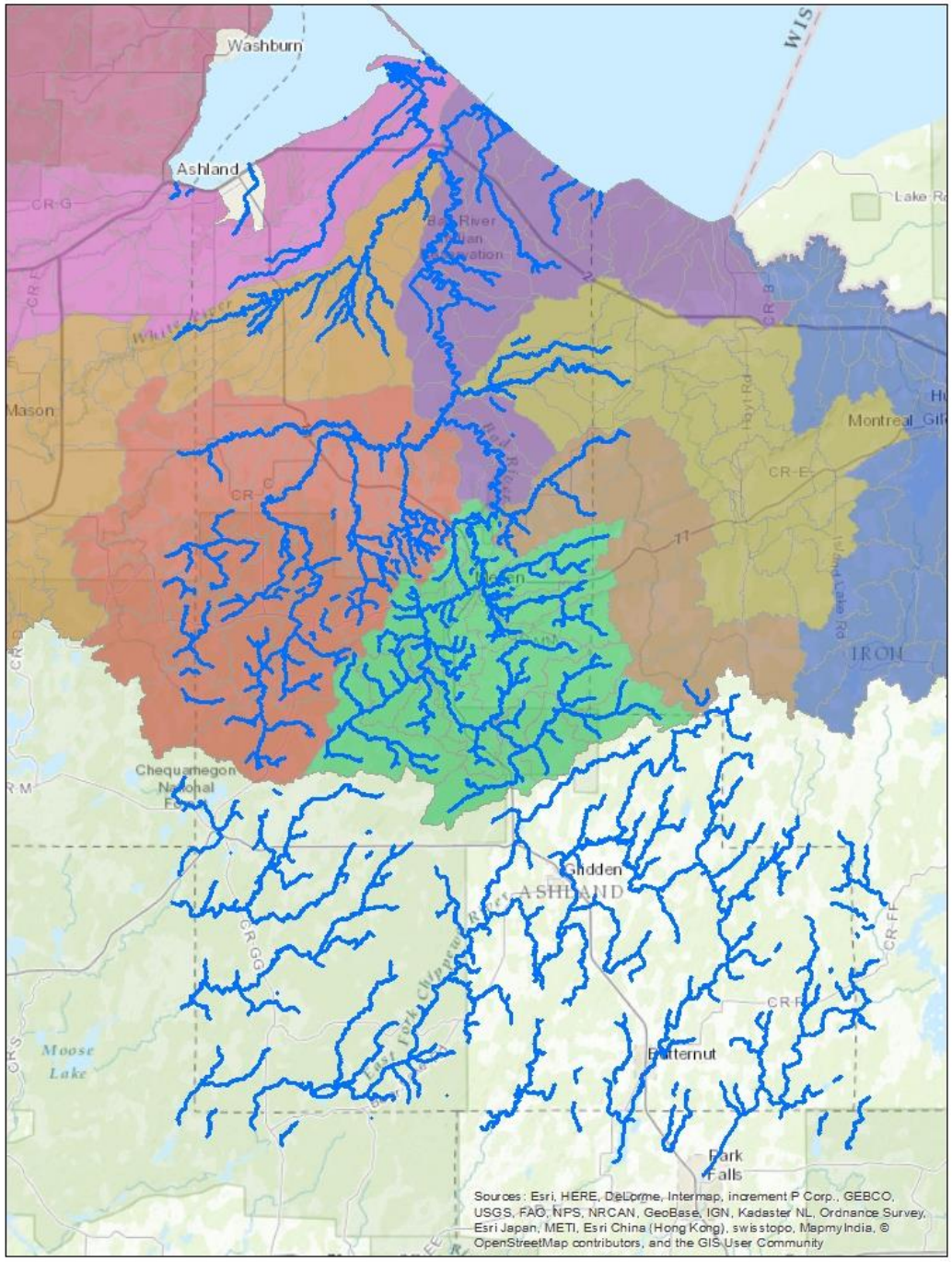
Overview of Agriculture and Natural Resources In Ashland County

June 8, 2017 presentation to the Ashland County Agricultural Ordinance Advisory Group

Jason Fischbach
UW-Extension
Agriculture Agent

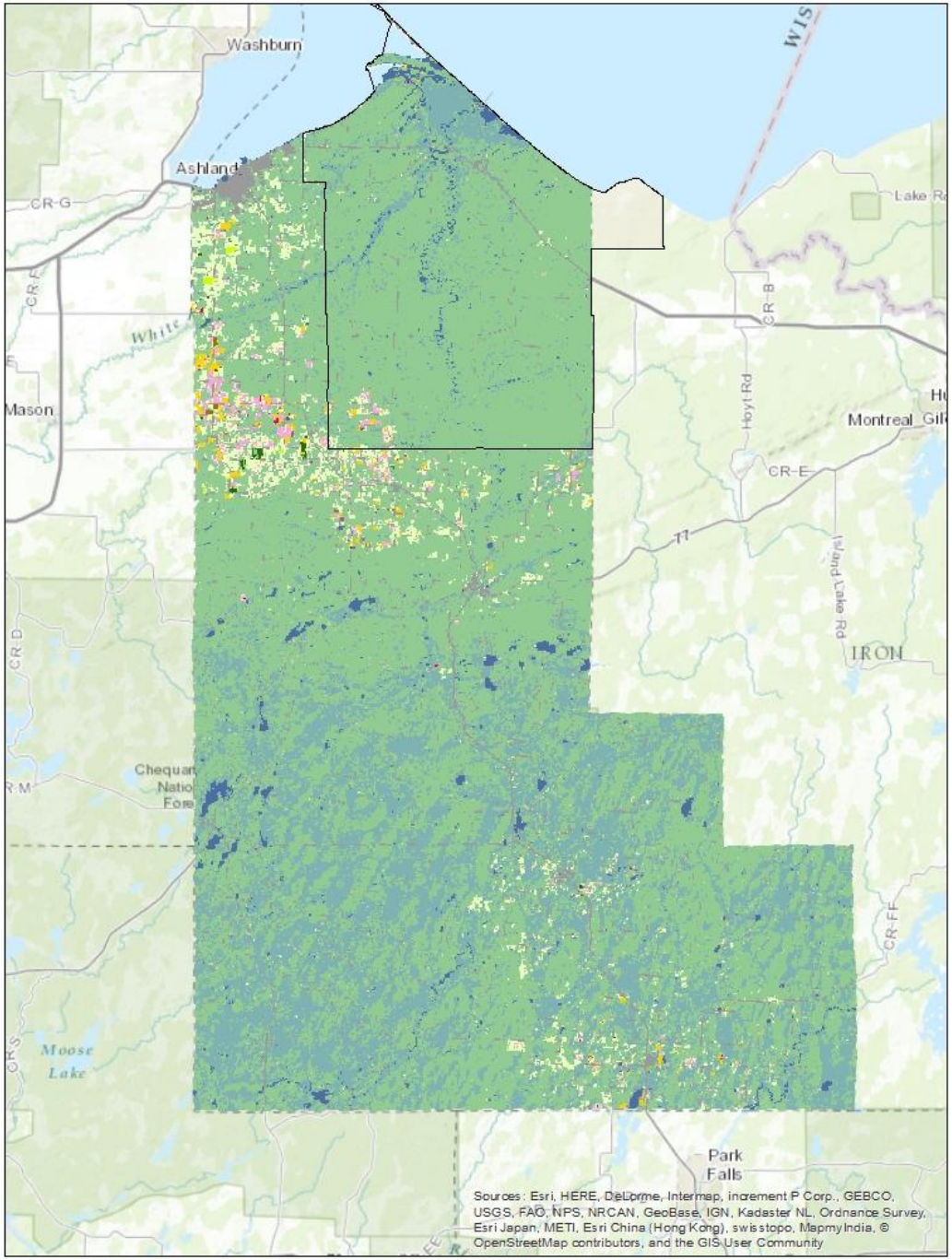
Ashland County

Lake Superior Watersheds and Perennial Streams

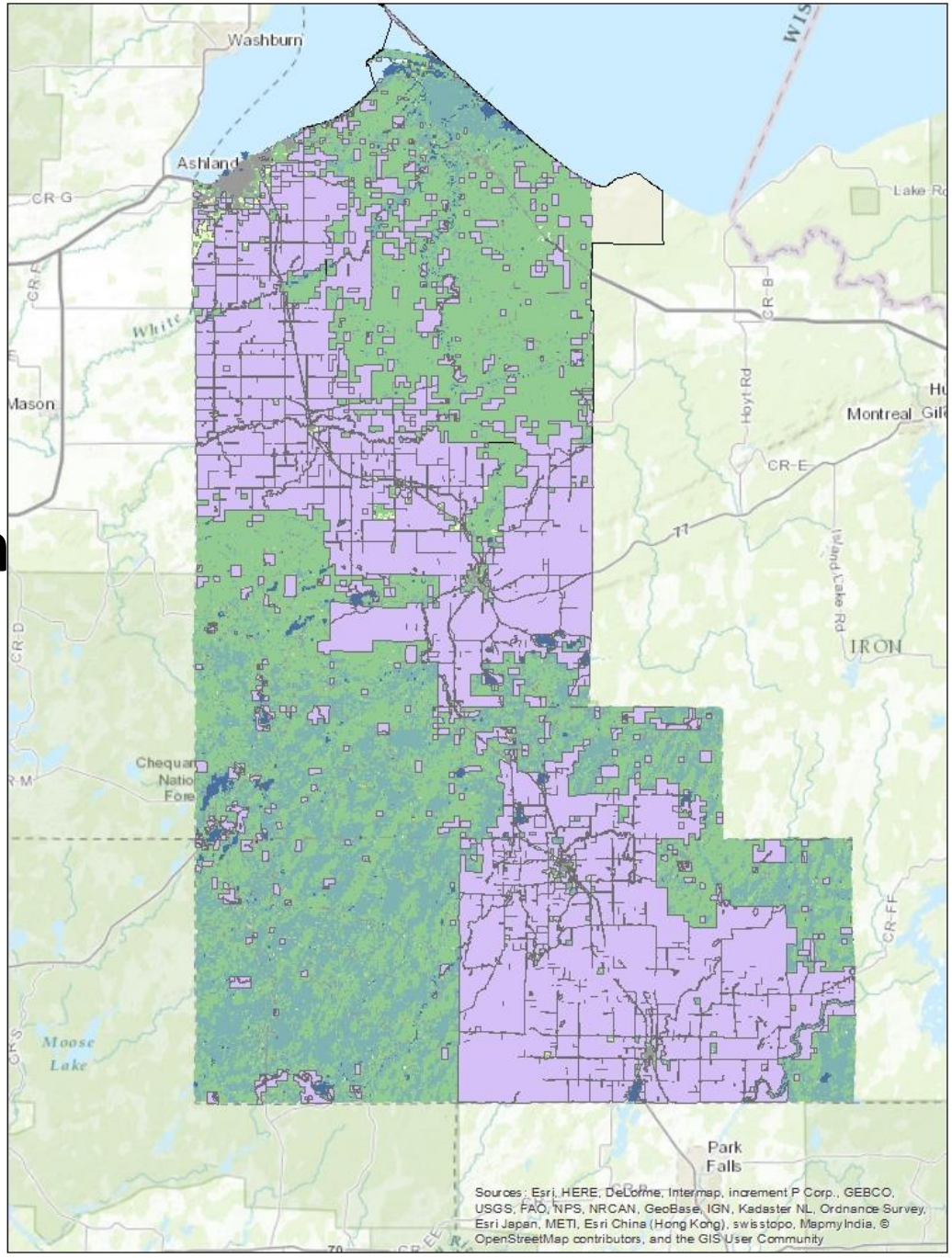


Agricultural Lands

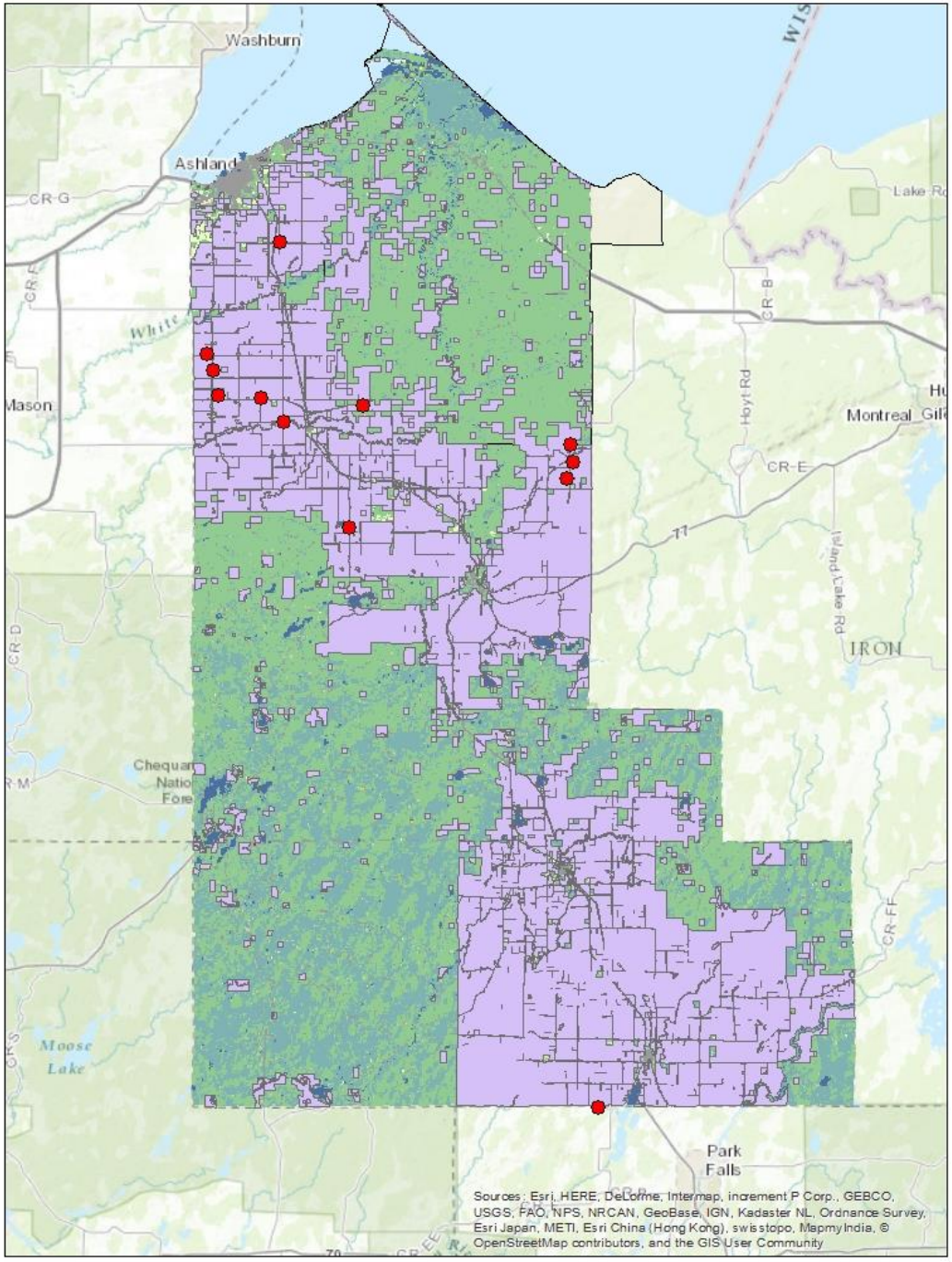
(USDA Cropscape, 2015)



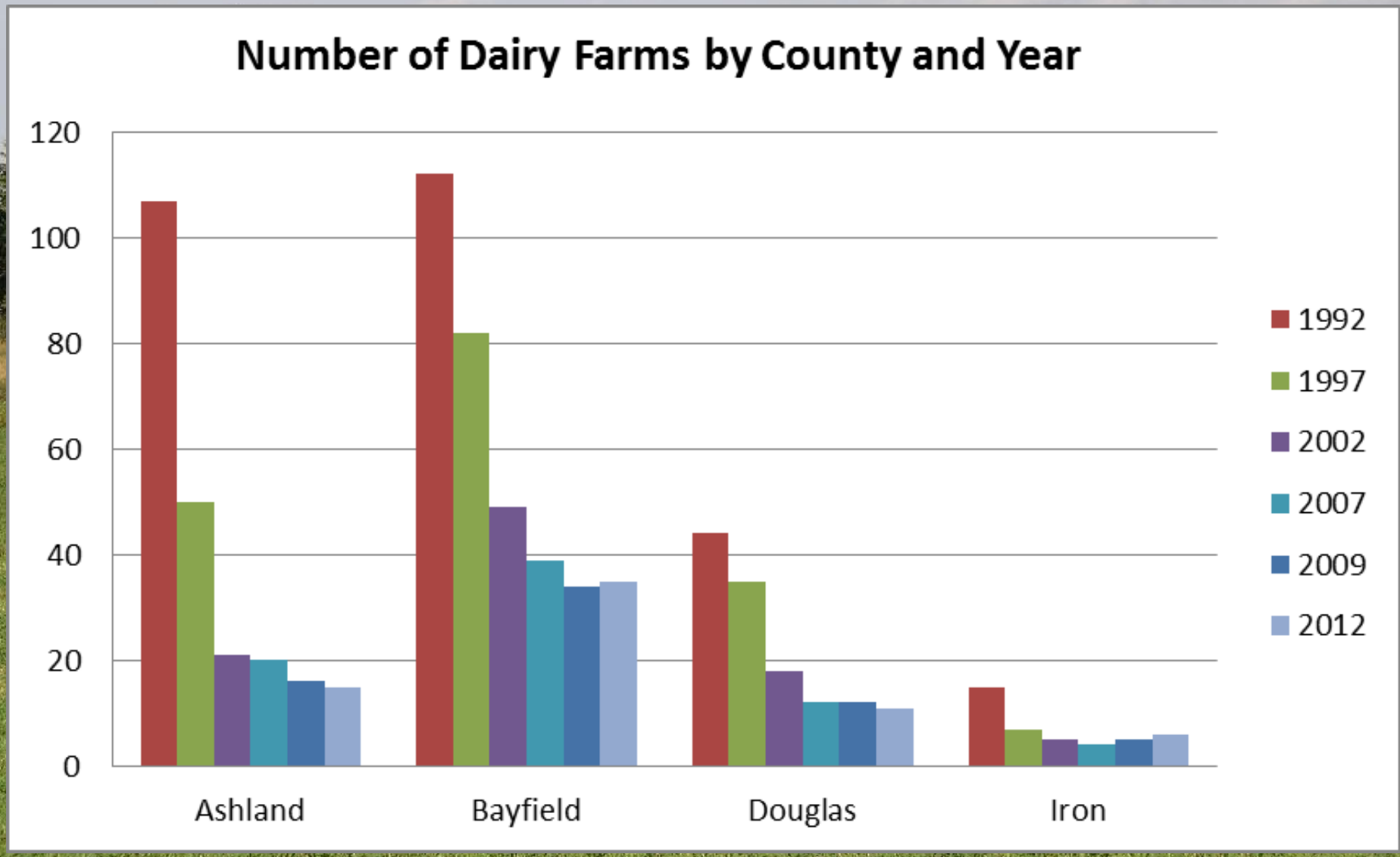
Farmland Preservation Planning



Ashland County Dairy Farms

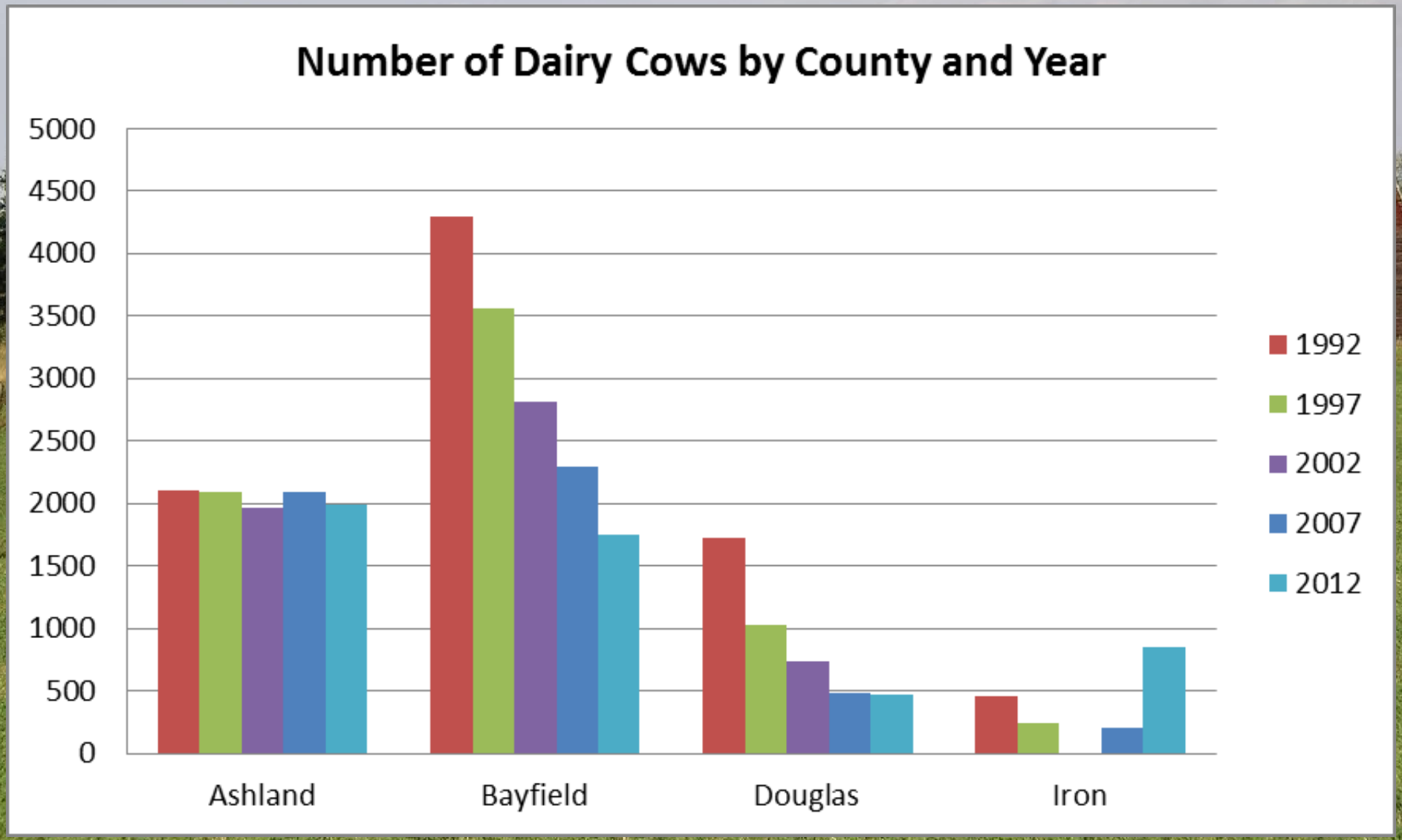


Dairy Farming in Ashland County



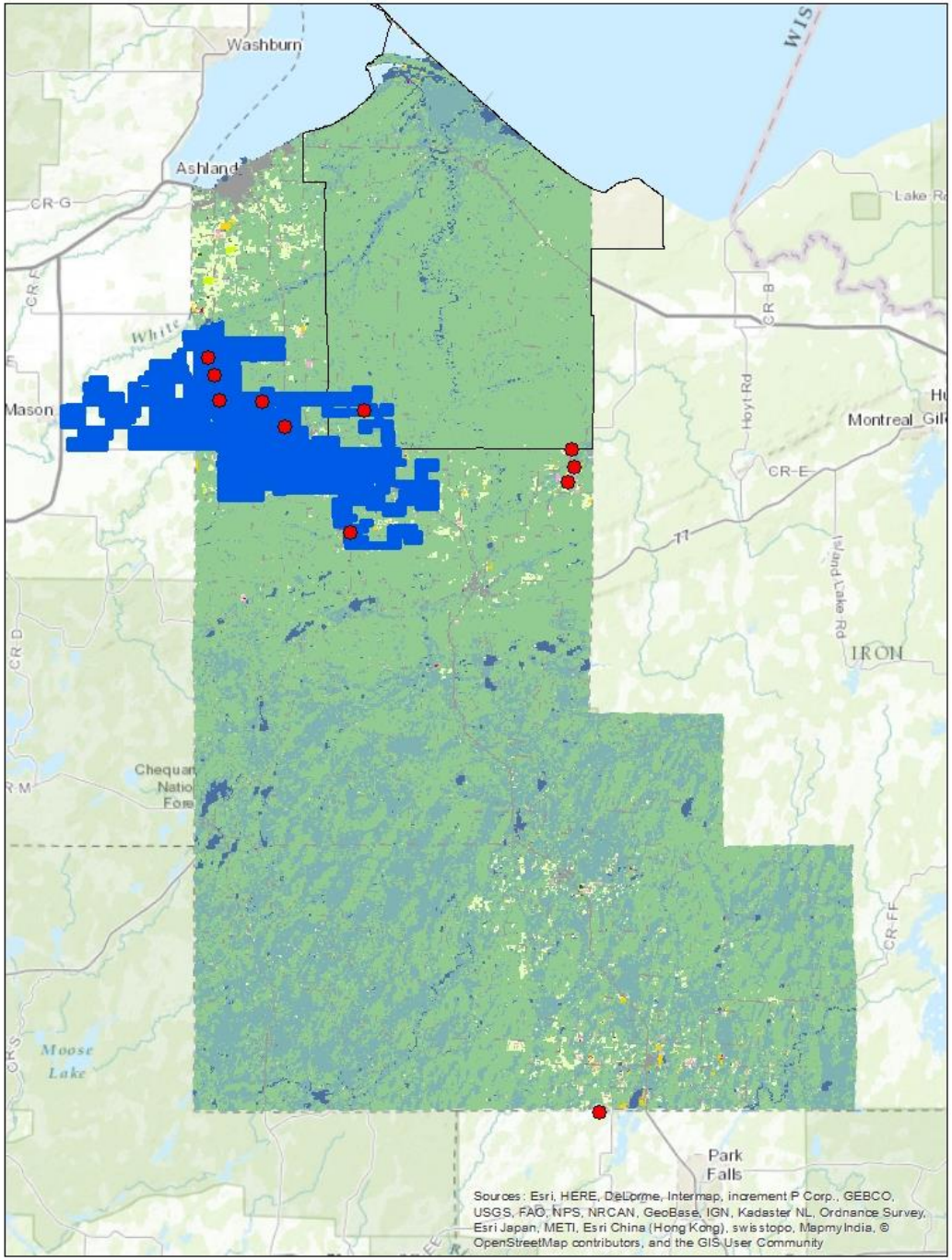
*US 2012 Census of Agriculture

Dairy Farming in Ashland County

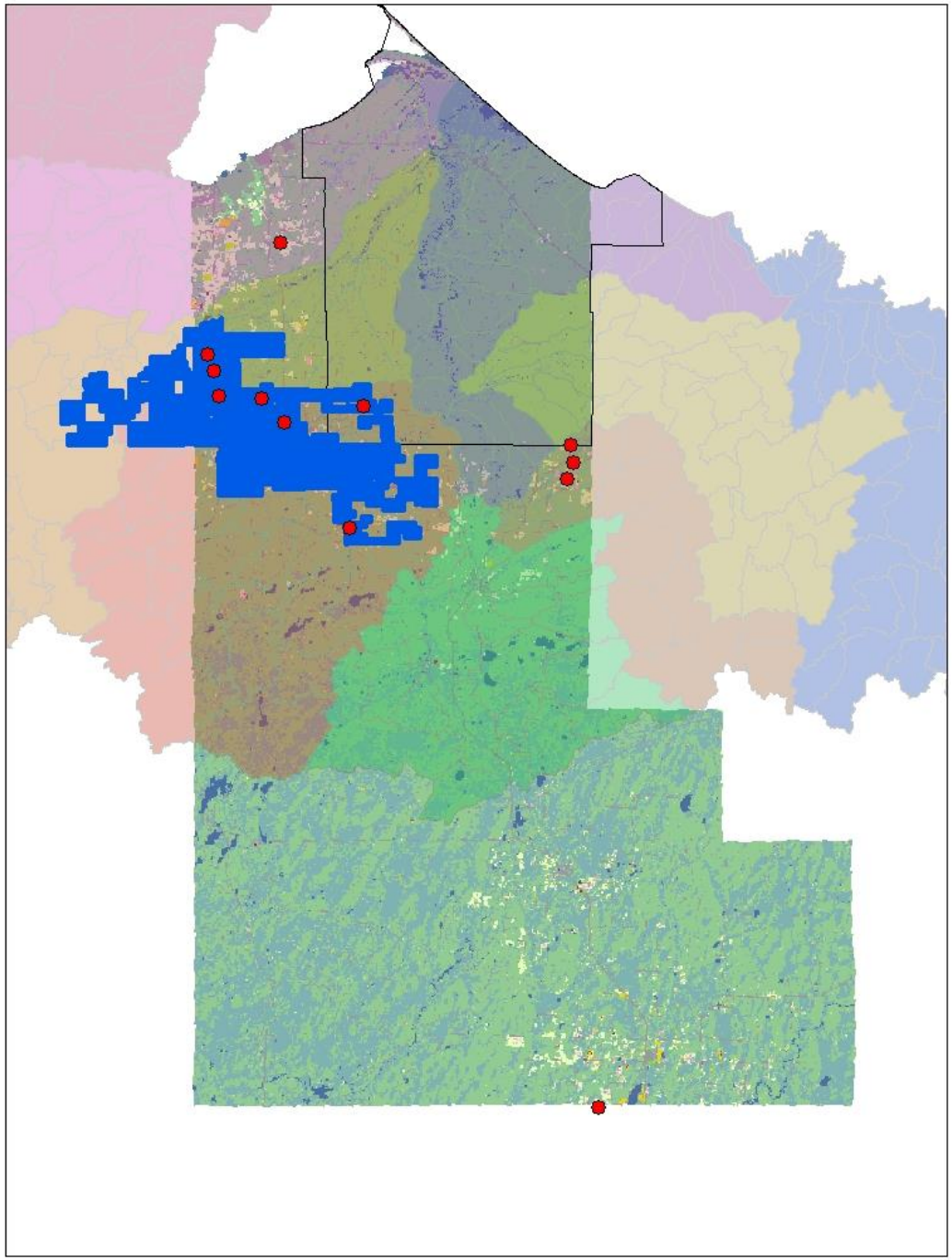


*US 2012 Census of Agriculture

Fields, Waters, Woods Agricultural Enterprise Area



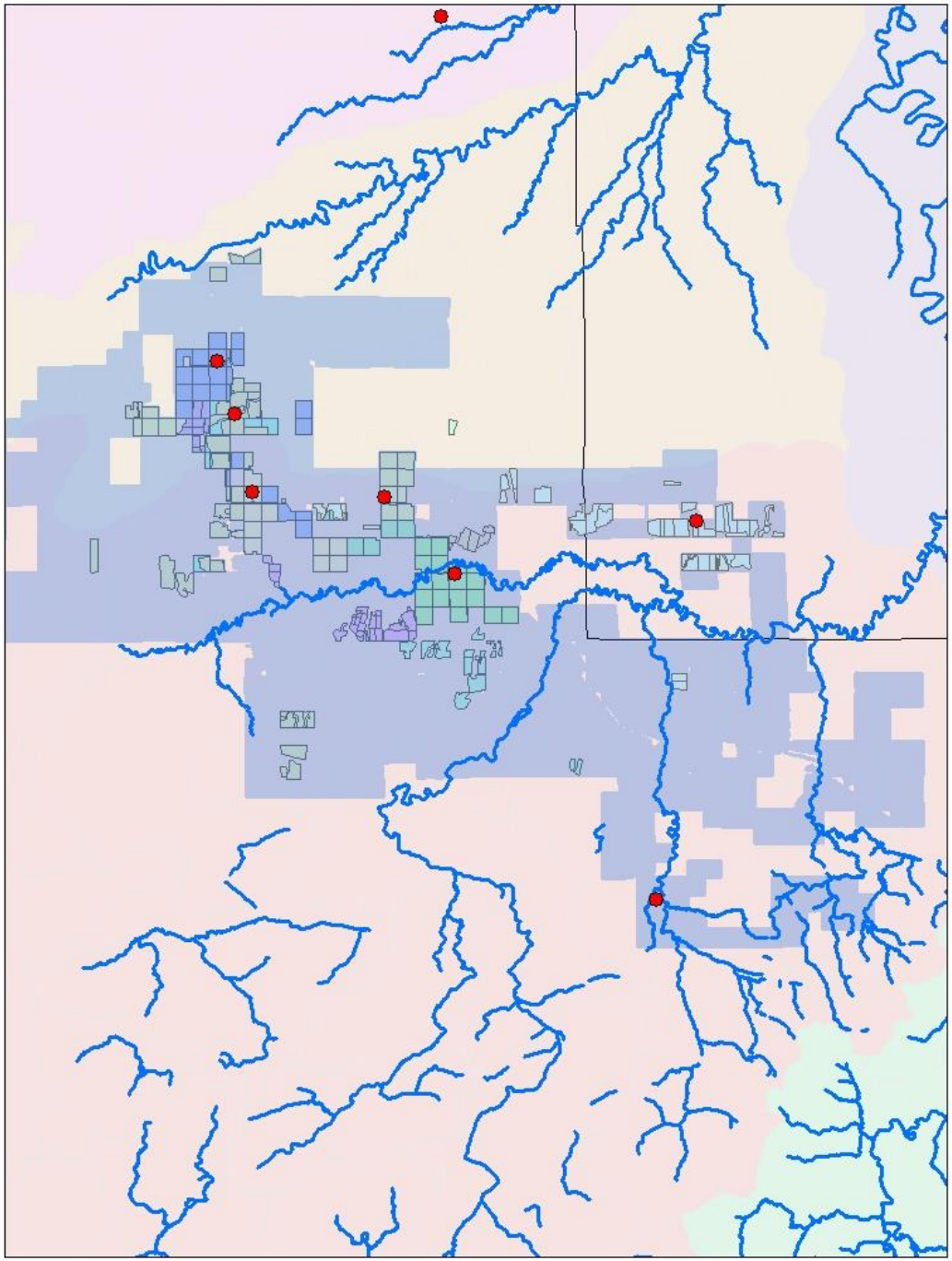
Focused in Marengo and White River Watersheds



Nutrient Management Planning

Conservation Practices Cost-Share

Fertilization Research



Primary Resource Concerns from Agricultural Operations

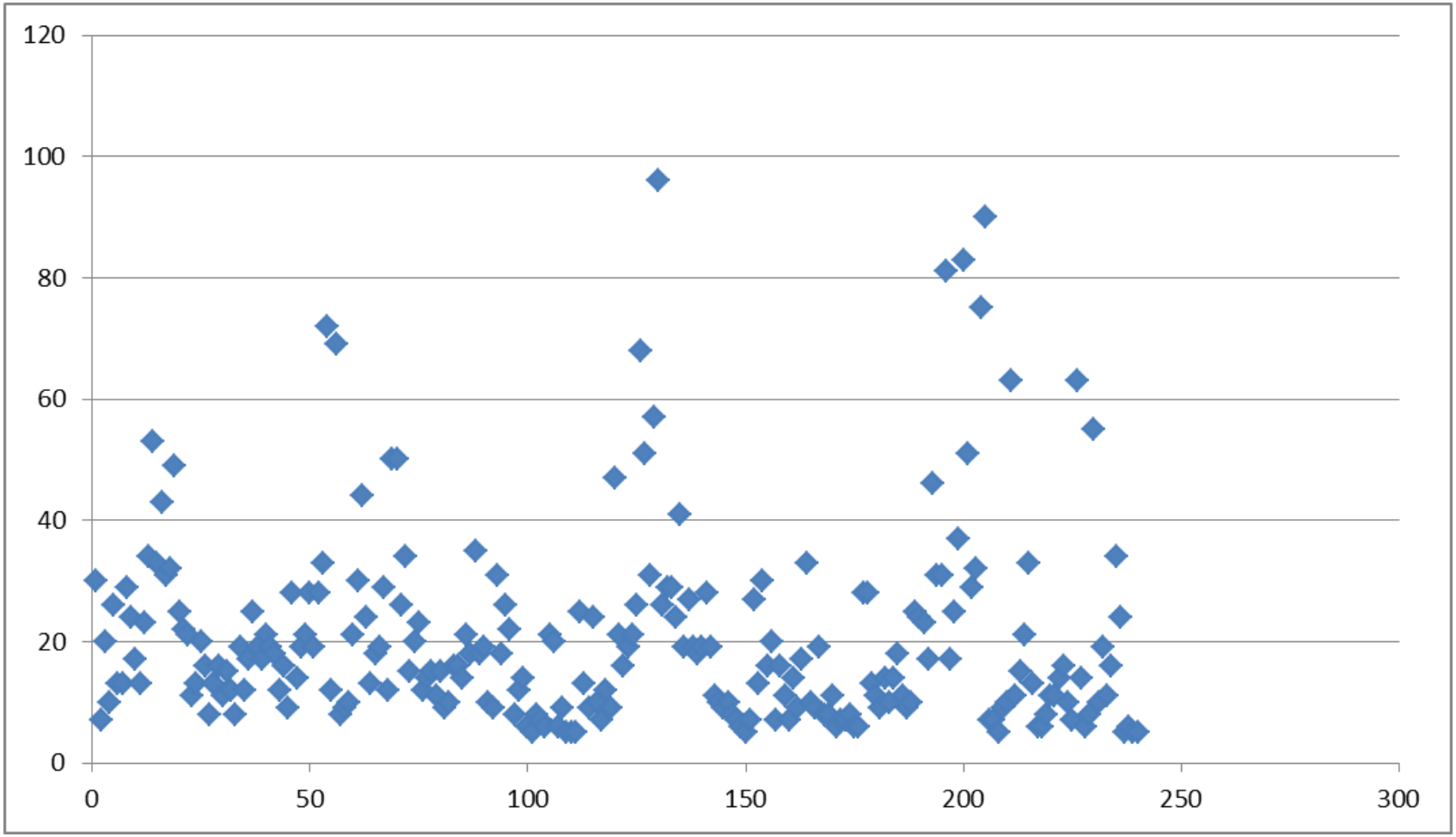
1. Nutrient Runoff From Barnyards


Barnyard run-off control

2. Soil and Nutrient Loss From Farm Fields

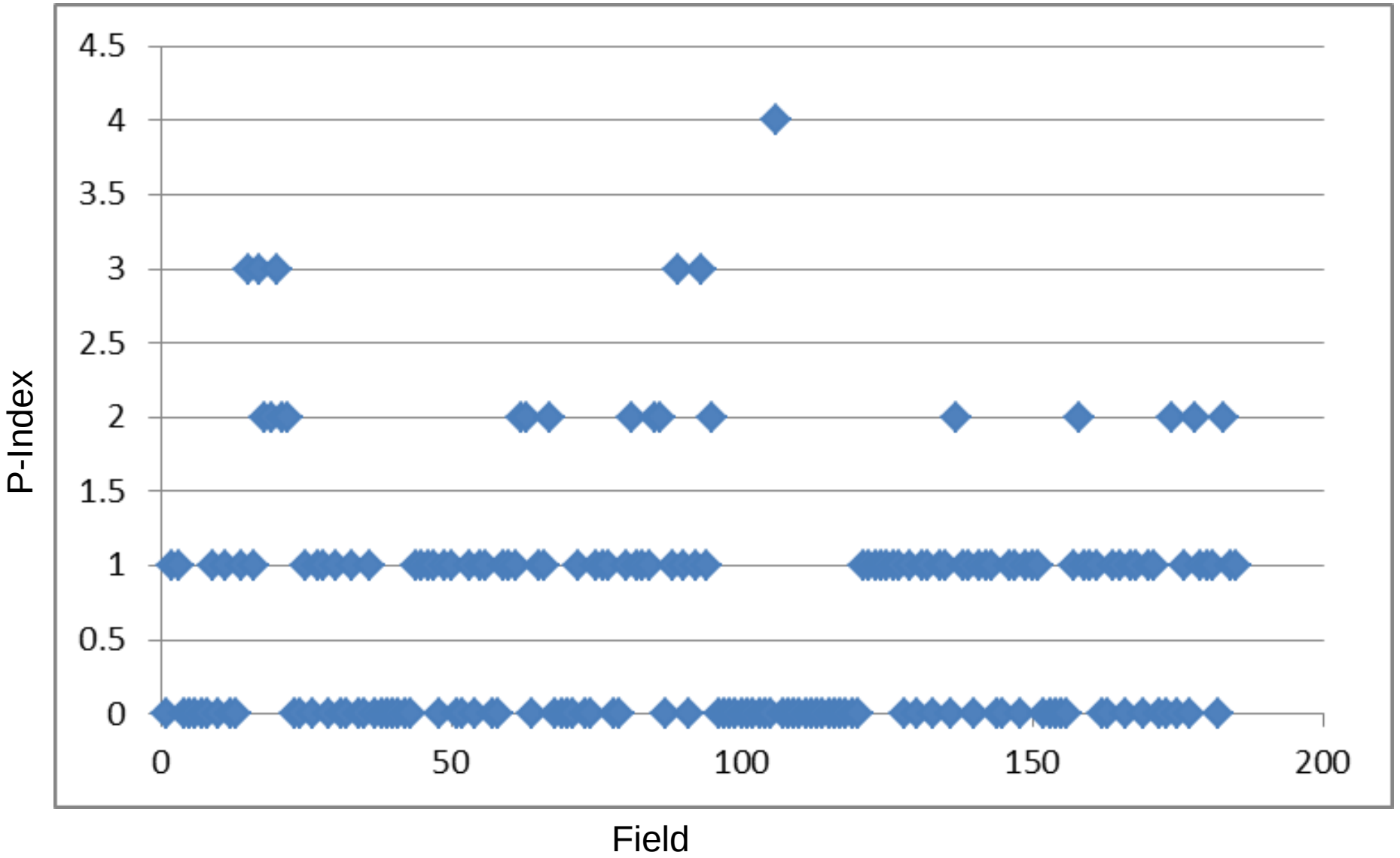
Local Soil Test P

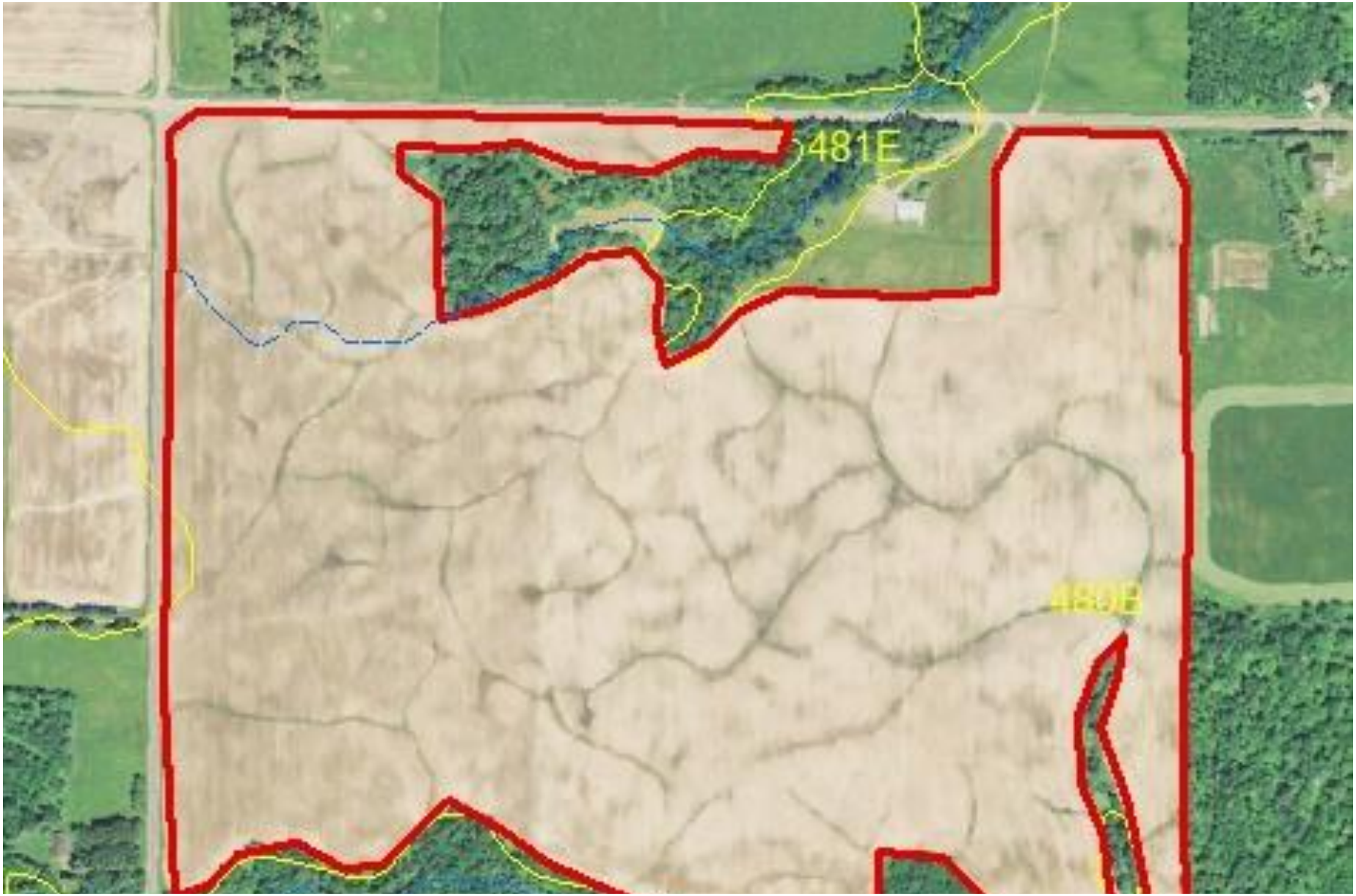
8 farms in Marengo River Valley, 241 fields, 5047 acres
Average = 20.5 PPM (Low-Optimum)



Local P-Index

Average = 0.67





Soil Loss and P-Index Don’t Account for Concentrated Flows

Corn on Clay is a Challenge

- Soil compaction
- Rutting
- Necessity to scrape flows
- Narrow window for post-harvest manure applications

Scraping and Ditching are Necessary for Annual Row Cropping


Best Management Practices Can Help Reduce Nutrient and Sediment Losses

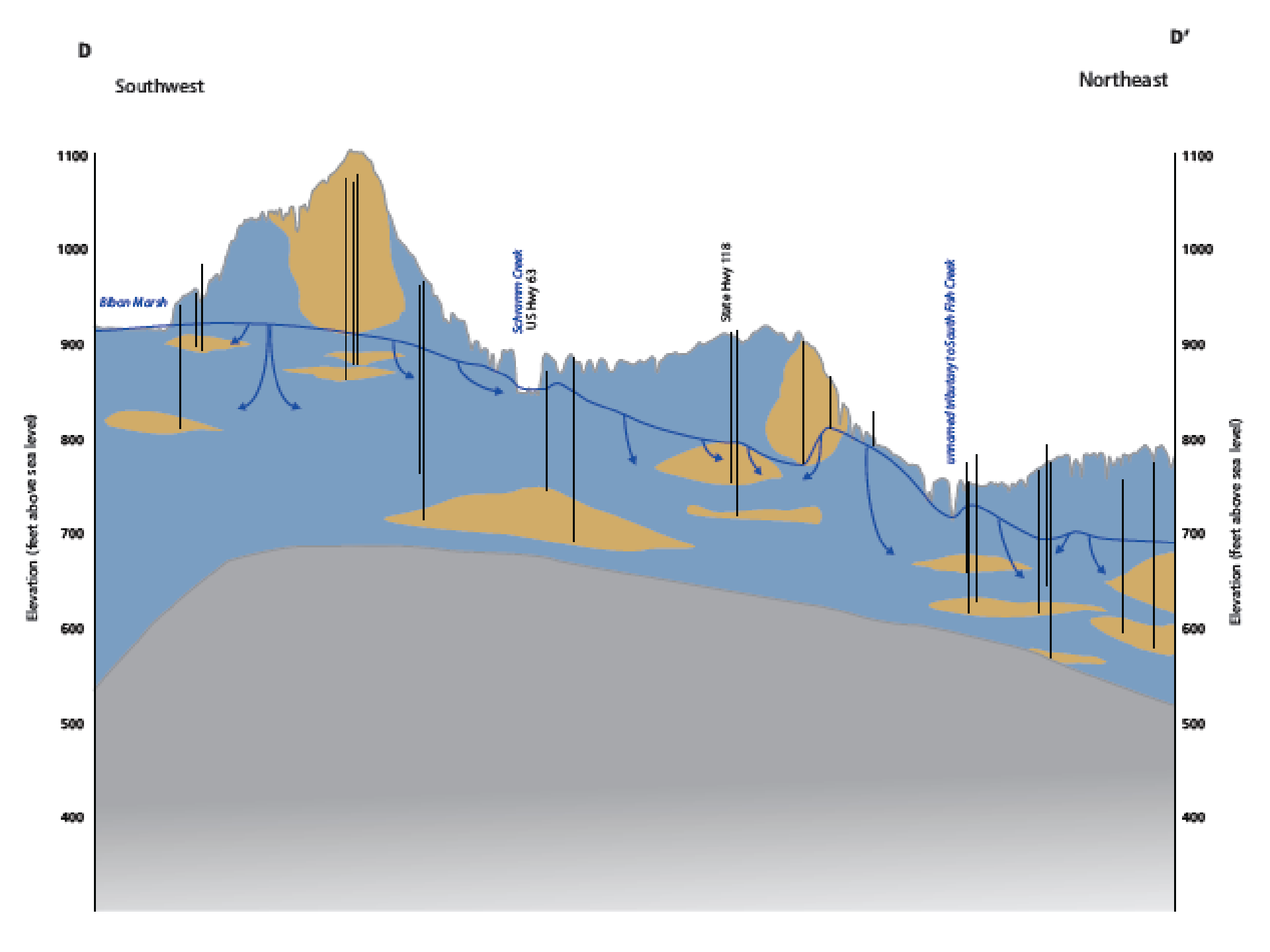
Manure Injection Can Help Limit Runoff and Impacts to Roads


olland

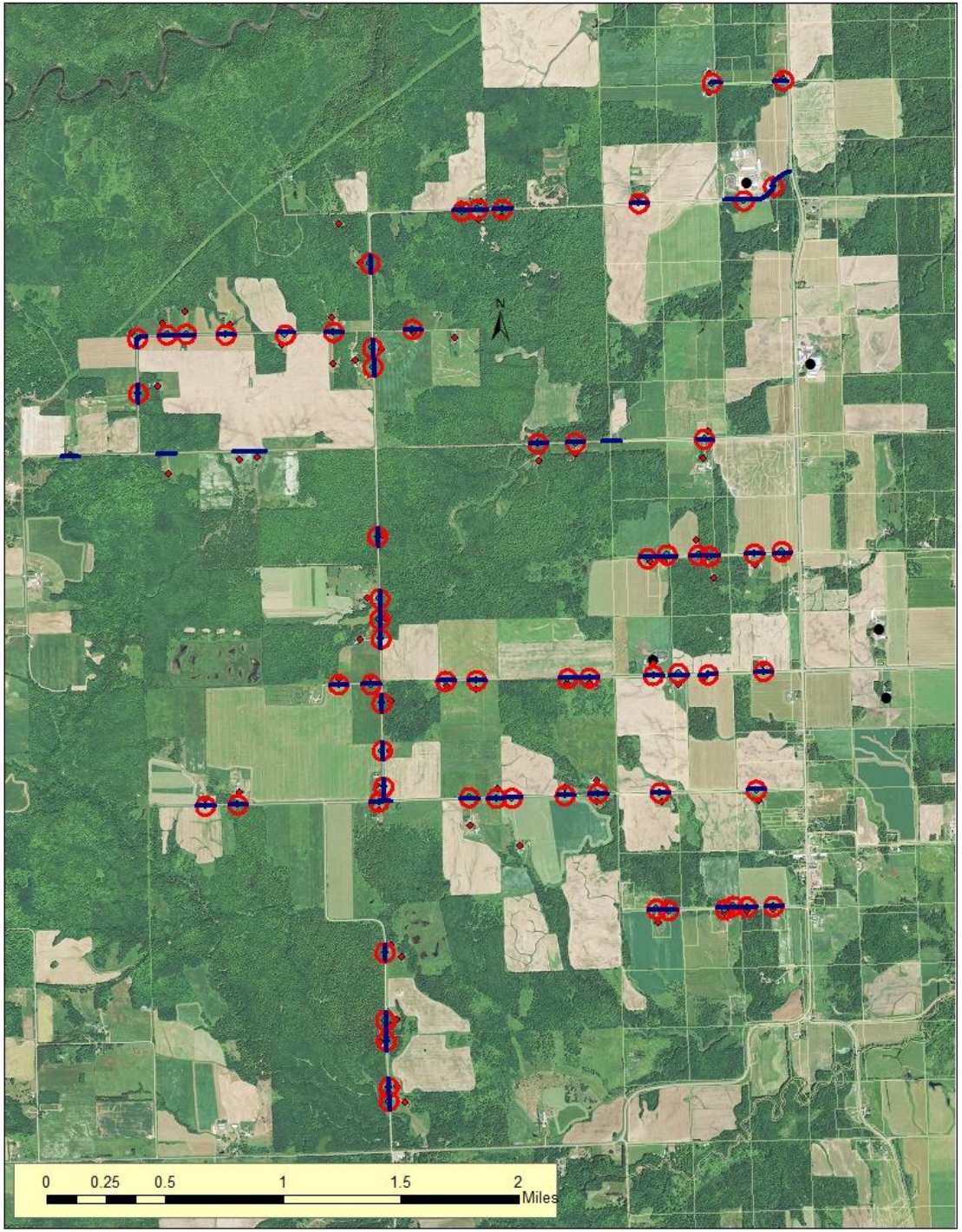
3. Safety of Manure Storage Facilities

Groundwater

- Most wells are in sand/gravel deposits within the silty/clay glacial till
- The surficial soils likely protect *most* wells from surface activities
- Key is to make sure manure storage is not perched over sand deposits

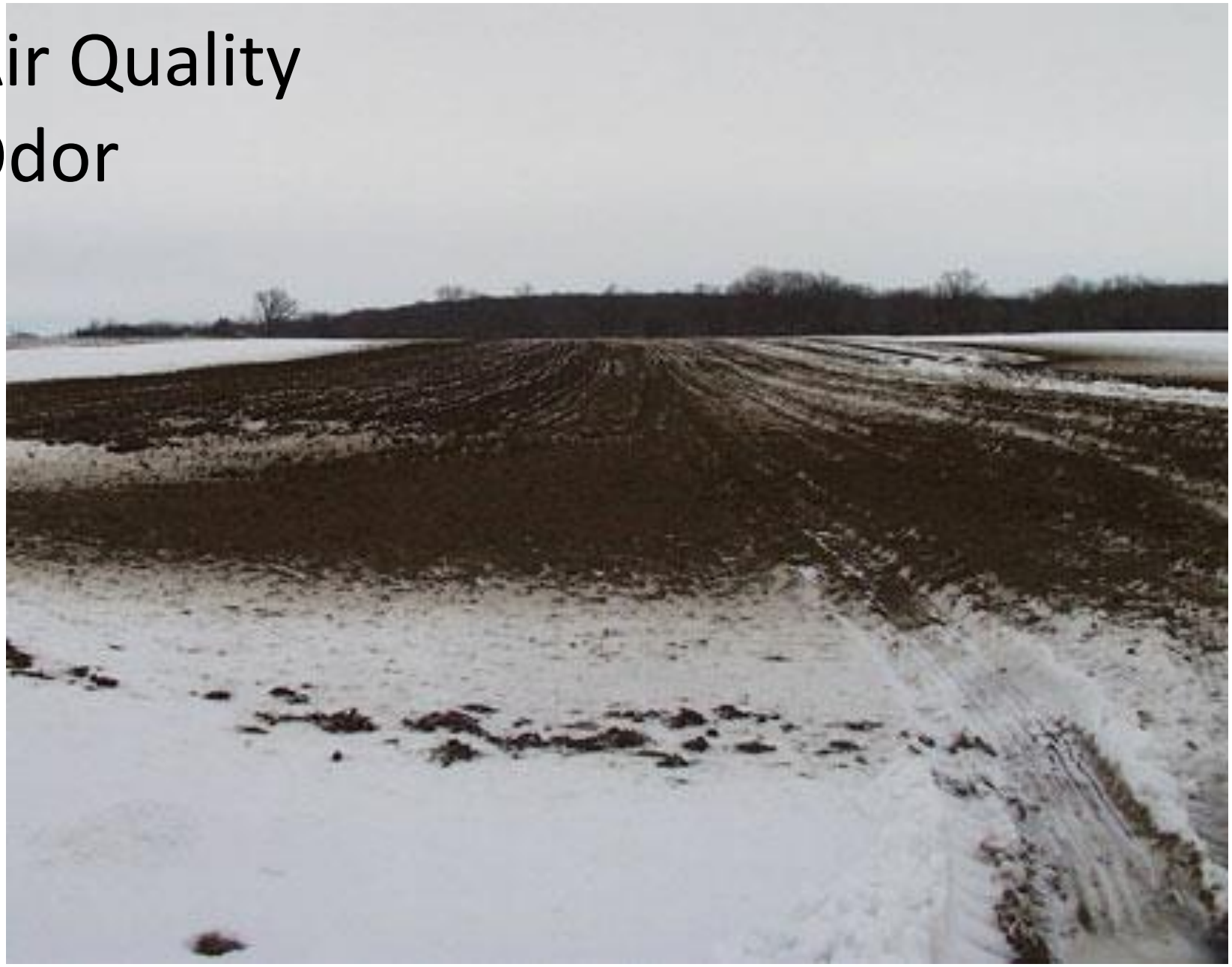

D
Southwest
D'
Northeast
1100
1000
900
800
700
600
500
400
Elevation (feet above sea level)
Elevation (feet above sea level)
Alban Marsh
Schramm Creek
US Hwy 63
State Hwy 118
unnamed tributary to South Fish Creek

4. Air Quality – Road Dust

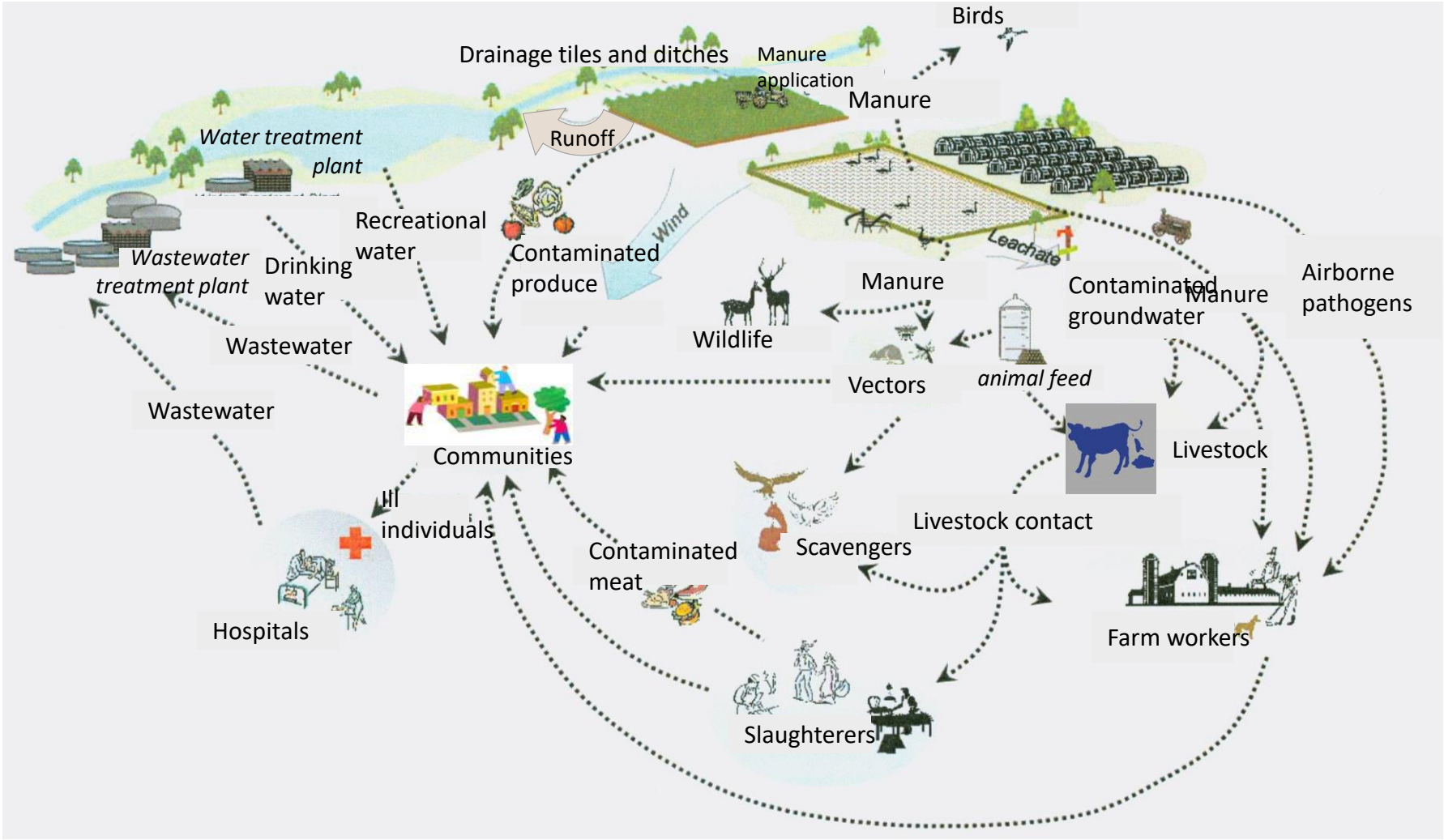


5. Air Quality

– Odor

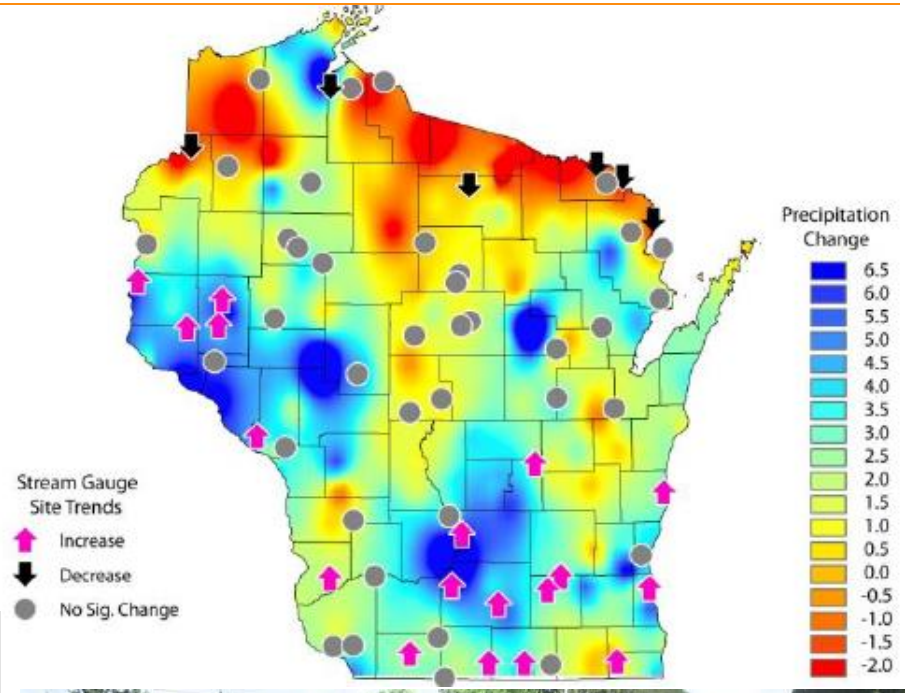


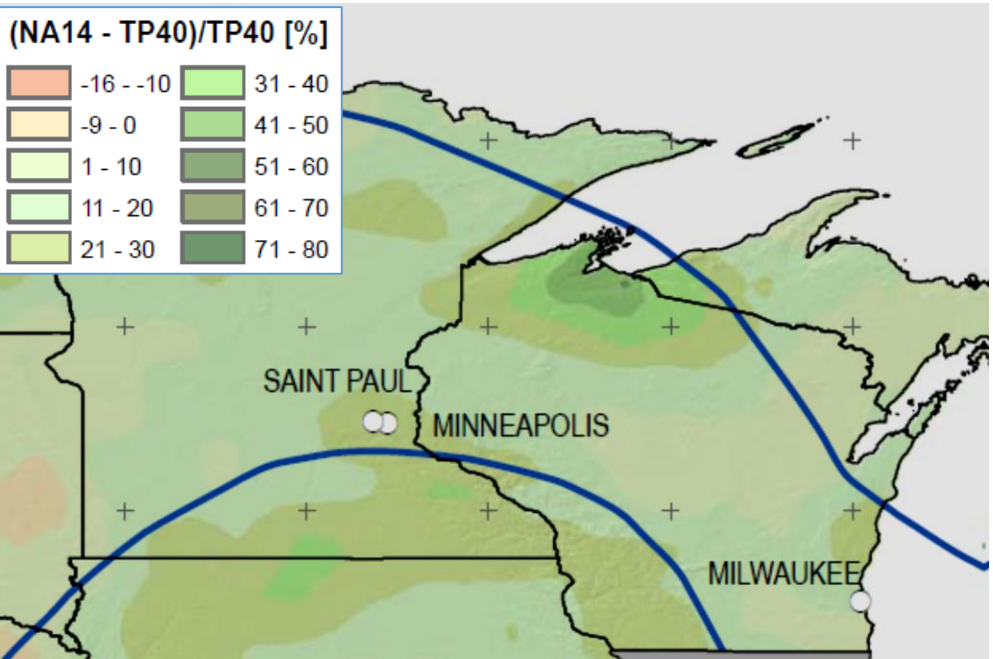
6. Zoonotic Disease Transmission



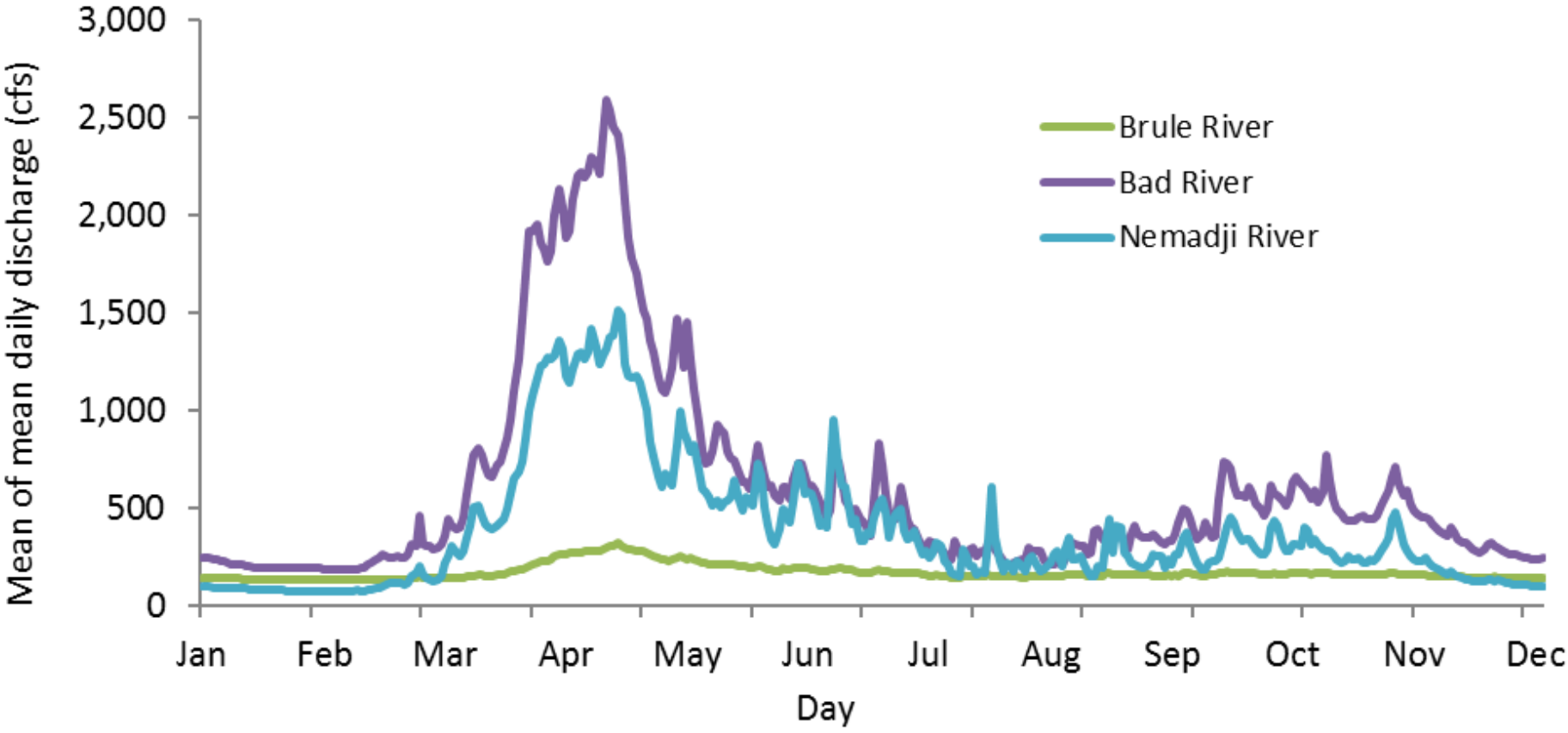
7. Melt and Stormwater Runoff

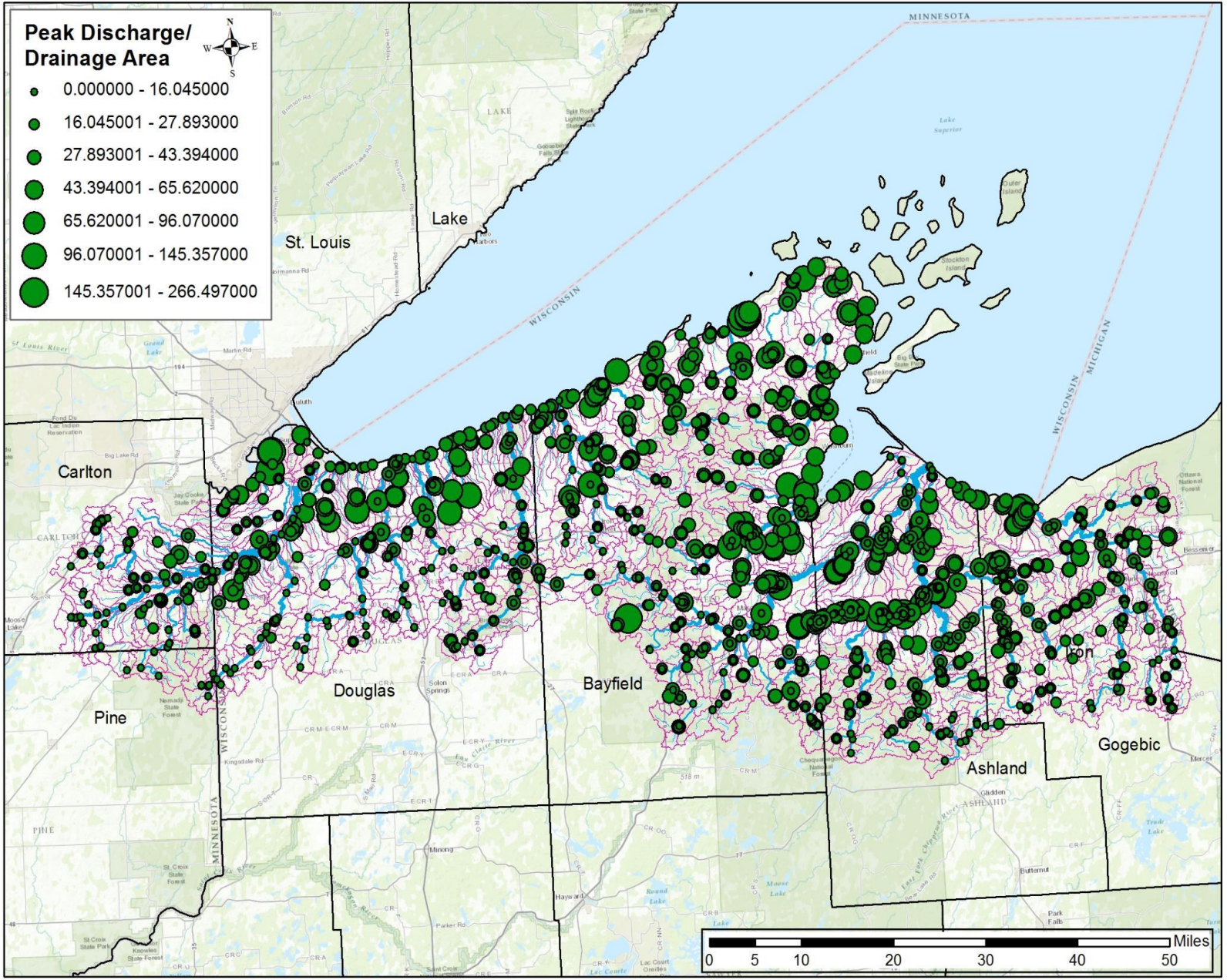
- More rain, at a greater intensity, than previously thought





“Flashy” streams have more capacity to carry sediment and nutrients downstream





Slowing the Flow: Setting Priorities and Defining Success in Lake Superior's South Shore Watersheds

Molly Wick[1,2], Michele Wheeler[3], Tom Hollenhorst[2], Jason Fischbach[4], Nichol Martin[3], Tom Bernthal[3], Faith Fitzpatrick[5] [1]Oak Ridge Institute for Science and Education, [2] US Environmental Protection Agency, [3]Wisconsin Department of Natural Resources, [4]University of Wisconsin Extension, [5]US Geological Survey

Runoff Drivers

- Frequency and intensity of precip.
- Interception (trees)
- Infiltration (soils)
- Surface roughness
- Retention

Ag BMPs help keep runoff clean, but they don't affect runoff rates very much

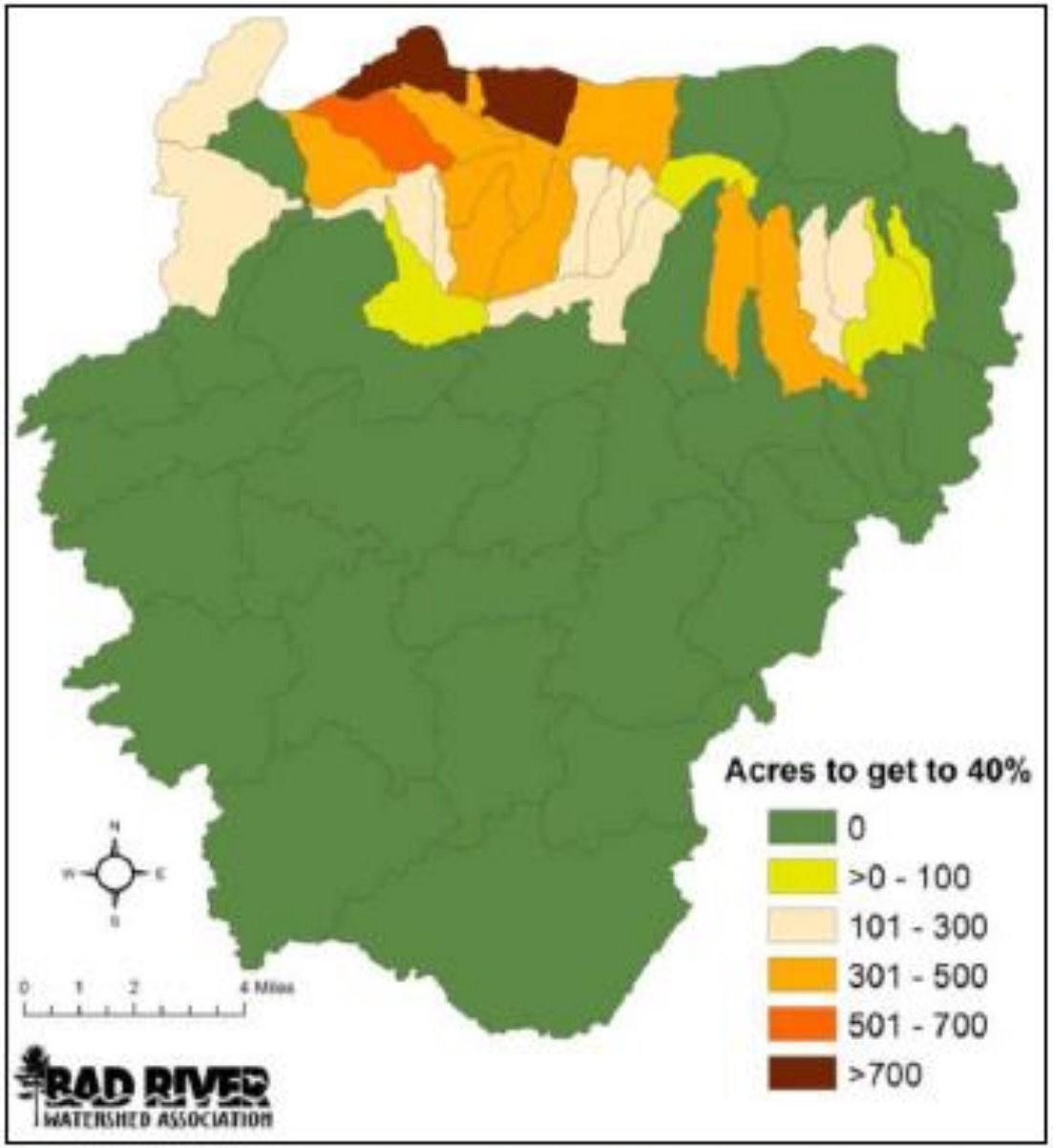


Figure 2.21. Acres of open land needing re-forestation to achieve 40% open land in Marengo River Watershed hydrologic units. Data from WDNR's 2008 open lands assessment (Community GIS 2009).

Summary

- Agriculture does and can have an impact on natural resources
- Agriculture is a minor part of land use in Ashland County and there are many ongoing efforts to mitigate impacts
- The impact of current agriculture in Ashland County is not well known
  - PI index and soil loss is in compliance with current rules
- What impact does expanded Ag have in Ashland County?
- There are many ways to manage the impacts of agriculture