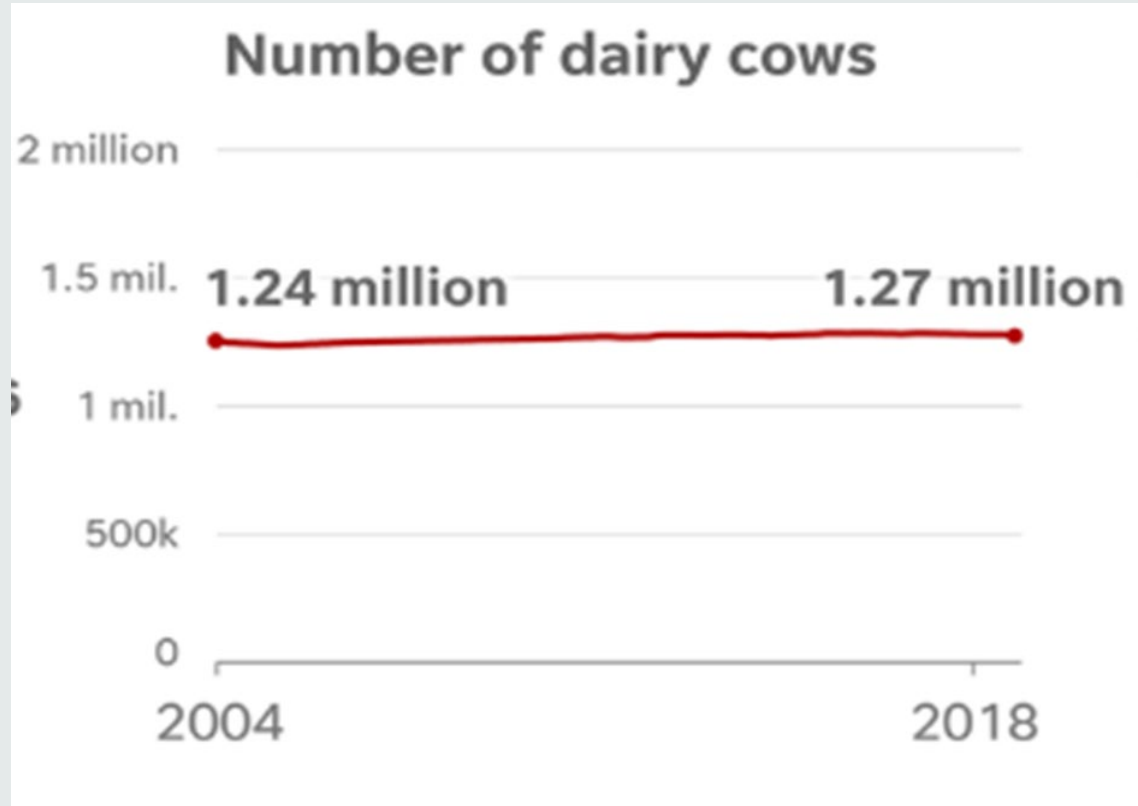
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Source: Chuck Wagner

Trends – “big get bigger, small go out”

- State herd size remains stable
- Dairy farms are getting bigger
- Losing farmland
- 1/3 of WI farmland owned by absentee landowners



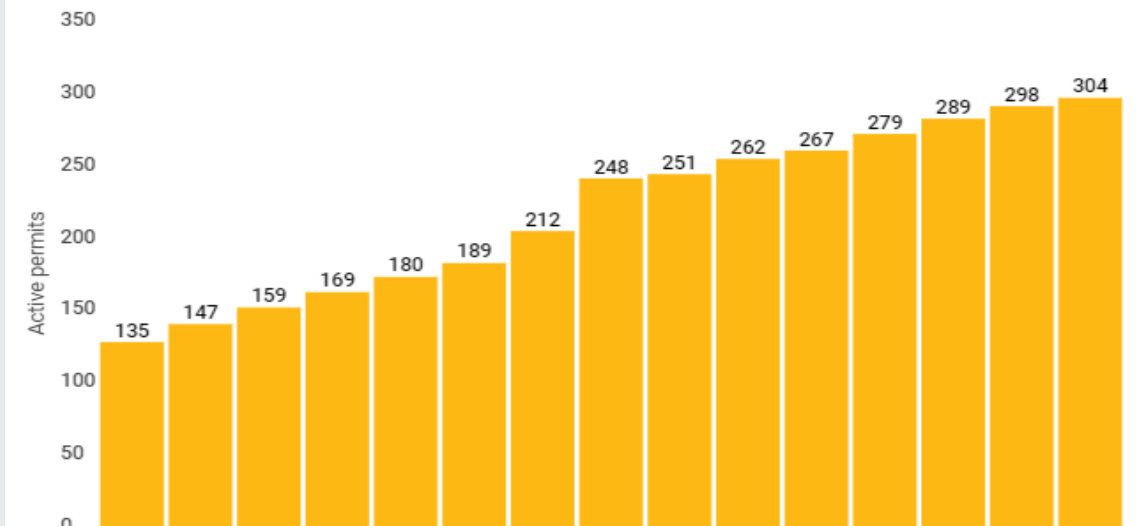
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Permitted CAFOs in Wisconsin, 2005-2019

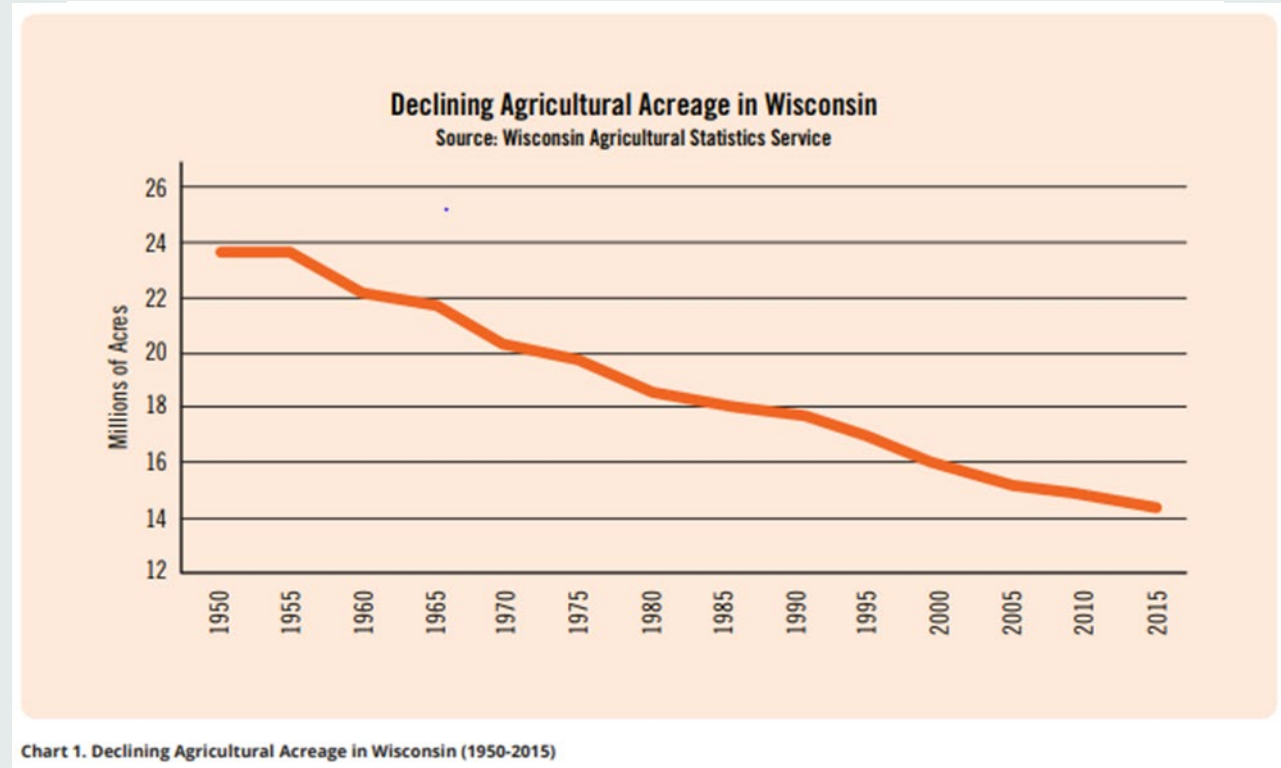
The number of CAFOs in Wisconsin more than doubled between 2005 and 2019.



Source: Food, Land, and Water: Moving Forward

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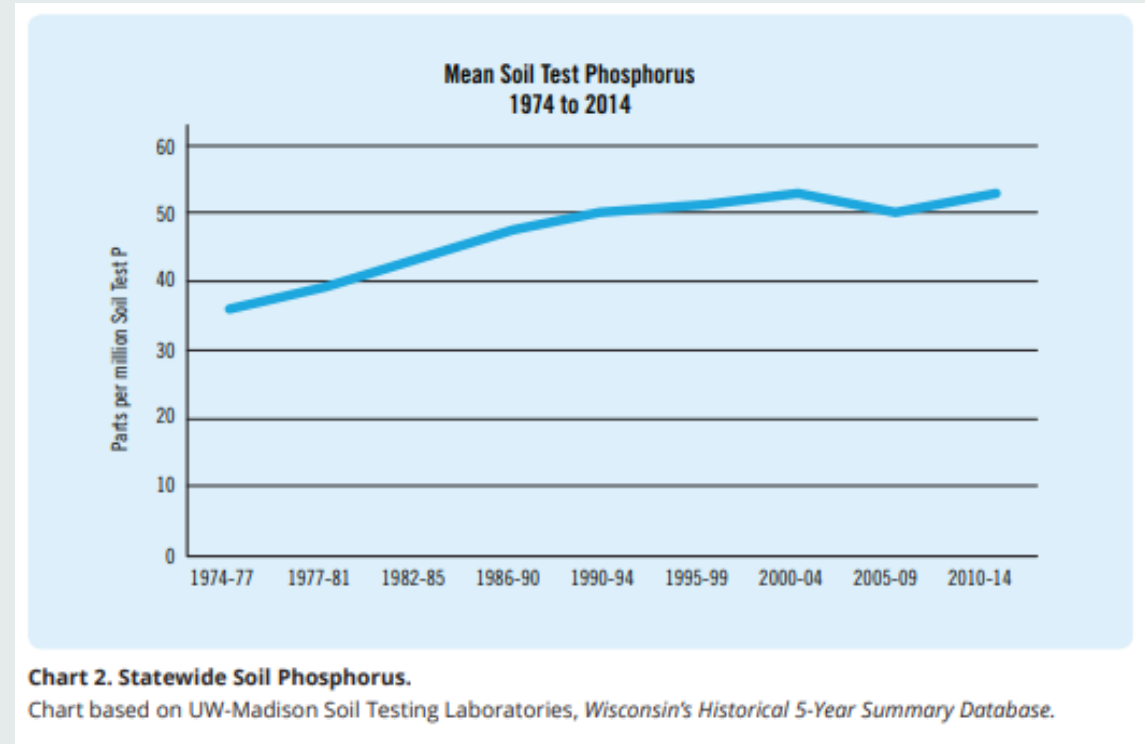


Source: Food, Land, and Water: Moving Forward

Environmental impacts of livestock
agriculture, shift toward CAFOs

Environmental Impacts – surface water pollution

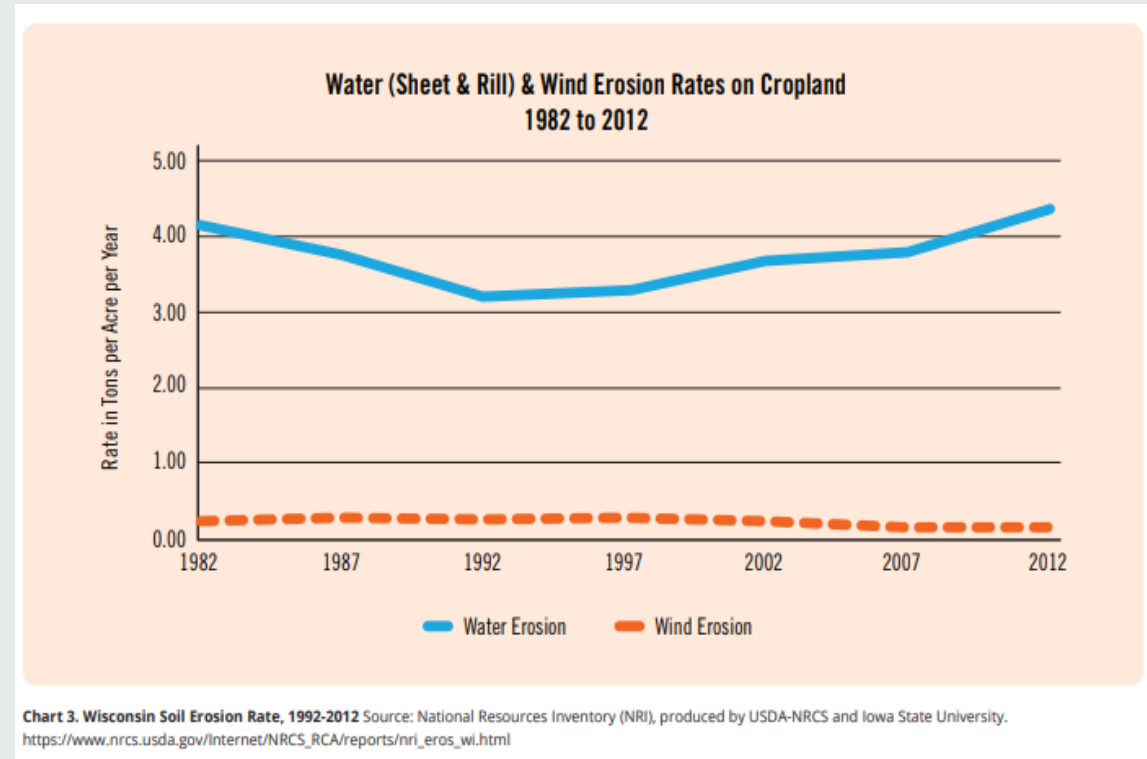
- Soil phosphorus increasing
- Soil erosion rates increasing
- Excessive nutrient loading can fuel harmful algal blooms
- ...and cause “dead zones”



Source: Food, Land, and Water: Moving Forward

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Environmental Impacts – groundwater pollution

- Nitrogen fertilizer tonnage increasing
- Well contamination from nitrate – 90% from agriculture
- Surface water nitrate contamination also growing concern.

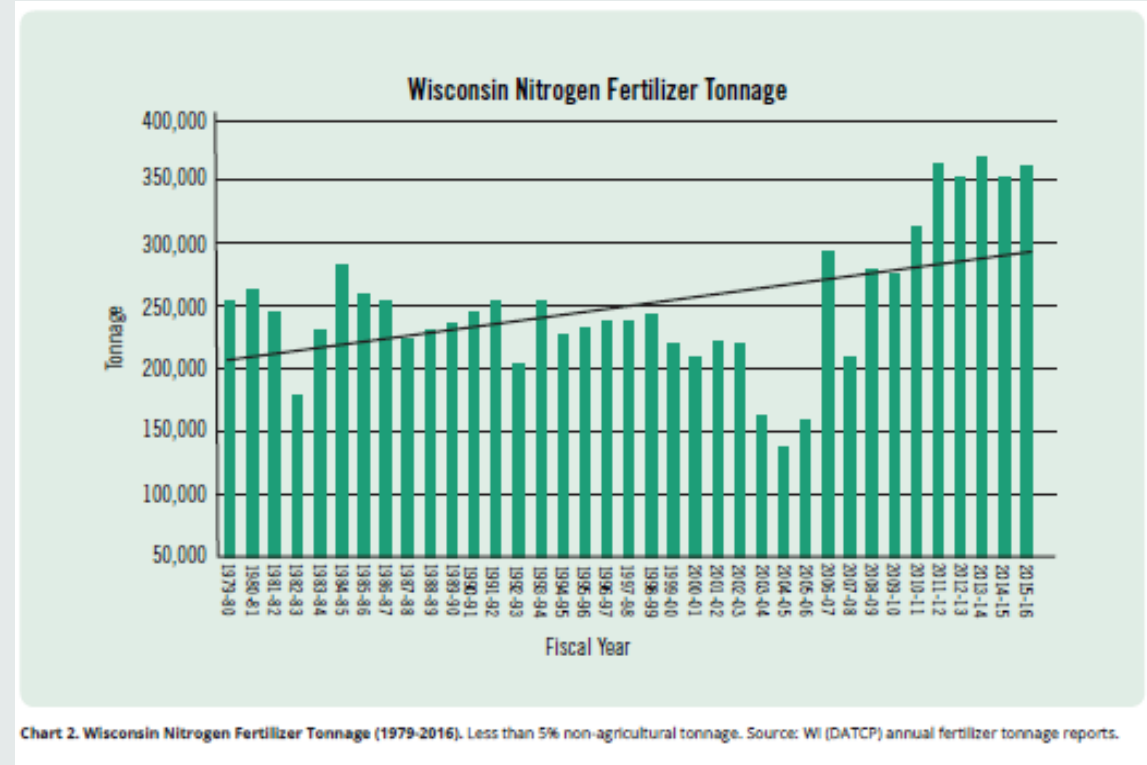
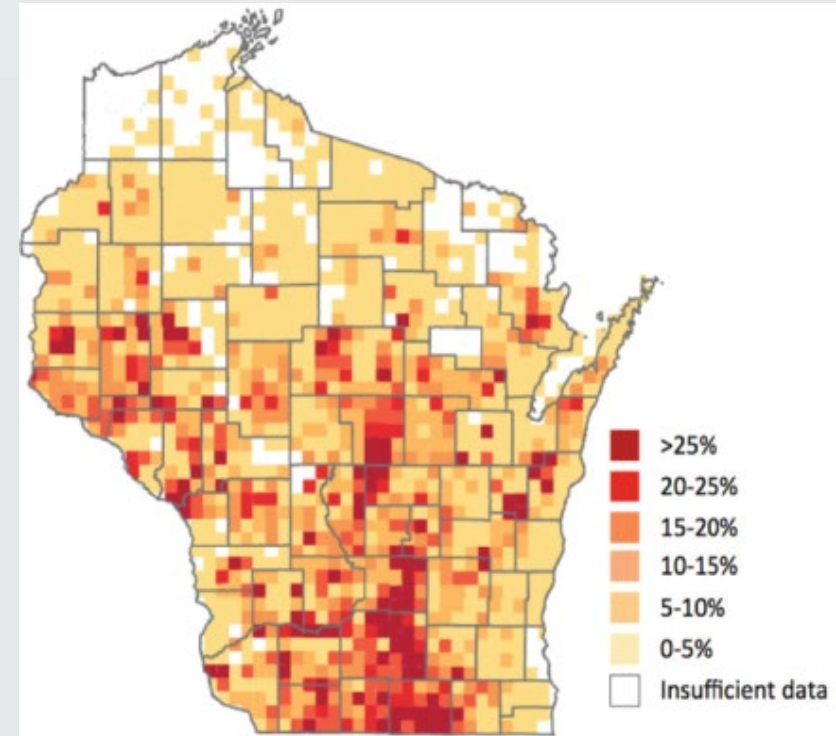


Chart 2. Wisconsin Nitrogen Fertilizer Tonnage (1979-2016). Less than 5% non-agricultural tonnage. Source: WI (DATCP) annual fertilizer tonnage reports.

Environmental Impacts – groundwater pollution

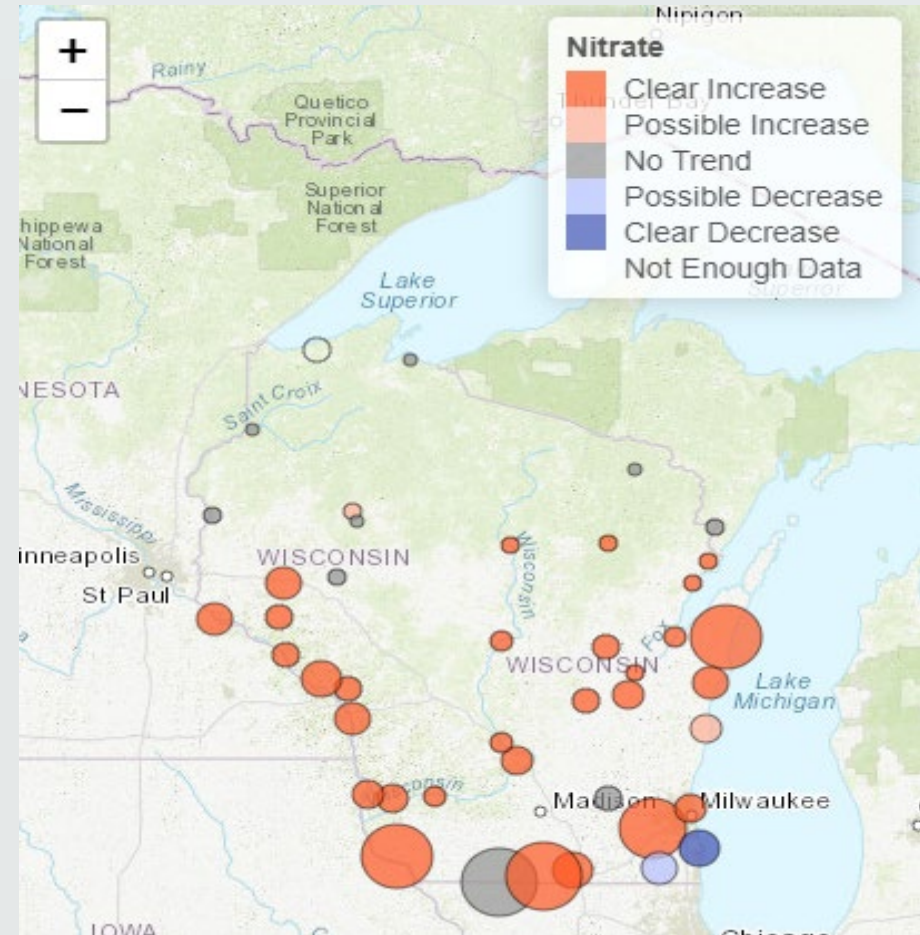
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Source: UW-Stevens Point Private Well Water Viewer

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Source:

<https://wisconsindnr.shinyapps.io/riverwq/>

Environmental impacts of industrial farms

- Loss of diverse crop rotations, increased row crops/runoff potential
- Less resilience to withstand extreme weather events
- Catastrophic potential of billions of gallons of manure
- Expiration date on the “social license” to operate



Breach of Seas Branch Dam, Vernon Co, WI, Aug 2018

Opportunities going forward

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- Status quo is not working for water quality, conservation, or agriculture—opportunity to find common ground
- Agricultural sector can lead the way in seeking transparent, verifiable, and marketable stewardship initiatives
- Shift the conversation from “yield,” to “profitability”

Opportunities going forward

- Push back on “get big or go out”
- Provide access to capital for diversification, farm transition and transfer, modernization, etc...not exclusively expansion.
- Incentivize resilience



Questions?

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