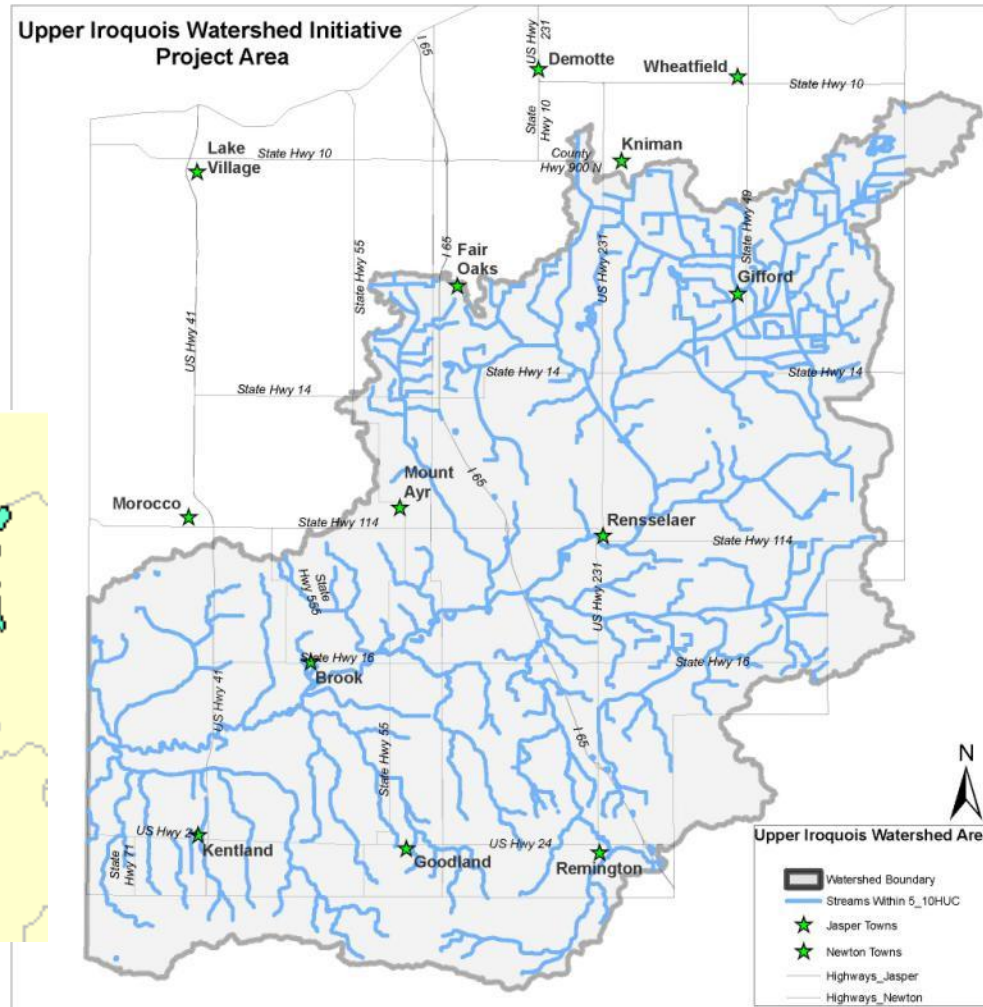
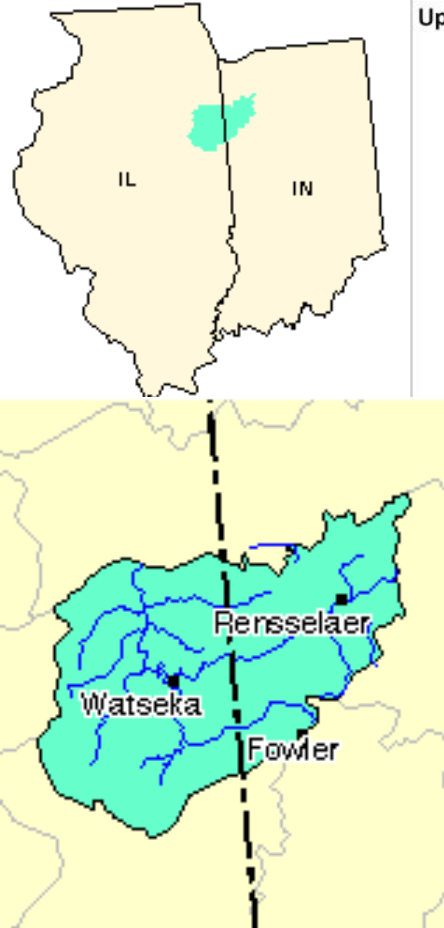


How can watershed groups promote soil health?

Dan Perkins
Jasper County SWCD
Watershed and Conservation Program Specialist
daniel.perkins@in.nacdnet.net
219-866-8008 ext. 115
May 10th , 2012

UPPER IROQUOIS WATERSHED INITIATIVE

CONNECTING PEOPLE FOR WATERSHED IMPROVEMENT



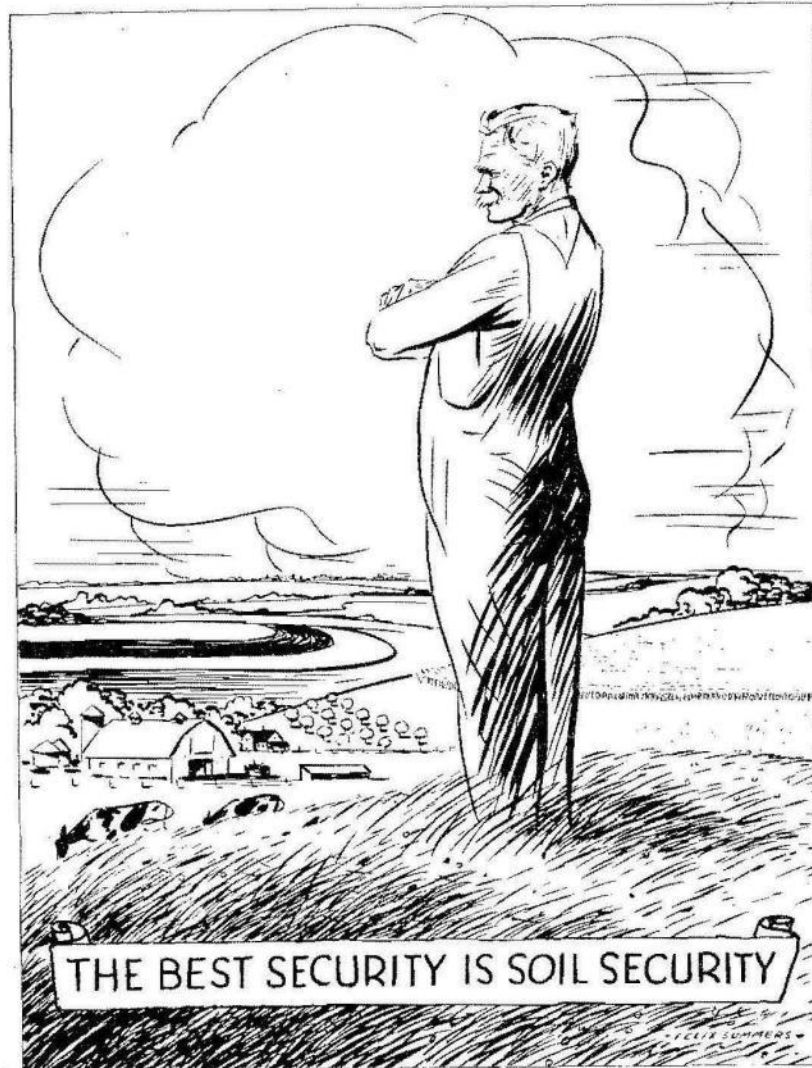
- 651 sq. miles
- 438,332 acres
- 84% Ag land
- 6 % Forested land
- 10 % Other/Urban Land
- 208 miles of streams

Building Conservation

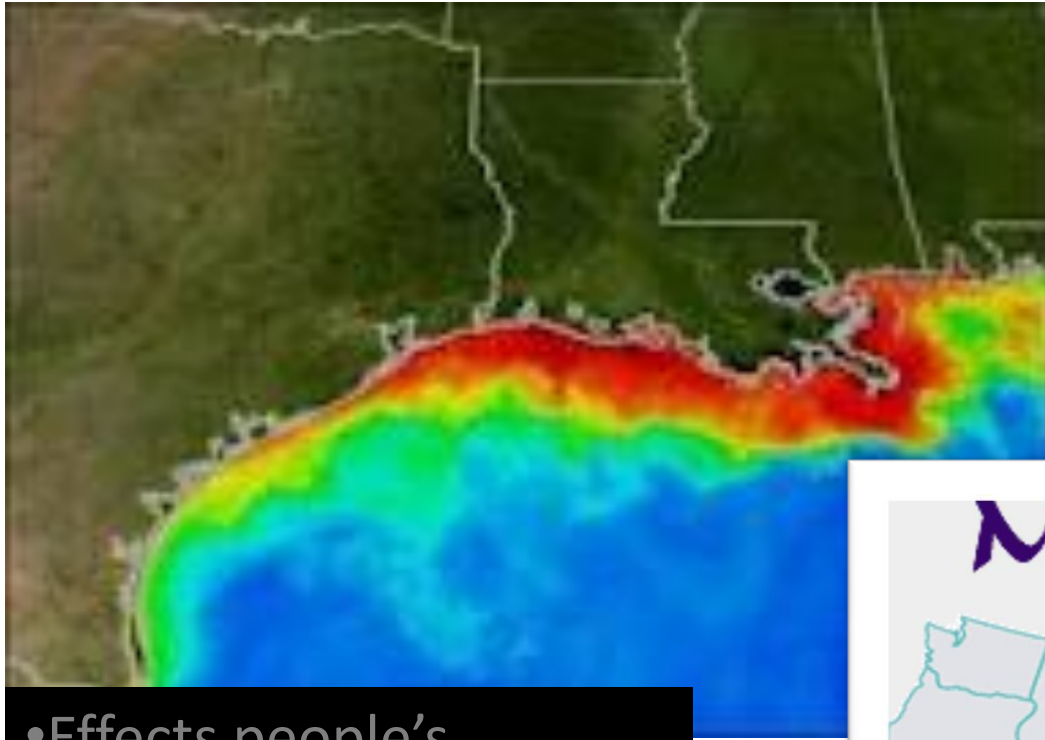
Communicating the
message:
Interested in water
quality ?
Soil Health on farmer's
own land!

Two approaches

1. Regulation is coming . .
2. Soil Health = farm health and profitability.



What is this?



“Gulf Hypoxia Zone”

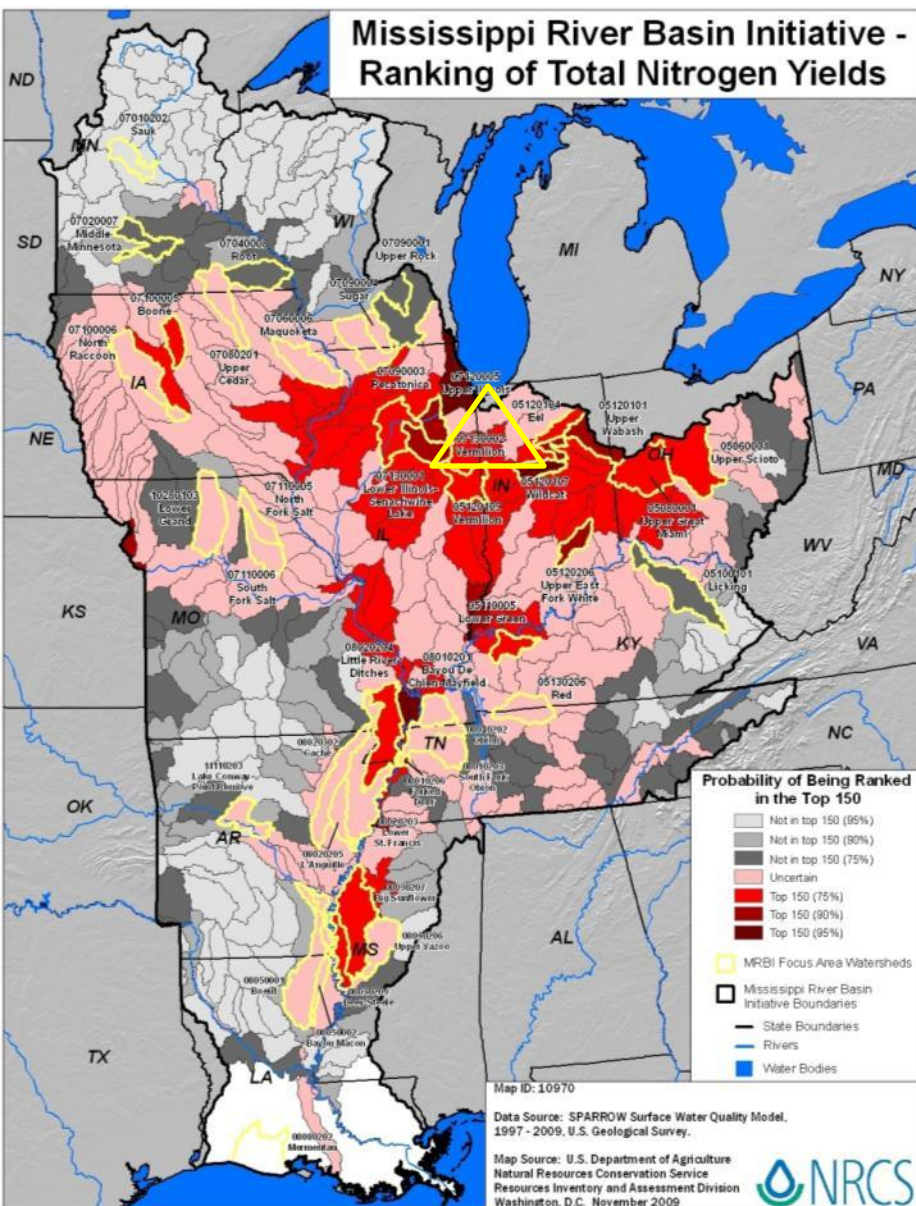
What causes this?

- Effects people's livelihoods:

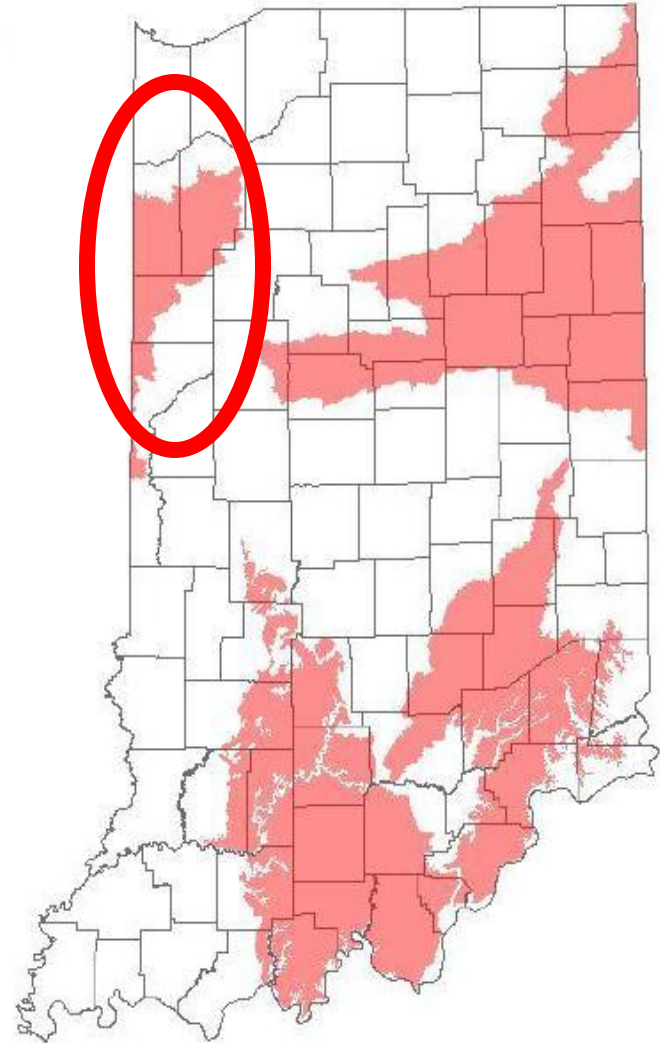
- Effects a \$2.8 billion dollar fish industry
- \$20 billion boating and tourism industry



Where is regulation going to happen next?

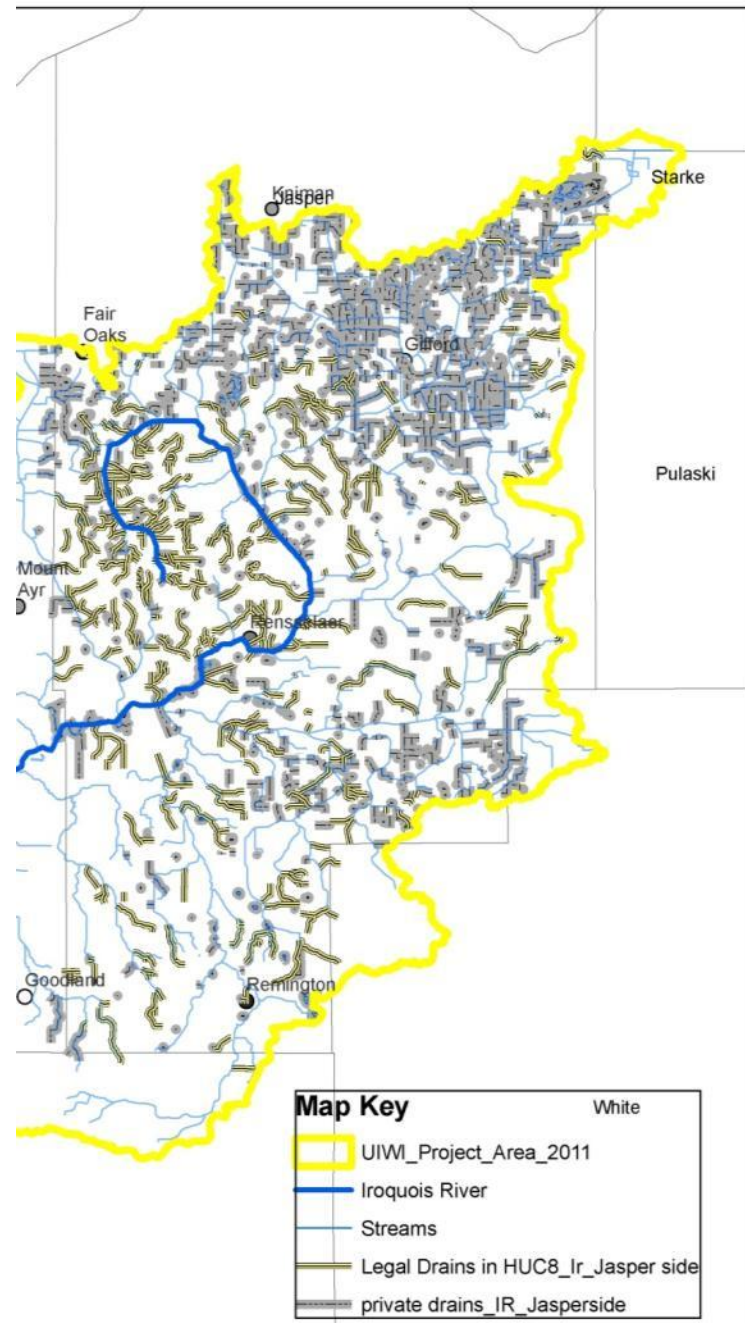


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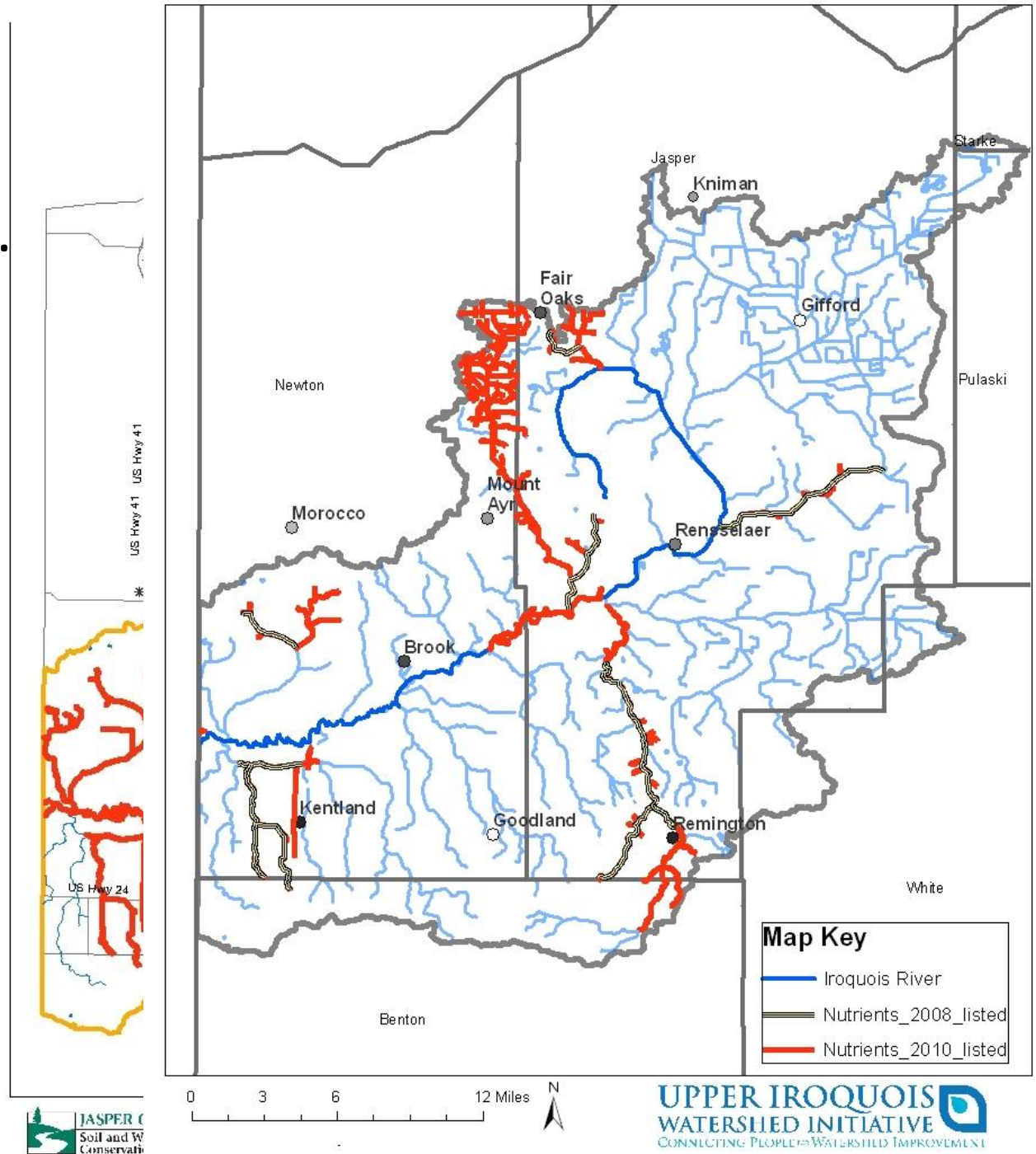
SRA Indiana NRCS Cropland Priority Areas for Water Quality – Excess Nutrients in Surface and Ground Waters

- Mapped legal drains and tile drains
- Creating a leaky system = “Similar to urban stormwater that goes untreated”
- Conservation Cropping System and Soil Health = water treatment plan



Impaired
Waterways all . . .

Impaired
Waterways for
nutrients . . .



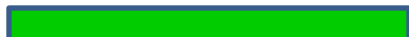





Ways to cut Nitrate loss at the field level . . .

- Cover crops
- Controlled drainage management
- Shallow Drainage
- Bioreactors
- Targeted wetland restorations
- Two-stage ditches
- Other? . . .
- Precision Technology
 - Auto steer
 - VRT
 - RTK
 - Auto swath
 - Grid Sampling
 - Etc . . .
- Strip Trials
- PSNT, CSNT, Tissue

Where should we spend our limited time and resources at the watershed level?

Potential relative reductions in nitrate leaching in Corn Belt for specific corn/soybean mgt. changes

<u>PRACTICE</u>	<u>CHANGE</u>	<u>REDUCTION POTENTIAL</u>
N rate on corn	150 reduced to 125 lb/ac	
timing	no fall N-fertilizer applications	
cropping	switch to perennials combine cash crop with cover crops	
buffer strips	1-5% of area	
tillage	plow to long-term, continuous no-till	
wetlands	1-5% of area	

What if . . .

- Chesapeake bay state farmers had already been doing these things before EPA came in?
- Would farmers be in the same situation they are in today?
- Indiana can learn from this, we can learn from this . . .
- We need to be the solution . . .

Soil Health Concerns . . .



- Researchers have shown that the windblown sediments can contain twice as much nitrogen and phosphorus and 20% more potassium than the soil left in place.

- Wind erosion can help fill roadside and drainage ditches.

- *Others:*

- *Compaction = tile probe*

- *Loss of Organic Matter = soil tests*



Stories from the field . . .

- Document, document, and document
- Tell the story . . .
 - Cover Crops
 - Conservation Tillage Round Table
 - On-Farm Network
 - Planter Clinics
 - One on one with farmers . . .



Do cover crops work \longleftrightarrow YES
in Jasper County?
(2010)

What cover crops in
what rotations?
How much benefit?
Economic benefit?

- 2000+ acres with farmer match
 - technical support on all acres
 - 6 different cover crop mixes
 - 15 different farmers
- 6 Spring and Fall Soil Pits every year.

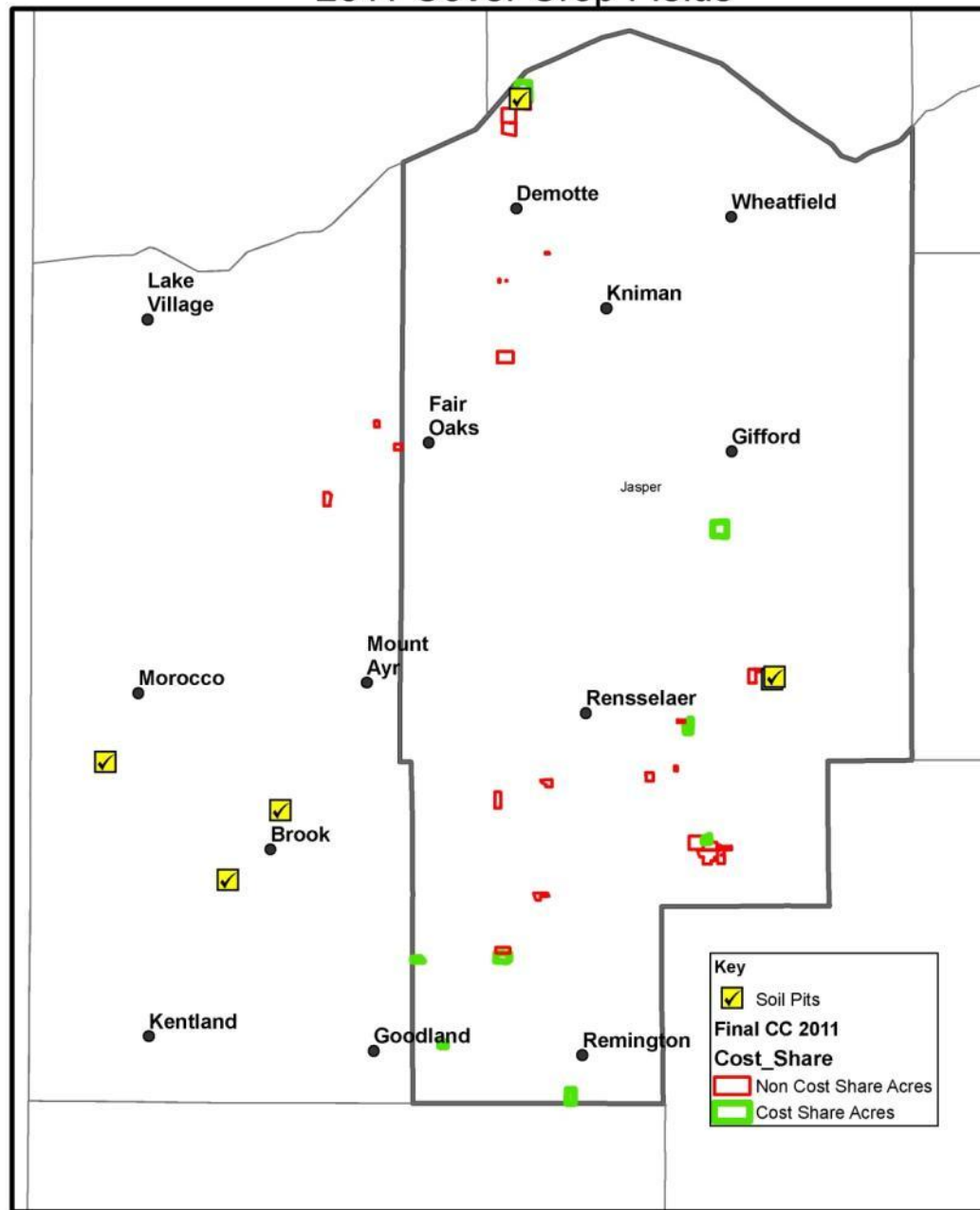


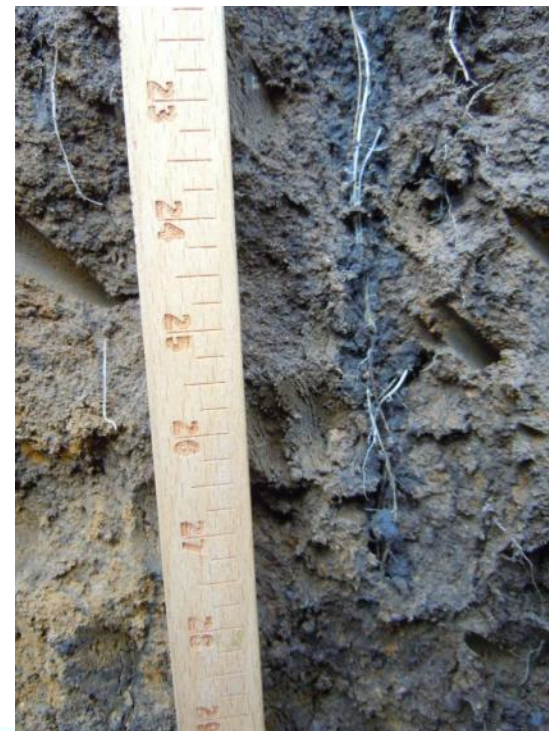


12/03/2010 2:53 pm



2011 Cover Crop Fields





Tillage Roundtable

GOALS

1. To improve our conservation tillage systems and farm profitability
2. To encourage the adoption of conservation till methods in the area

METHODS

1. Meet 3-4 times a year
2. Network Exchange
3. Planter Clinic
4. Farm Visits

SIZE 10-15 Participating Farmers

- Farmers in the group practice
Conventional Till to 100% No-Till

Established January 2011



Planter Clinics

- What are the needs and questions of your farmers?



Video

- Cover Crops In Action
 - Document, Document, Document
 - We all have short memories . . .
- Newton Ctny Soil Pit April 4th 2012 Video
 - <http://youtu.be/T7ZvNZxQP-M>
- Conservation Cropping System Video Fall 2011
- Jasper Ctny Soil Pit April 5th 2012
 - http://youtu.be/YaOSut_ftpA

If video's not work . . .

Complete conservation system . . .





New Goals

1. Engage landowners and absentee landowners with message of soil health.
2. Rent/lease agreement issue
3. Widespread cover crop adoption
4. Farmers influencing farmers.

