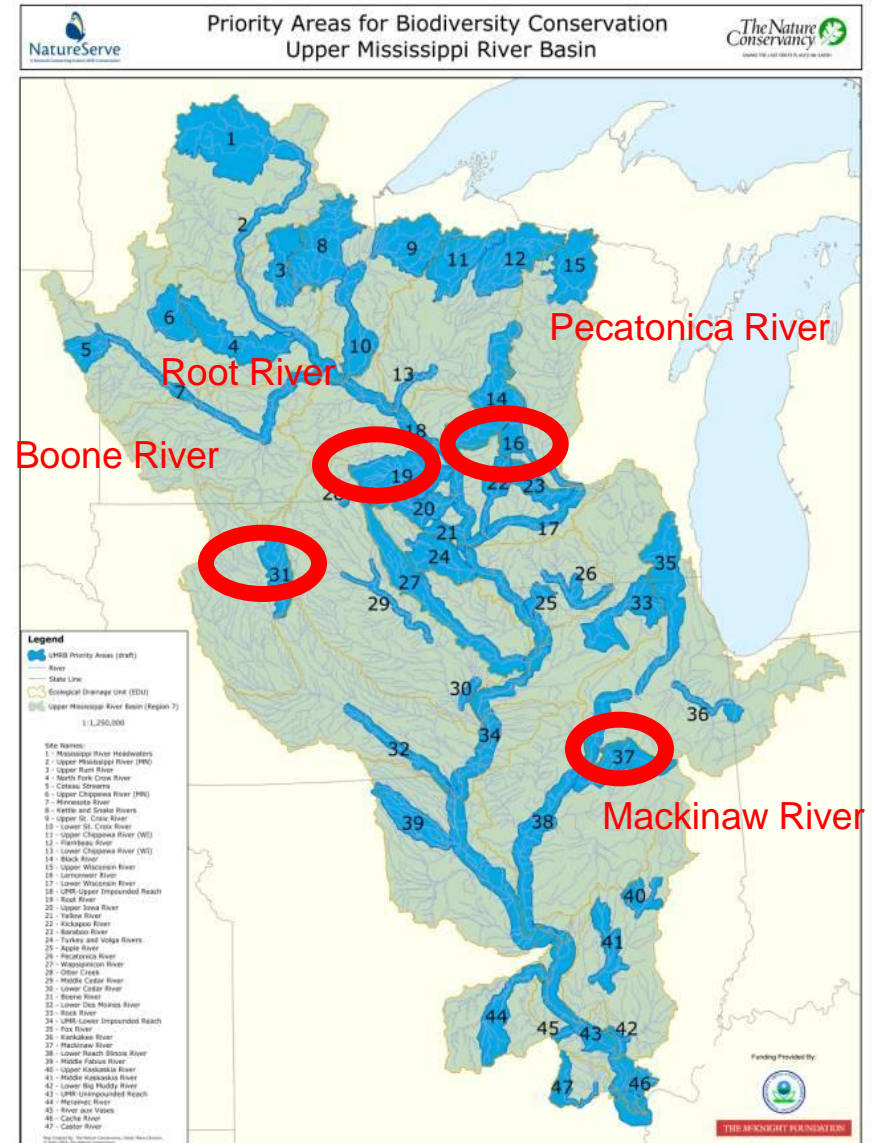




# Managing Agricultural Landscapes for Water Quality and Wildlife



# TNC's Aquatic Conservation Plan for the Upper Mississippi River w/ highlighted Proof of Concept Watersheds



# Pecatonica River Wisconsin Buffer Initiative (WBI) Pilot Project

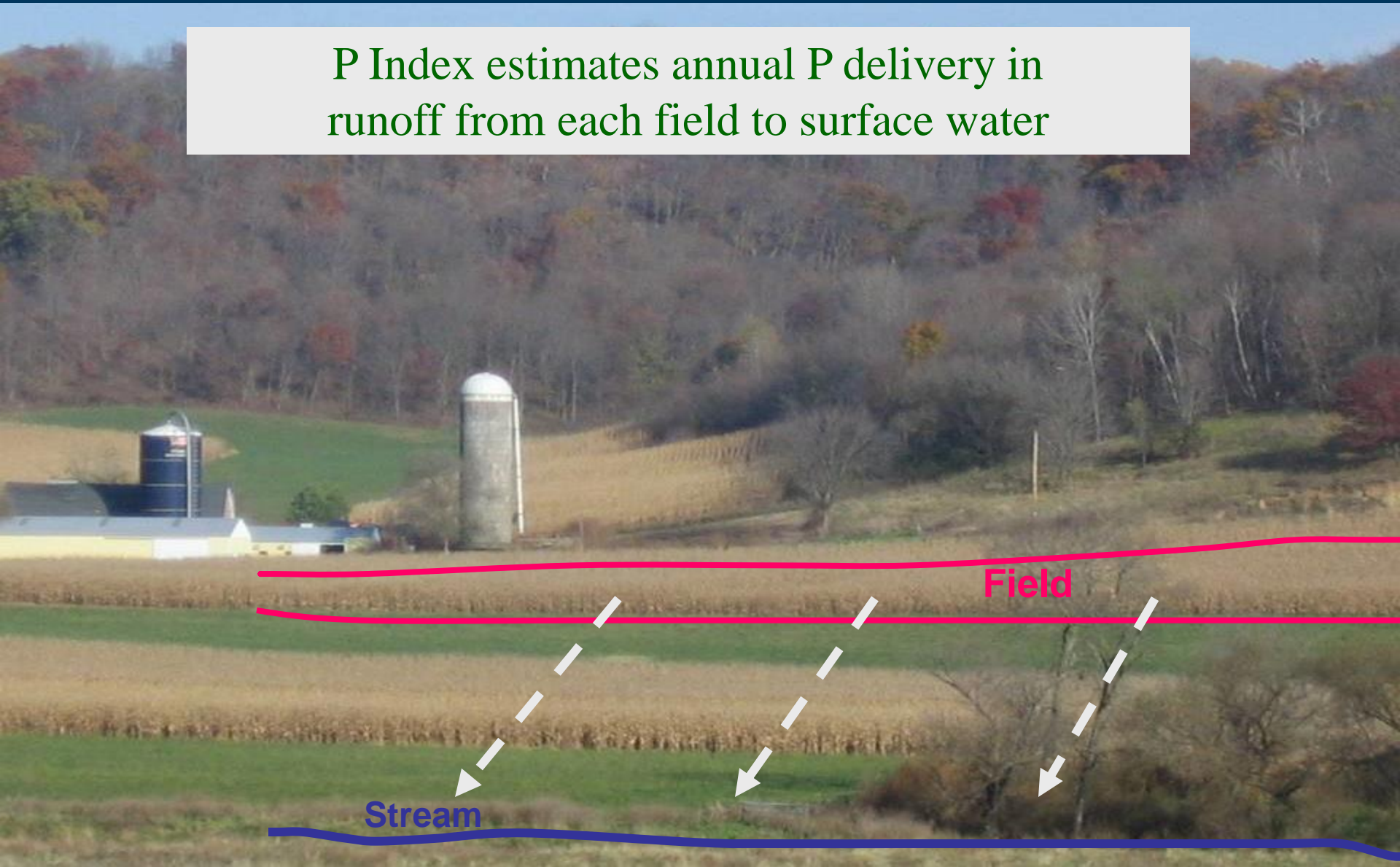


Photo credits: (Top) Gerald H. Emmerich, Jr.; (Bottom) Timothy Lindenbaum/TNC; Flickr Creative Commons; (Left) Dane County LWRD

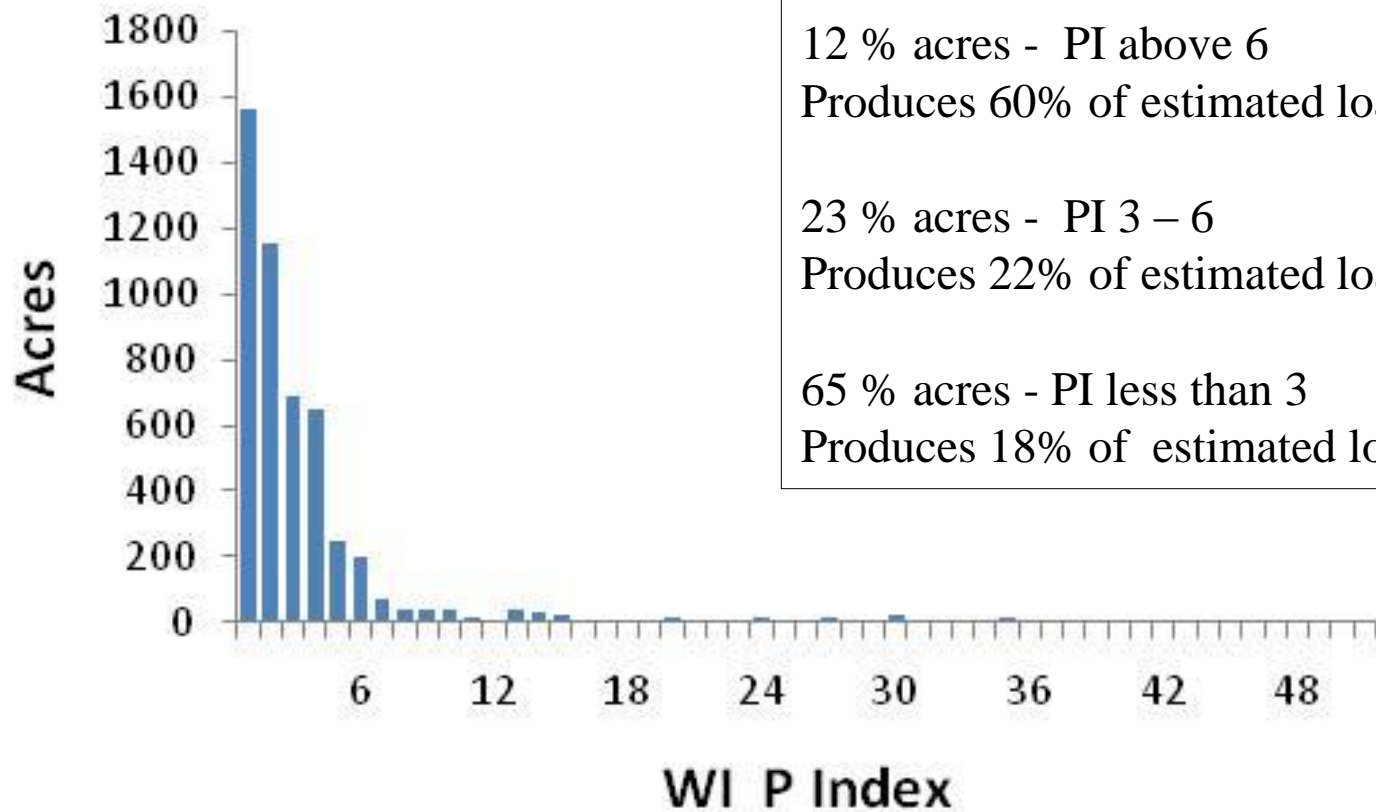


# WBI Strategy: Use WI P Index to target high P loss areas within watersheds

P Index estimates annual P delivery in runoff from each field to surface water



# Pleasant Valley P Index Distribution



Cropland, MIG, and dry lots

12 % acres - PI above 6

Produces 60% of estimated load

23 % acres - PI 3 – 6

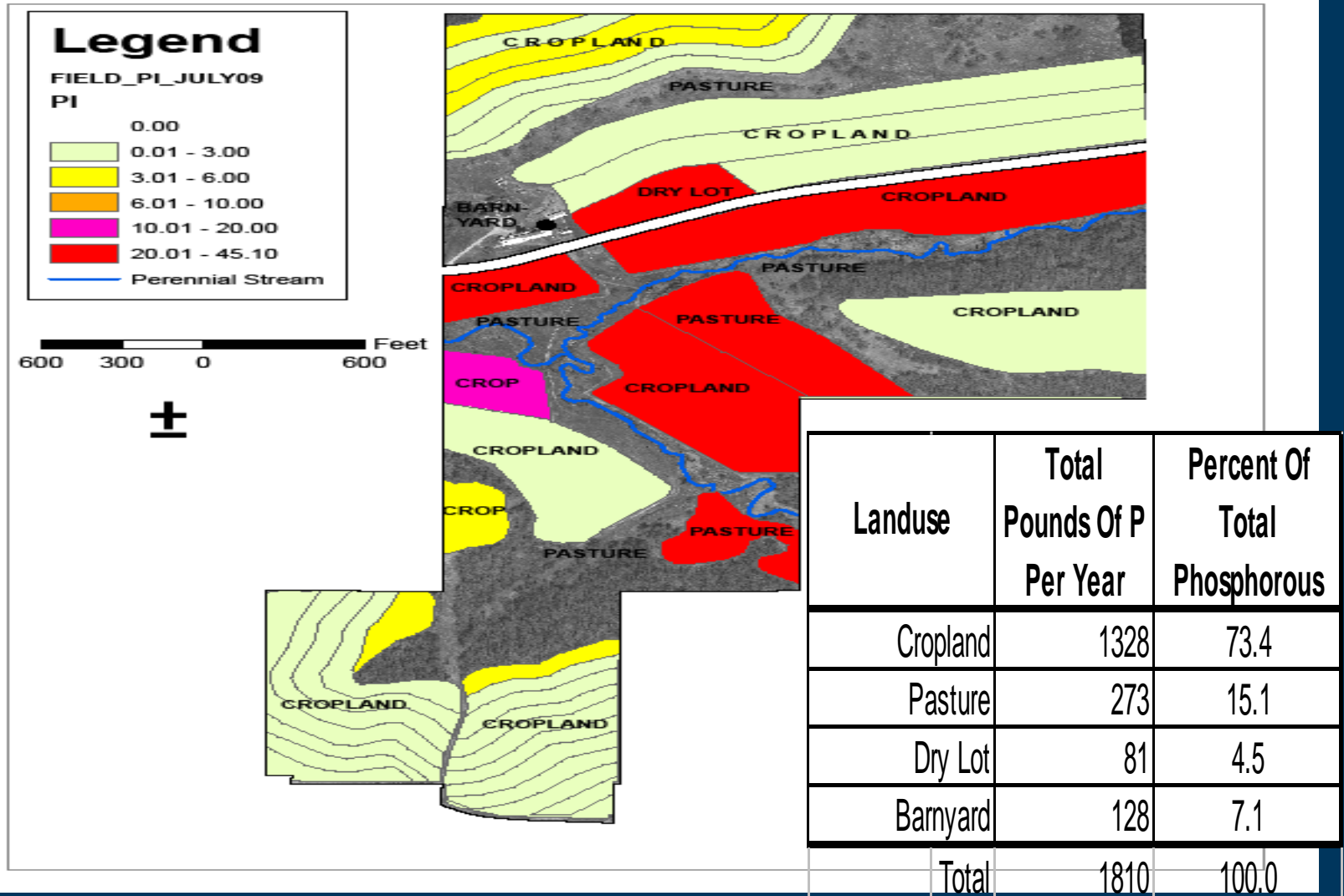
Produces 22% of estimated load

65 % acres - PI less than 3

Produces 18% of estimated load

# Barn yard was assumed to be the primary source of phosphorus

## Field PI Values Example Farm





“Soft” practices targeting cropland much cheaper than  
“Hard” practices targeting barnyards and lots

No-till

Contour strips

Cover crops after silage

Nutrient management

Grassed filters



Rotation changes:

- Forage versus grain crop
- Corn as grain vs. silage
- Hay/grain in rotation

Harvestable filters

# Preliminary Results: Precision Conservation

- Second year post-treatment showing downward trend in Phosphorus
- In the first year post implementation, there was a 37% decrease in phosphorus loads during storm events in the Pleasant Valley watershed.
- With 90% confidence, we can say the downward trend in phosphorus loads is because of the practices put into place on targeted fields and pastures. Sediment loads were down 25%.
- 30% of the sediment going by the gage each year has a source from the stream beds and 70% from the farm fields



# Fieldprint Calculator Start Page

[http://  
www.fieldtomarket.org/fieldprint-calculator/](http://www.fieldtomarket.org/fieldprint-calculator/)

The screenshot shows the Fieldprint Calculator web application in a browser window. The URL bar displays <http://www.fieldtomarket.org/calculator>. The page header includes the "Field to Market" logo and navigation links for "Fieldprint Calculator", "My Account", and "Logout". A banner image of corn fields is at the top, with the title "Fieldprint Calculator" and a "Start" button. Below the banner is a row of tabs: "Start", "Land Use", "Soil Conservation", "Soil Carbon", "Irrigation Water Use", "Energy Use", "Greenhouse Gas Emissions", "Summary", and "Economic Analysis".

The "Start" tab is active, showing instructions: "To go back to previous tabs, please use the tabs rather than your browser's Back button." and "On this page, you will locate your field and enter information about its soil and your crop rotation, management system, transportation, and drying practices. This information will be used to calculate your Fieldprint for a variety of indicators on the following tabs."

The form on the left contains the following fields:

- Session: Demo - IA Corn
- Units: U.S. Customary
- Location section:
  - State: Iowa
  - County: Kossuth County
  - Field Name: My Typical Corn Field
  - Field Lat (optional): [input field] dec. deg.
  - Field Lon (optional, negative value for U.S.): [input field] dec. deg.
  - Area: 158.97 acres
- Buttons: Zoom, Submit
- Accordion menu with expandable sections: Soil, Crop Rotation, Management, Transportation, Drying, and a "Planted but not harvested" checkbox.

On the right is a map interface with a satellite view of a field. A yellow rectangle highlights a specific area. The map includes a scale bar (200 m, 1000 ft) and coordinates (-94.08448, 43.41567). A "Data Source" link is visible in the bottom right corner of the map.

The footer contains navigation links: Home, About Us, Contact Us, Members, Privacy Policy, Sitemap, and a copyright notice: © 2011 Field to Market. All Rights Reserved.

## For More information

<http://www.greatriverspartnership.org/en-us/NorthAmerica/Mississippi/Pages/Proof-of-ConceptProjects.aspx>

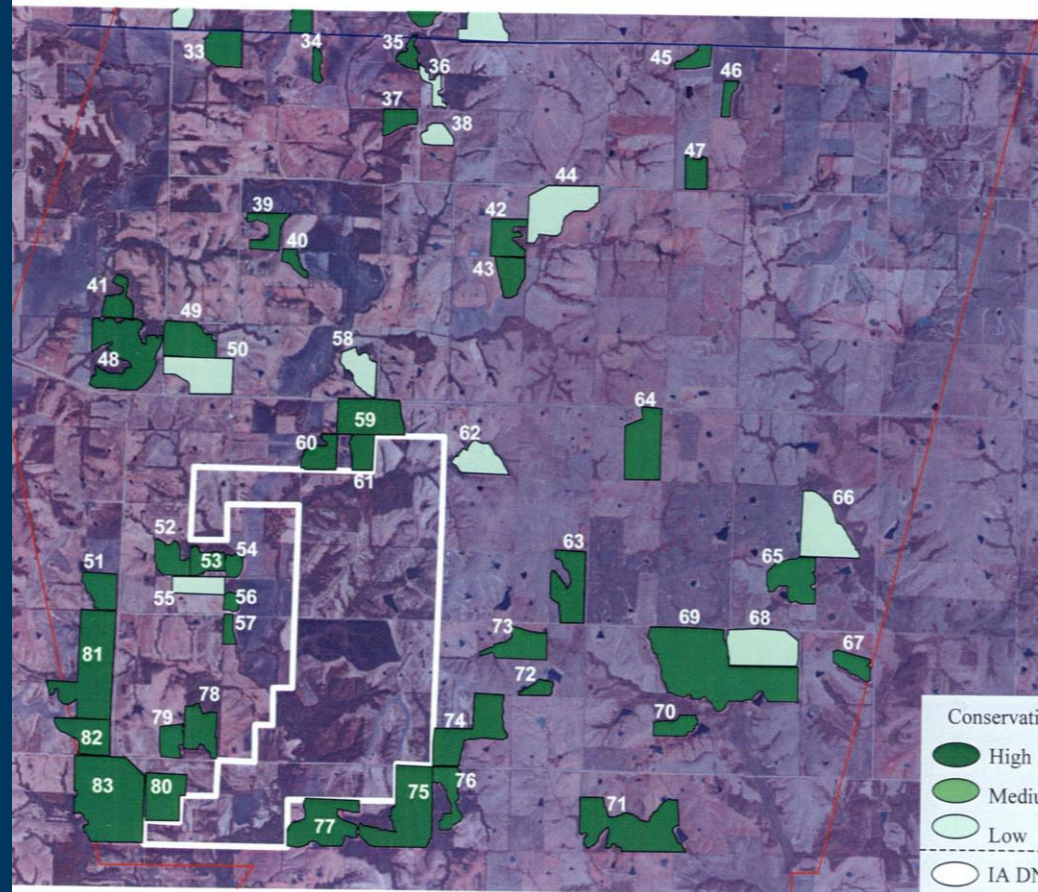
[www.ctic.org/WIIN](http://www.ctic.org/WIIN)



# Grassland Conservation: Grand River Grasslands



# Many prairie remnants still exist in agricultural landscapes



The macrosites mapped in the south half of the project area of southeast Ringgold County. Sites are classified by conservation value by shading of green and identified by their number. The project area boundary is shown in red.



# Dunn Ranch by the Numbers

□ □ 3,258: Number of acres

□ □ 100: Percent planted with native seed

□ □ 51: Number of bison

□ □ 10,000: Pounds of seed harvested Annually

# Ecological Grazing: Patch-Burn Grazing





## A Few Examples of Other TNC Midwestern Grassland Projects

Nachusa Grasslands – IL

Glacial Ridge – MN

Broken Kettle Grasslands – IA

Military Ridge – WI

For more information go to [www.nature.org](http://www.nature.org)

Check out various midwestern state program web sites  
on the TNC site

## Alliant/Walton Family Foundation Project

- Evaluated economics and ecological impacts of bioenergy opportunities in MN and WI
- Created lots of great habitat – 500 acres of prairie, 1000 acres of cool season grasslands
- Ultimately found that market would not support

# Bioenergy and Biodiversity

- May encourage more perennial cover which reduces sediment and nutrients entering nation's freshwater systems
- Some forms provide critical nesting cover for grassland birds, insects and other wildlife, esp. if some refuge areas are maintained
- Can result in "energy sprawl", e.g. conversion of some native landscapes to perennial monocultures