MORE!!! Water Quality and Soil Conservation Through Expedited Infrastructure Process in Iowa







Bobby Kuennen
Northeast Iowa Field Representative
Iowa Department of Agriculture and Land Stewardship

National Rankings for Iowa Agriculture

#1

Corn
2.6 billion bushels

Pork
23.8 million hogs

Eggs
14.9 billion eggs

Ethanol
3.7 billion gallons

Red Meat Production
8.96 billion pounds

#2

Soybeans
622 million bushels

Ag Products Exported
$12.6 billion

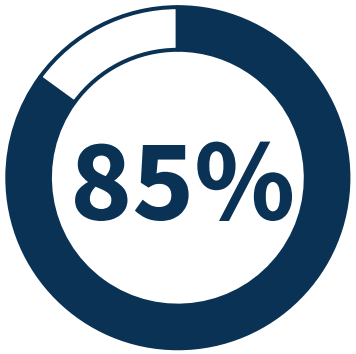
#3

Number of Farms
84,900

Fast Facts About Iowa's Agriculture

185

countries import products from Iowa



of Iowa's land is used for agriculture

11.5

million turkeys are raised in Iowa each year



of jobs in Iowa are connected to agriculture



of the nation's pork is raised in Iowa

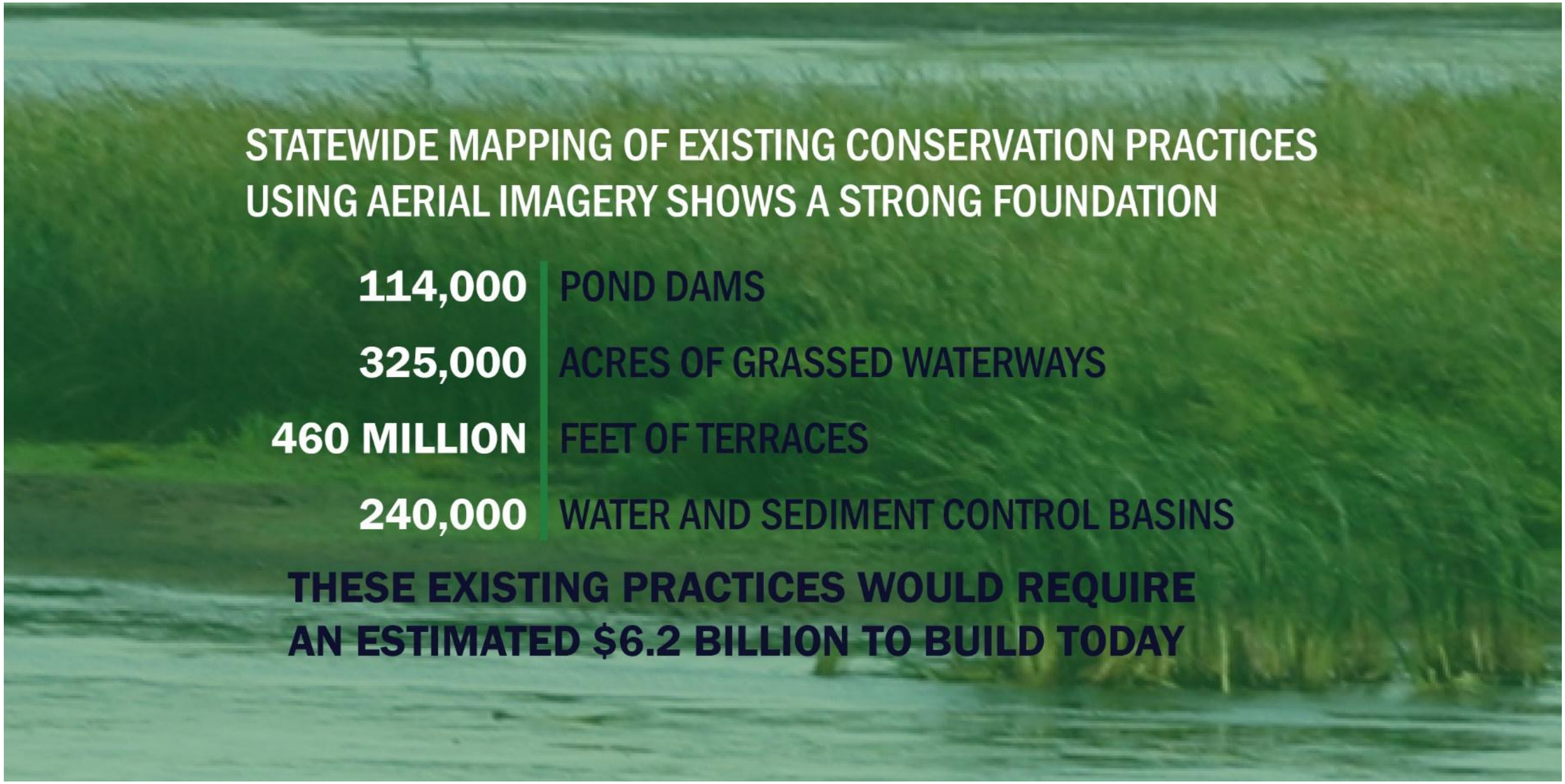


of the nation's food is grown in Iowa

Cost of Agriculture

Prior to European settlement, wetlands covered 4 to 6 million acres, or approximately 11% of Iowa's surface area. Wetlands were part of every watershed in the state, but nearly 95% of them have been drained.




STATEWIDE MAPPING OF EXISTING CONSERVATION PRACTICES
USING AERIAL IMAGERY SHOWS A STRONG FOUNDATION
114,000 POND DAMS
325,000 ACRES OF GRASSED WATERWAYS
460 MILLION FEET OF TERRACES
240,000 WATER AND SEDIMENT CONTROL BASINS
THESE EXISTING PRACTICES WOULD REQUIRE
AN ESTIMATED $6.2 BILLION TO BUILD TODAY

Water Quality Wetlands

WQ Wetlands are strategically located and designed to remove nitrate from tile-drainage water from cropland areas.

The larger the wetland, the greater the percentage of N removal; nitrate concentration reduction averages 52%. Wetlands also provide improved habitat for Iowa wildlife.

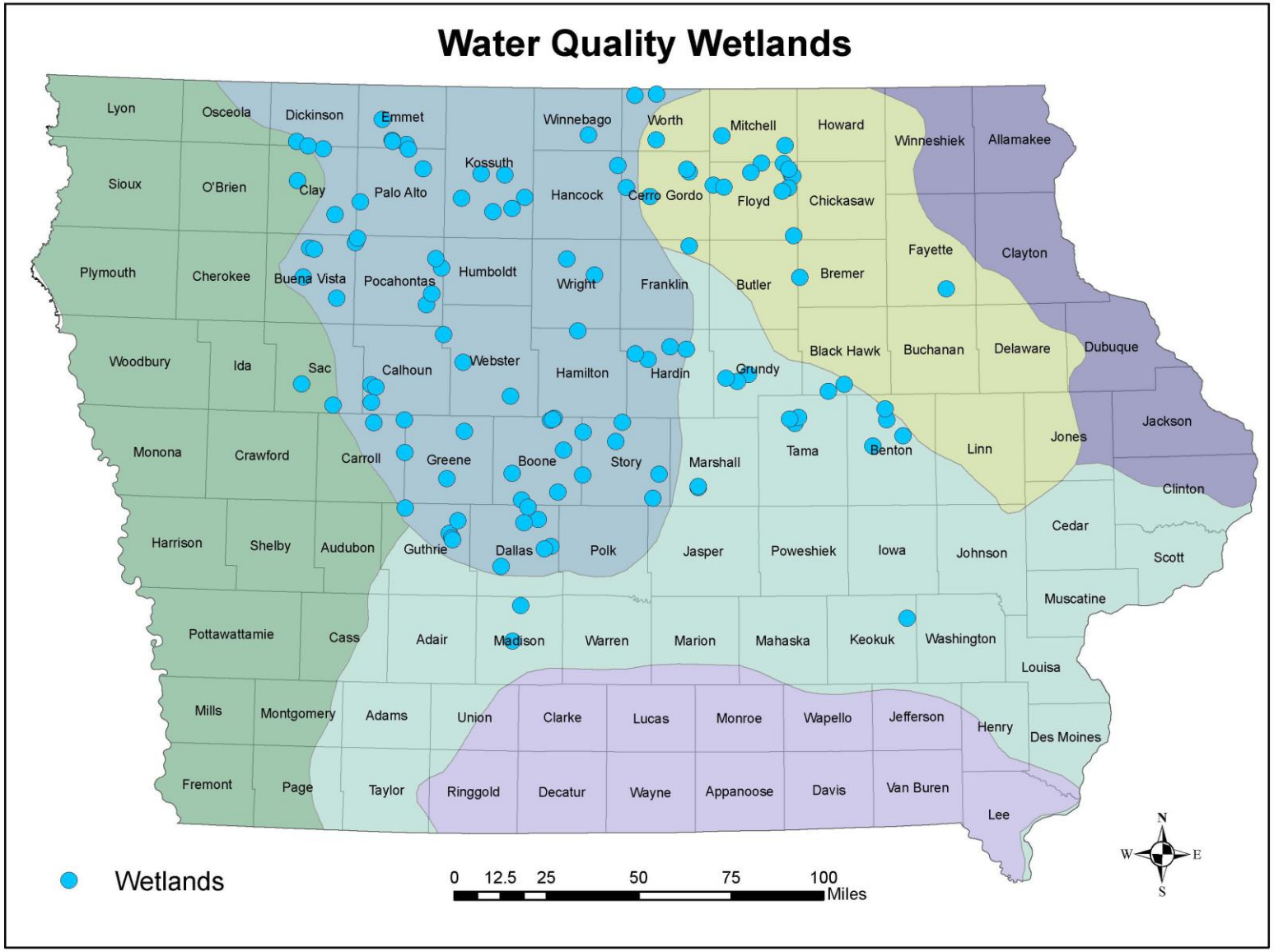
1 acre of wetland can remove excess Nitrogen in runoff from 100 acres of corn producing ground.



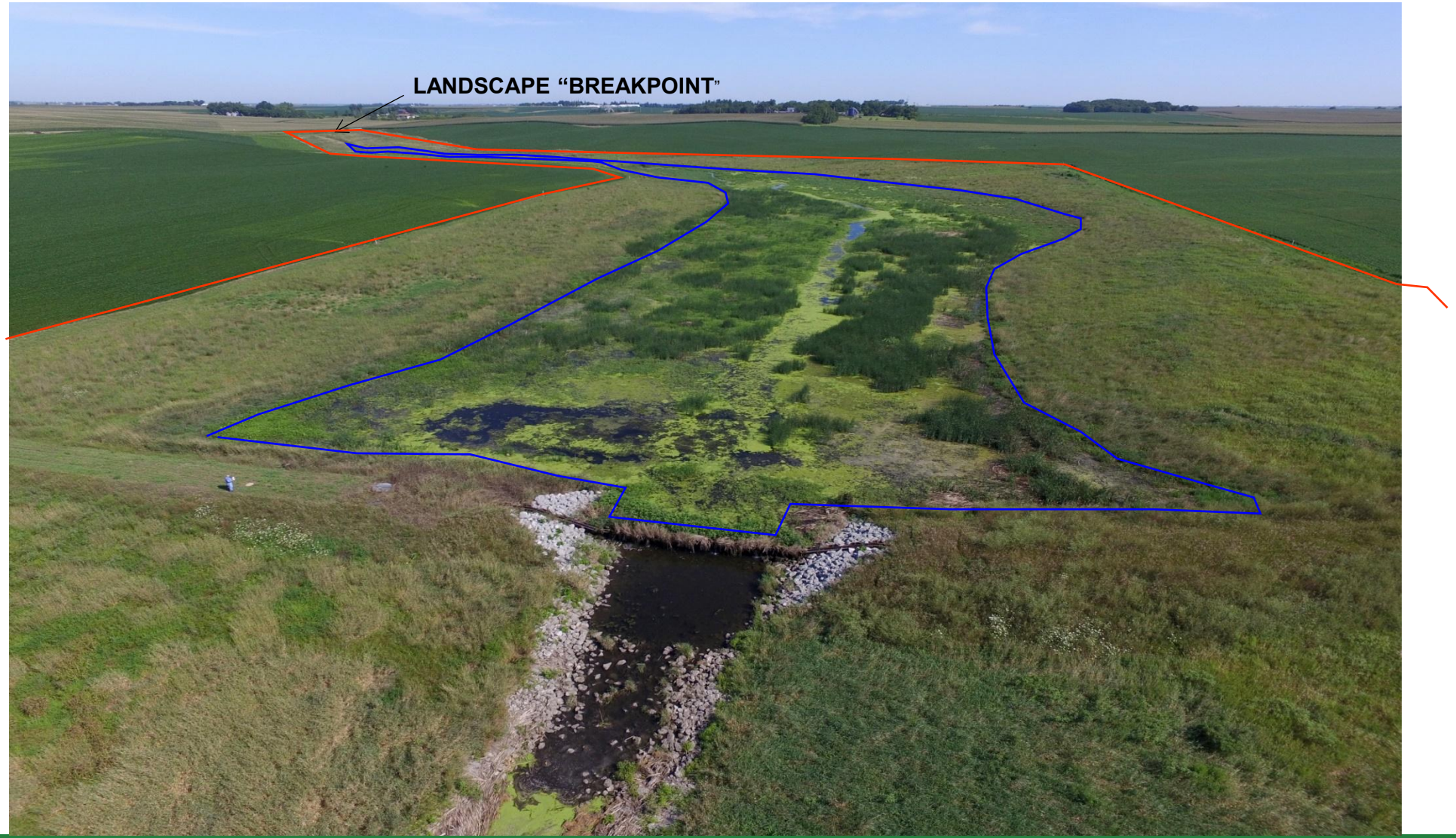
Wetlands

Conservation Reserve Enhancement Program (CREP)

- Iowa's **CREP** program established in 2002 to target water quality wetlands on and along Des Moines Lobe
- Proven monitoring program
- 105 CREP wetlands installed to date (11 additional non-CREP water quality wetlands)



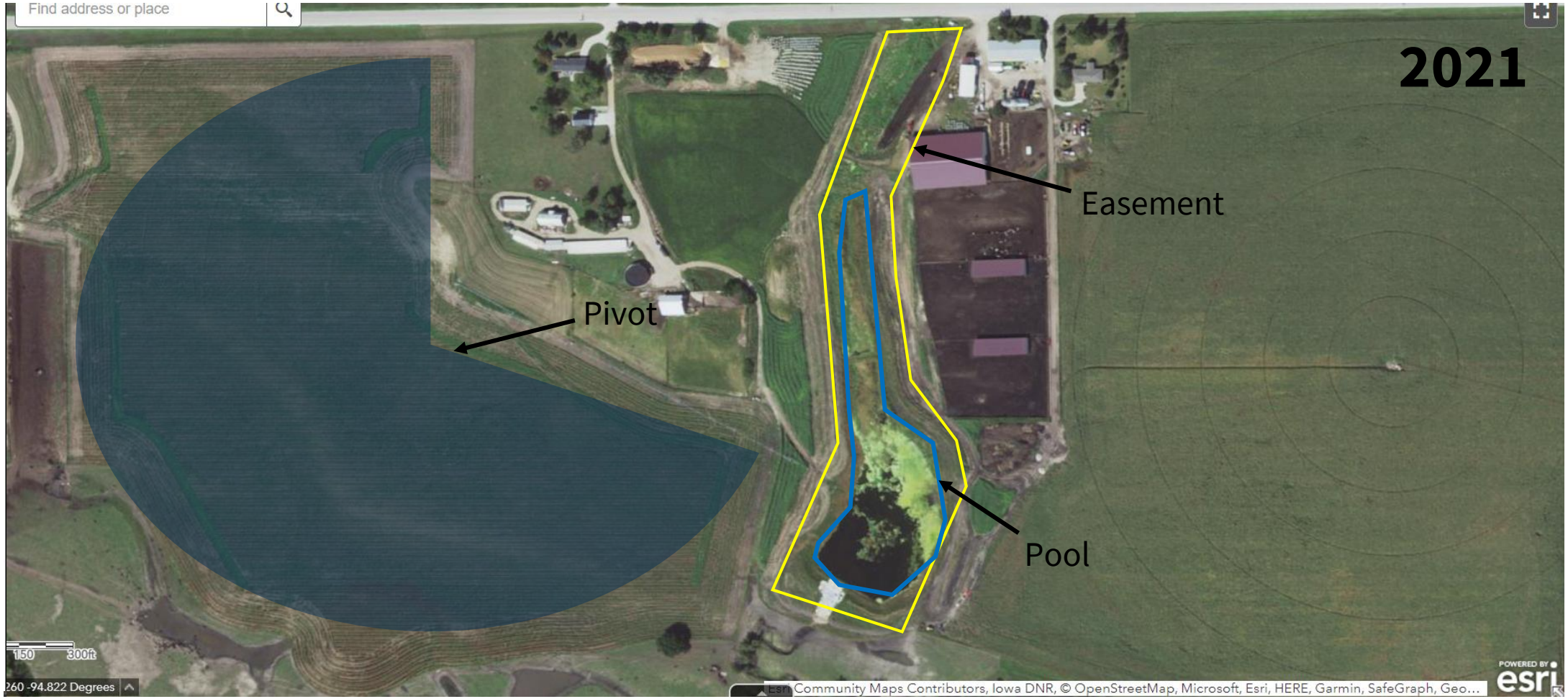
Traditional Breakpoint



Excavated



Drainage Water Recycling







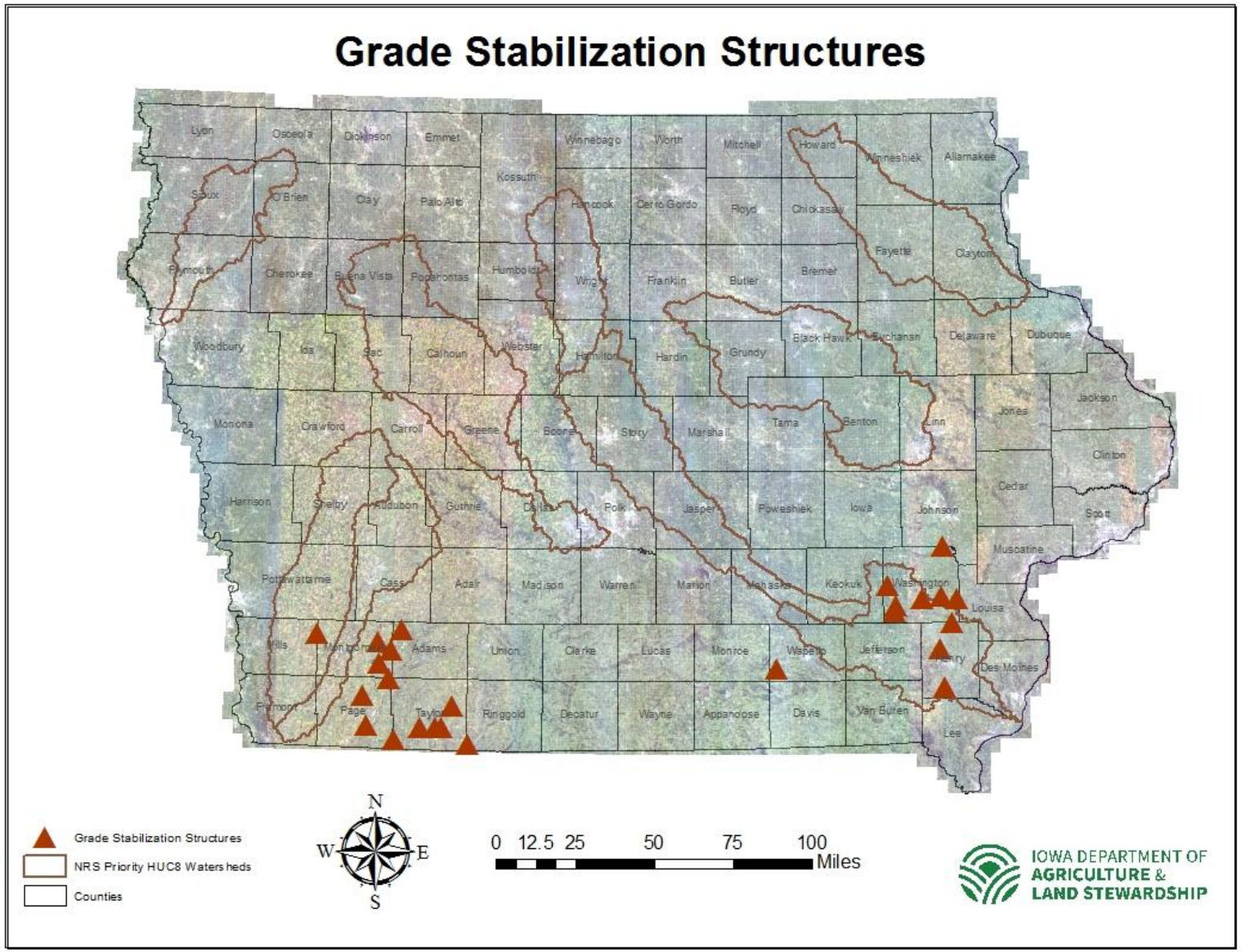




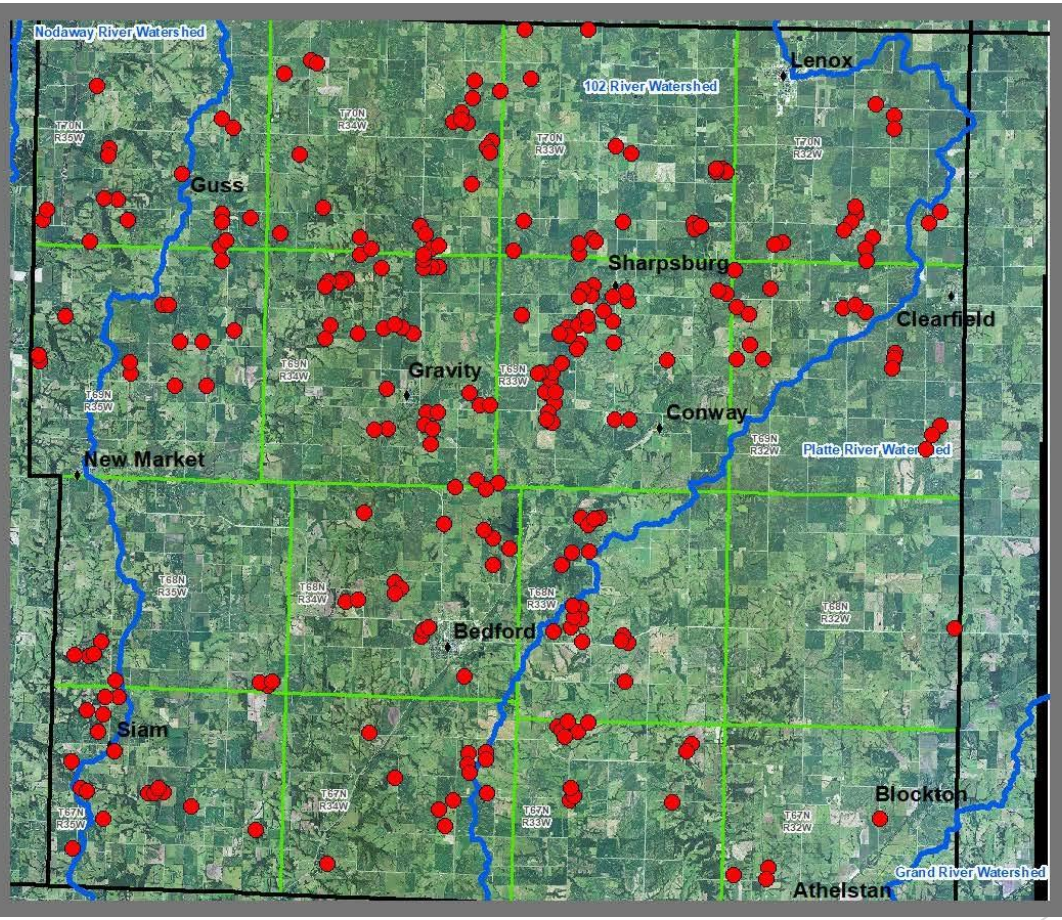


Grade Stab’s (Ponds) in key areas

Grade Stabilization Structures



Land Conversion – Unproductive Land to Productive Land



To Date:

Over 100 producers

Over 4000 acres

Over 260 fields





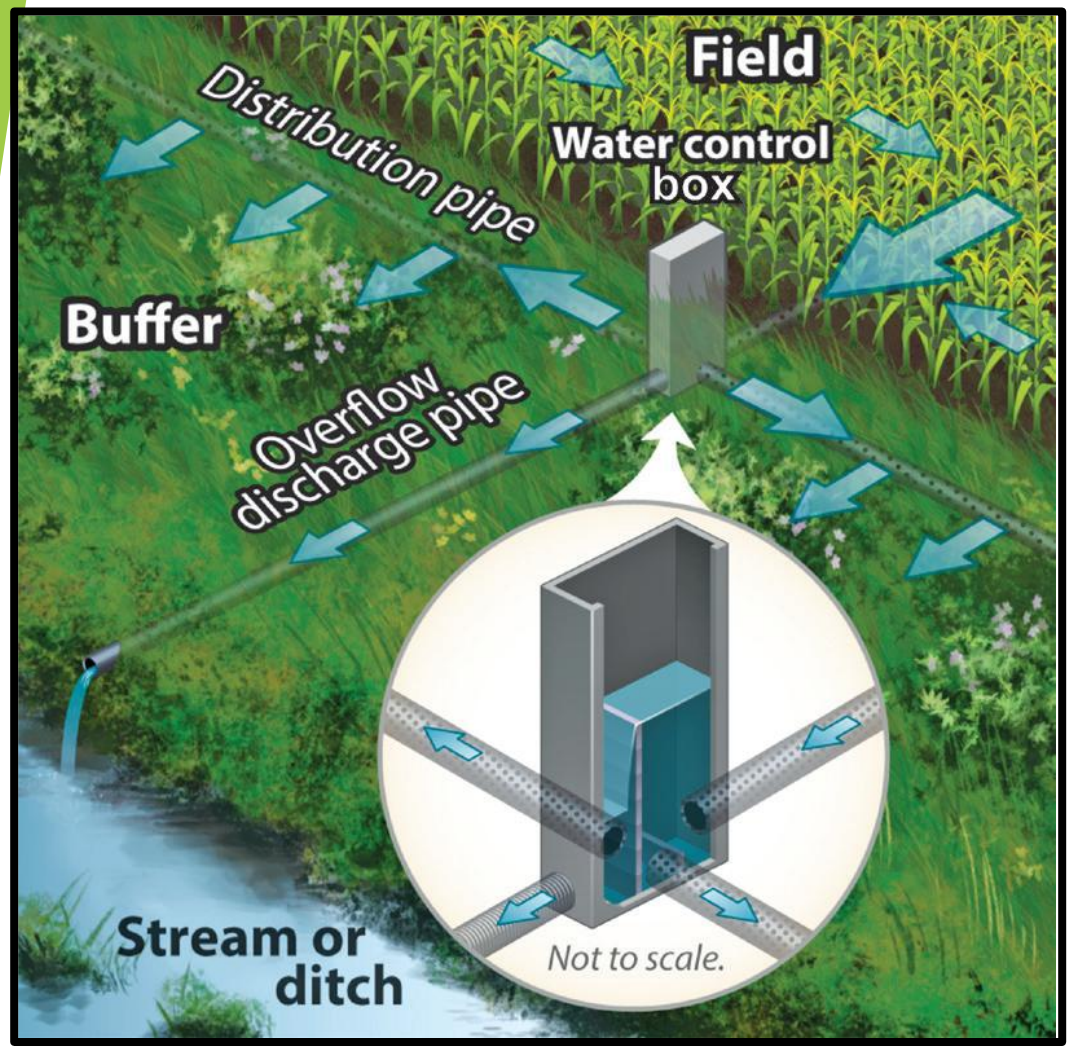


Edge of Field Practices

- Saturated Buffers
- Bioreactors



Saturated Buffers











Bioreactors









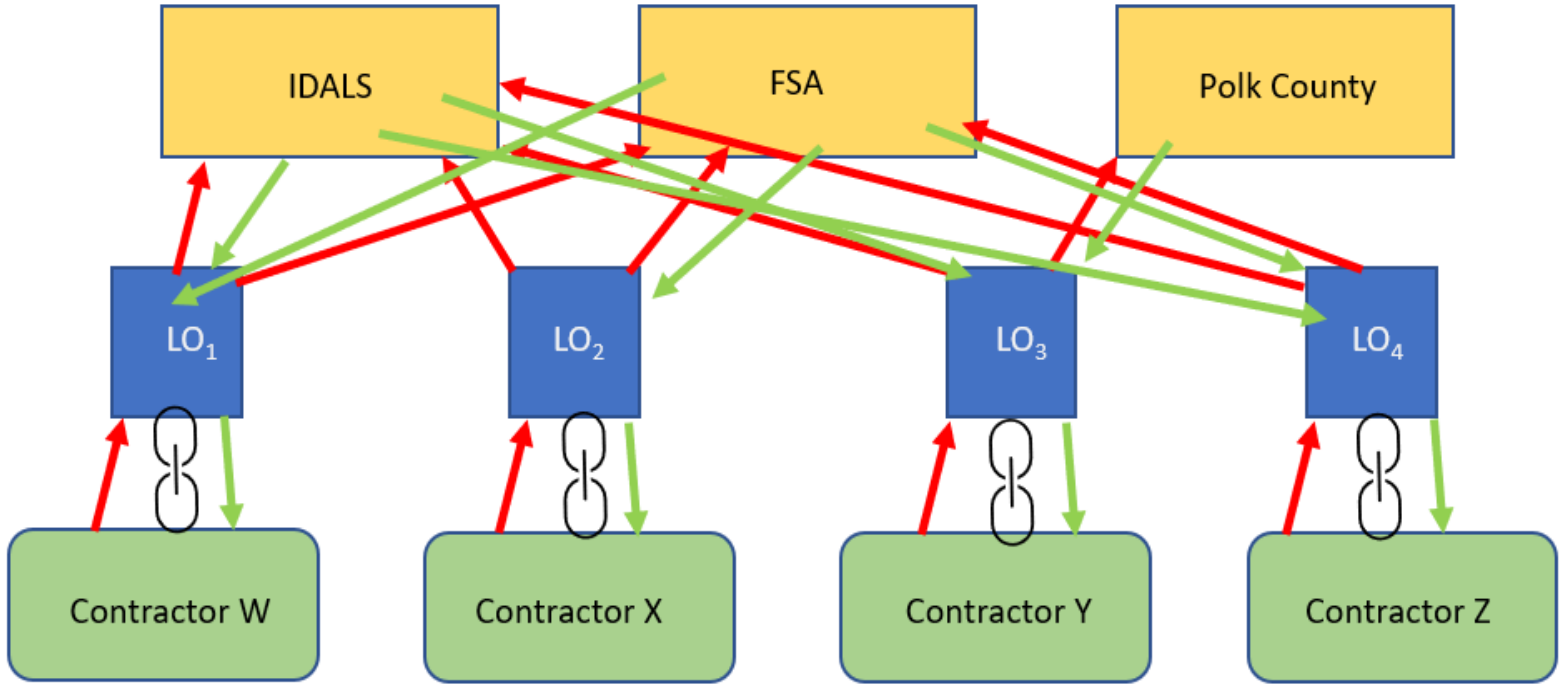


The First Batch and Build

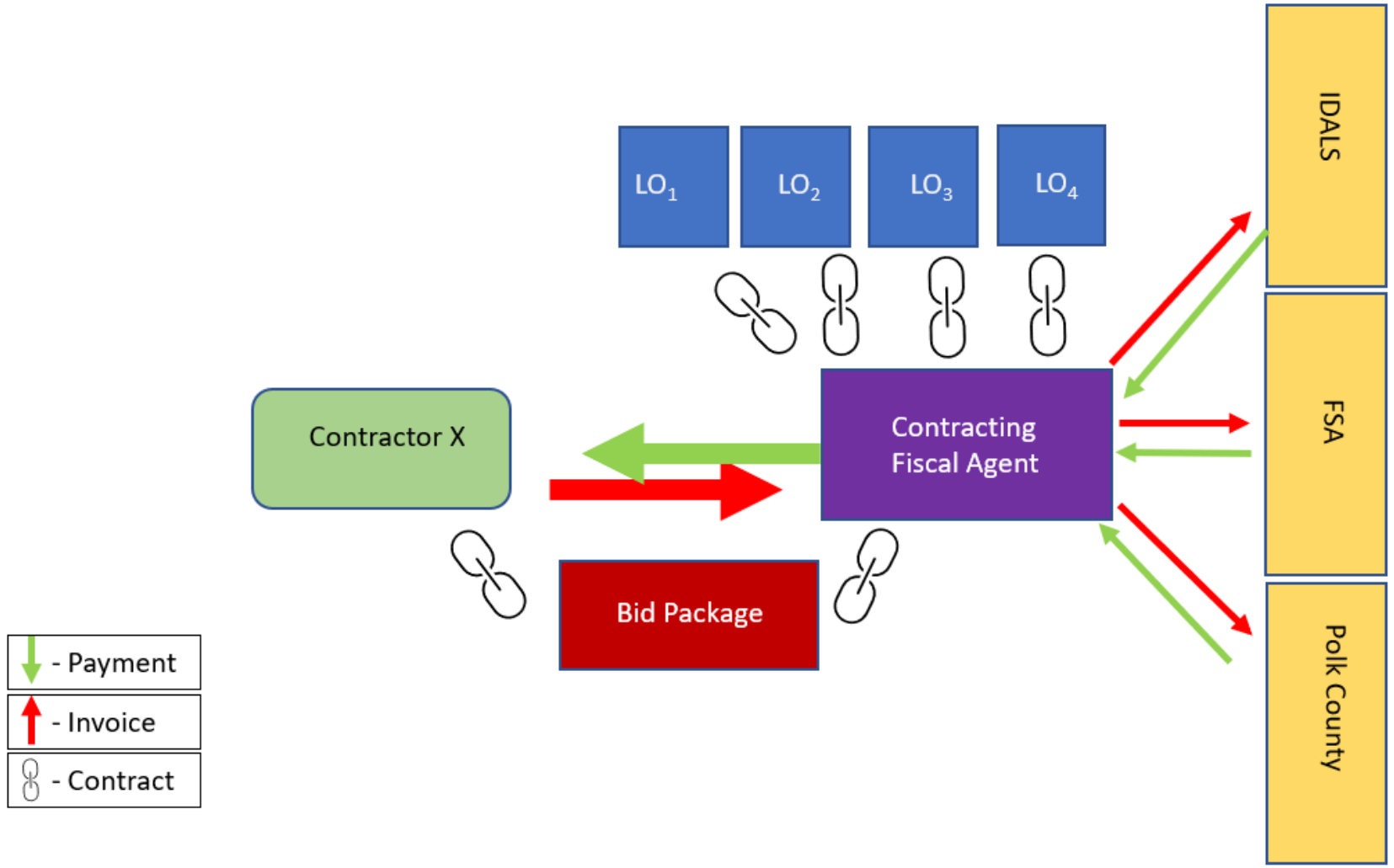
- Watershed Management Plan- 300 outlet goal/10 year
- 6 completed from 2015-2019
  - 100% cost share
  - Monitoring funds available

- How do we increase adoption? Batch and Build!
- Targeting
- Hassle factor
- Contractors
- Simplify the process
- Prioritize Saturated Buffers

Conventional Funding Model



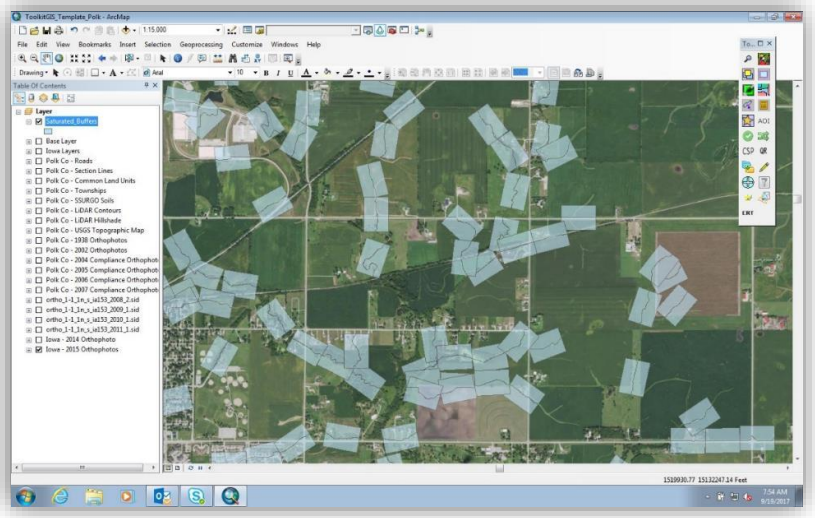
Fiscal Agent Funding Model

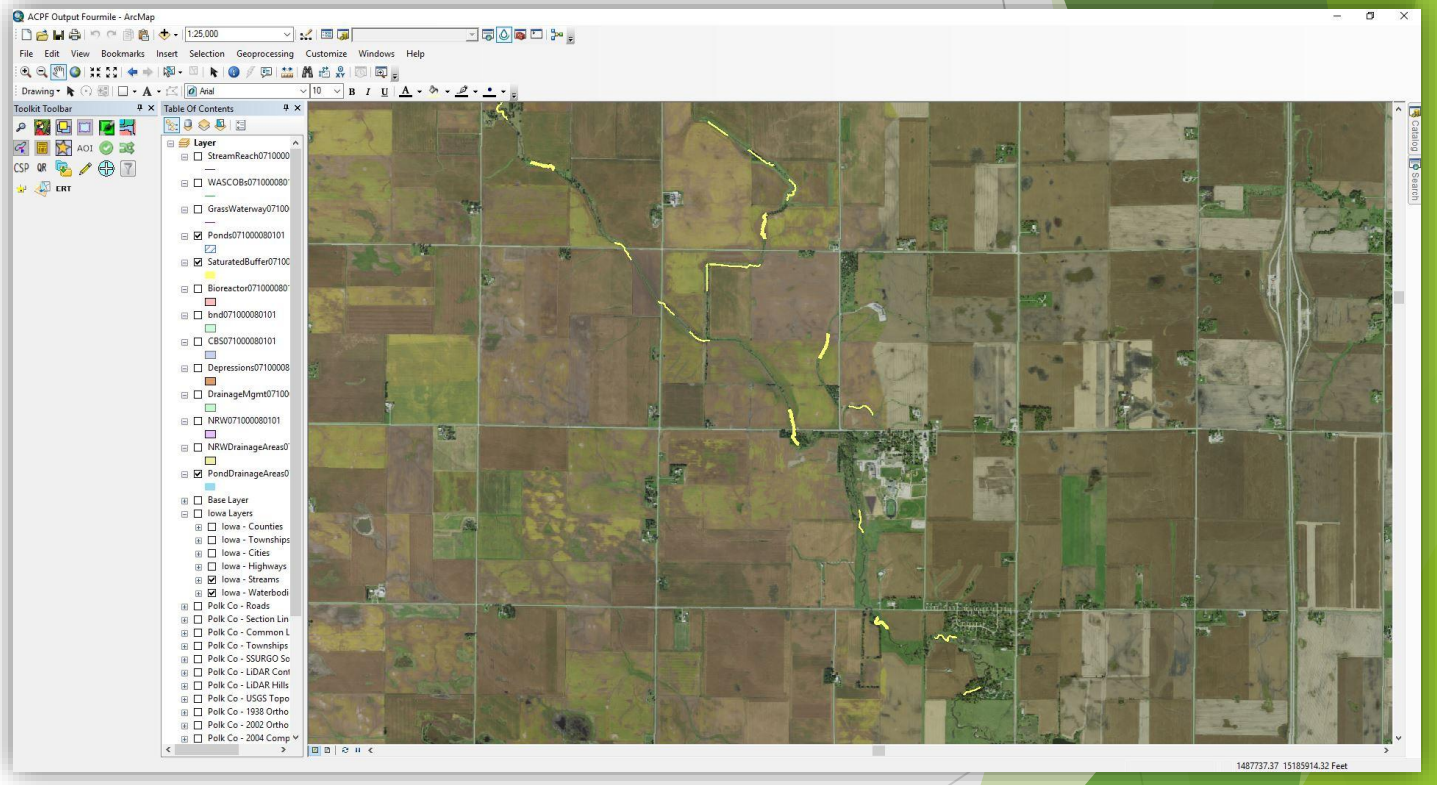


The Steps: Finding Sites

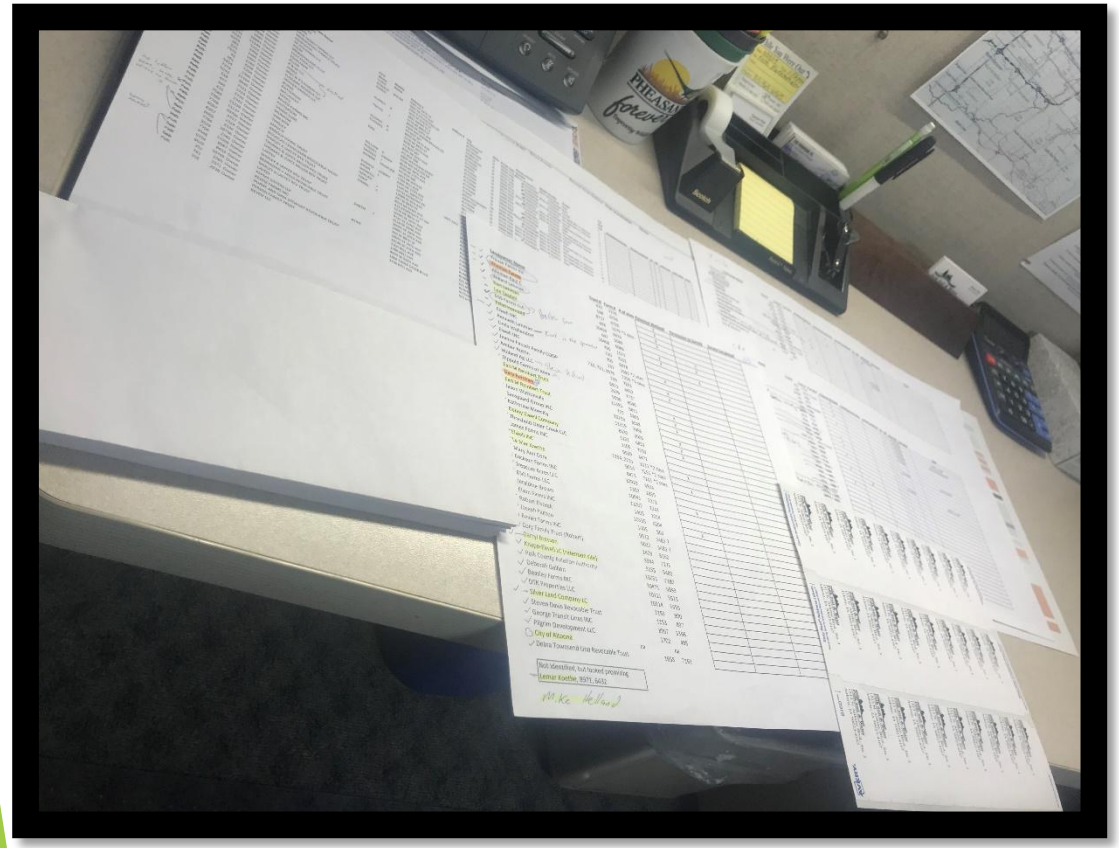
ACPF Tool

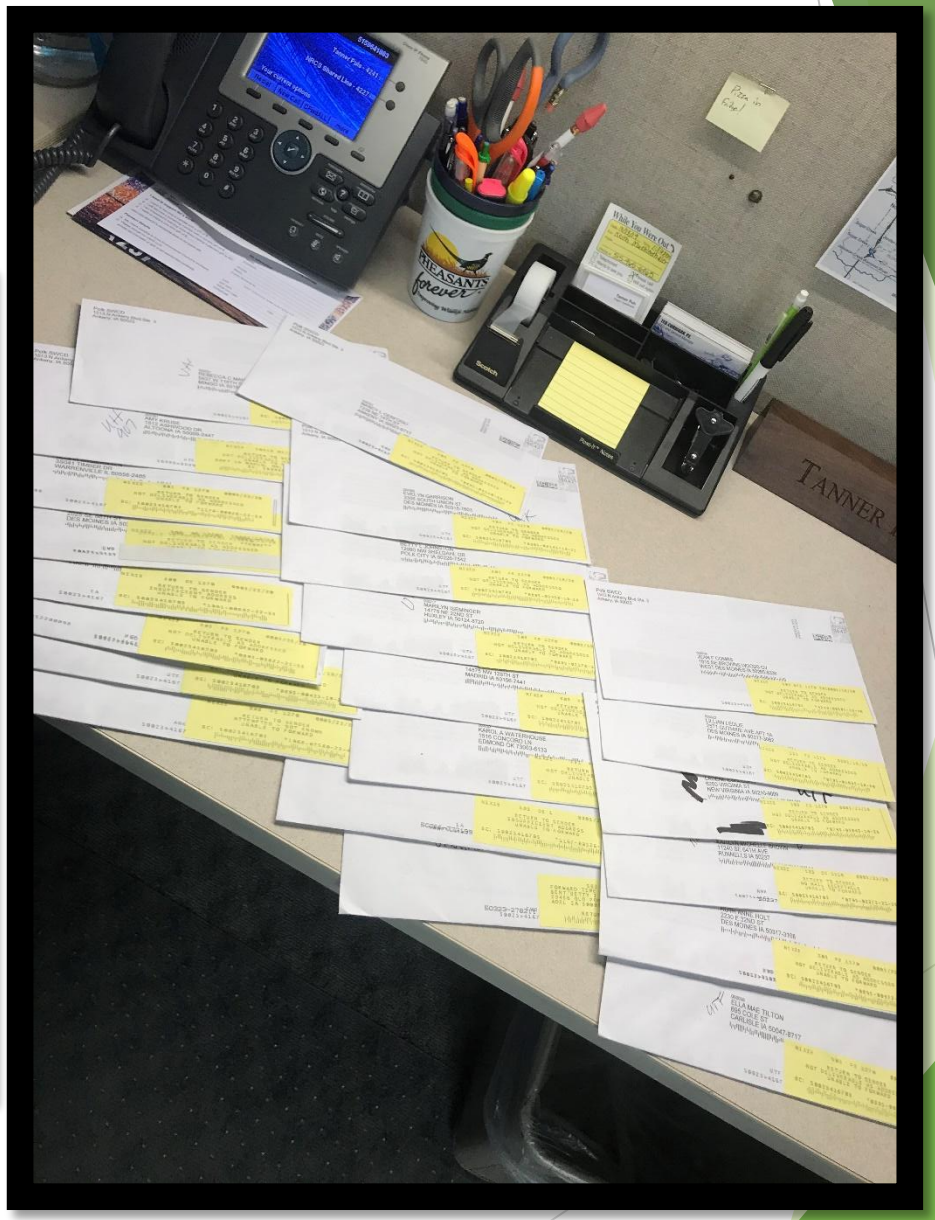
- Completed for all watersheds
- Used for targeted outreach





The Steps: Outreach

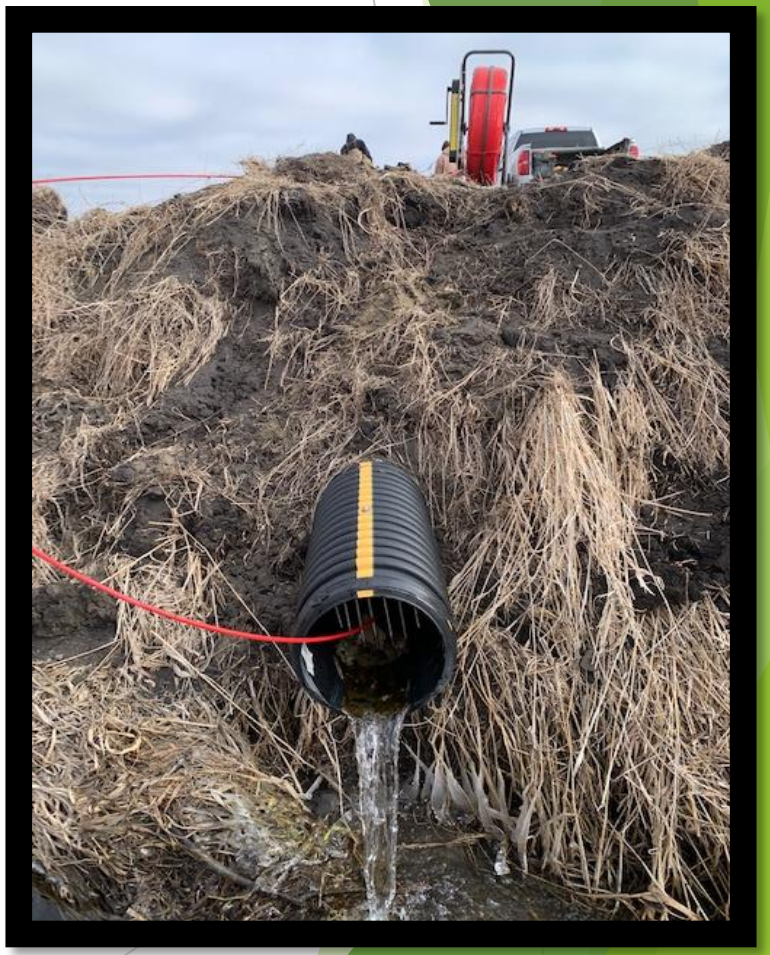




129 Sites Surveyed

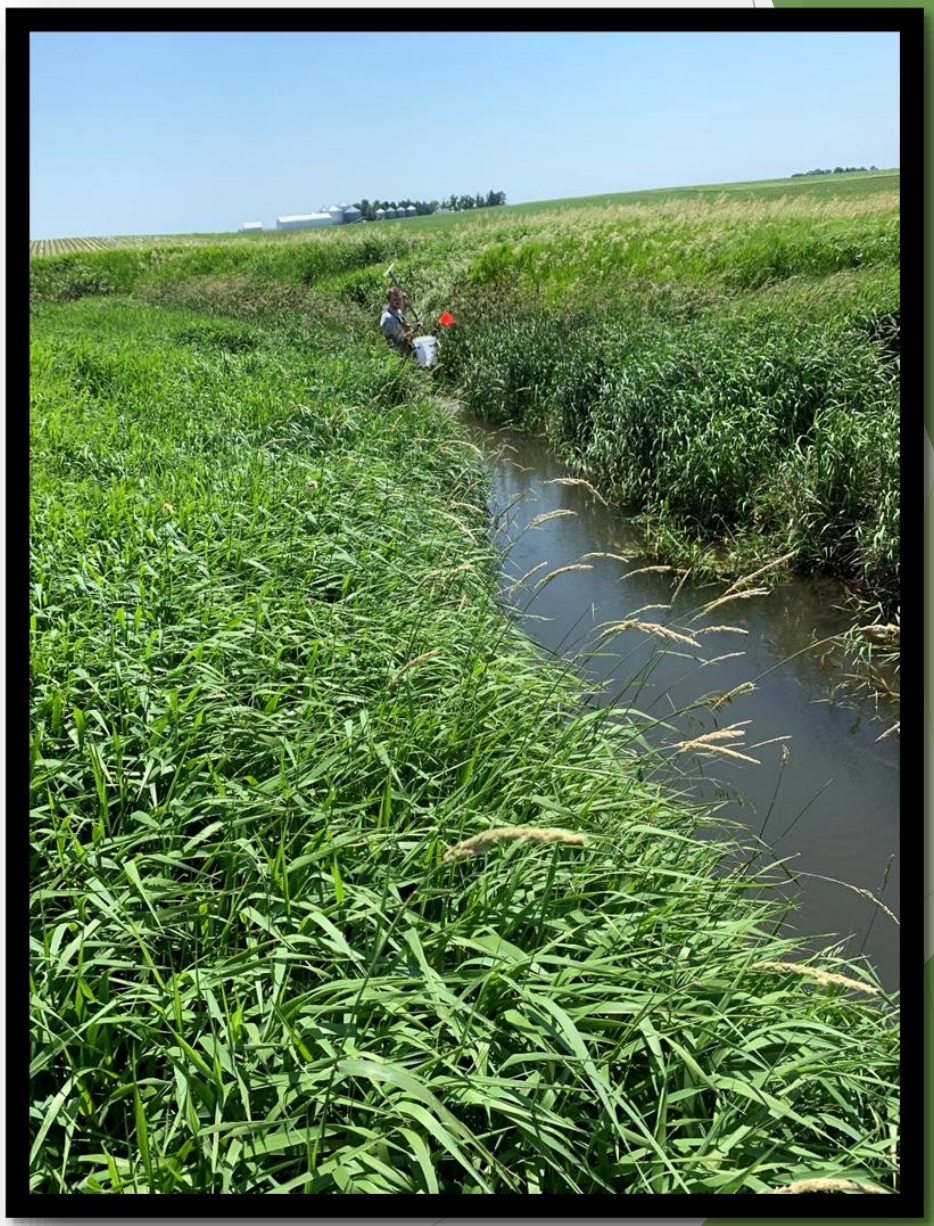






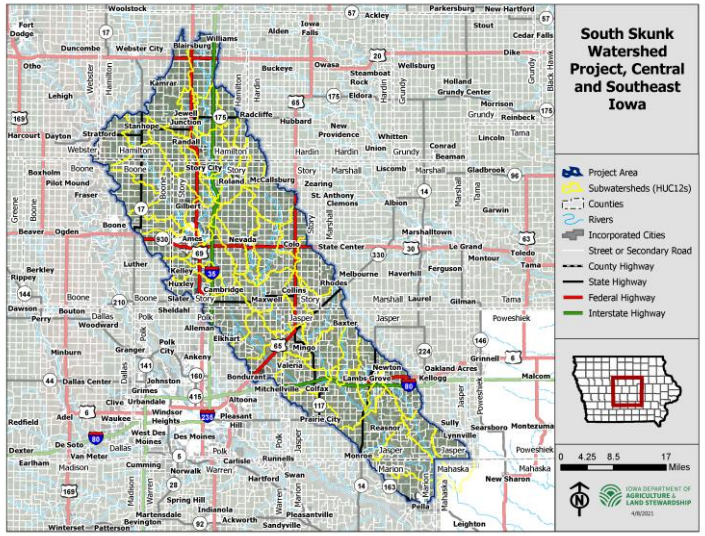
What are the numbers?

- Year 1 Goal – 25 Saturated Buffers
- Year 1 Results
  - 51 Outlets treated (12 landowners)
  - Total Project cost $426,077
  - 10 Bioreactors, 41 Saturated Buffers
- Year 2 Results
  - 48 Outlets treated



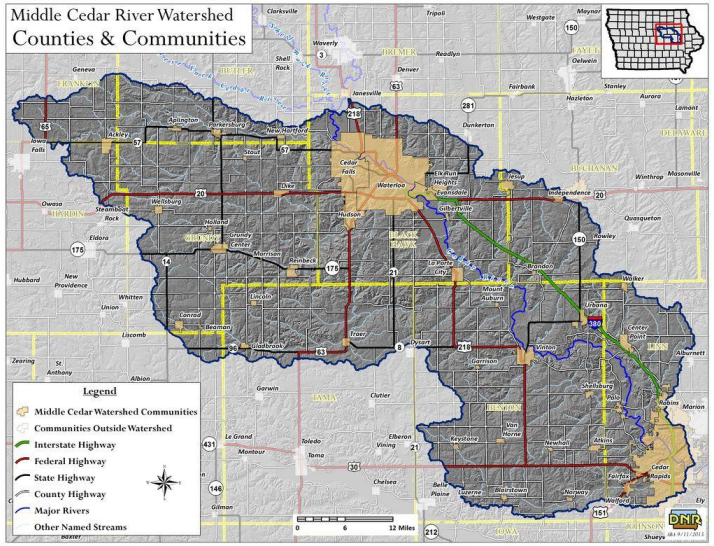
Expanding Batch and Builds

- Story County



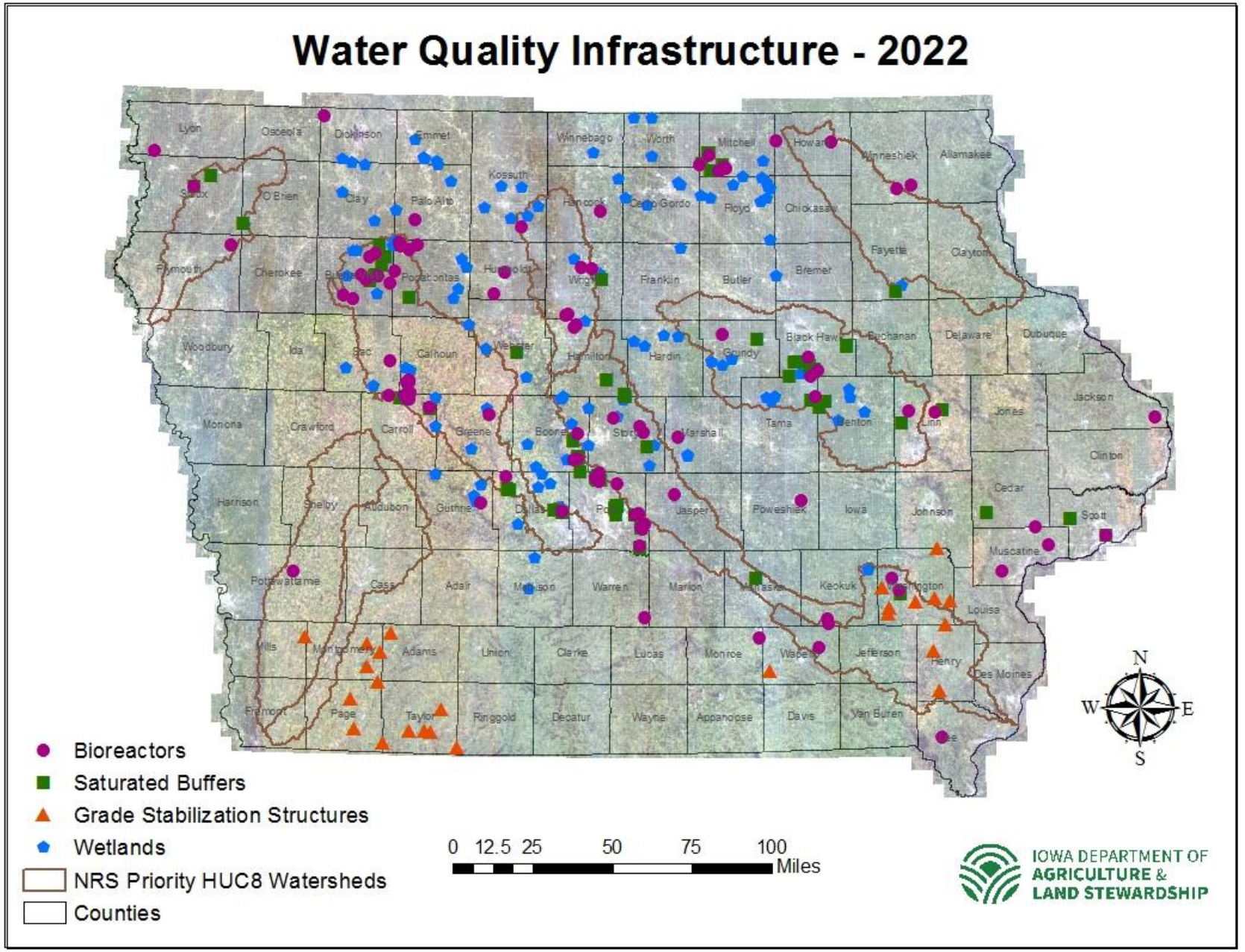
  - 20 outlets treated
  - Working with City of Ames and Story County Conservation
  - Fall 2022 construction

- Middle Cedar



  - 6 counties involved
  - Multiple project coordinators
  - Spring/Summer 2023 construction

Statewide Efforts



Contact for answers!



Matt McDonald
Water Quality Initiative Projects Coordinator
Iowa Department of Agriculture and Land Stewardship

Email: matt.mcdonald@iowaagriculture.gov

Phone: 515-725-1037



Tanner Puls
Statewide Edge of Field Coordinator
Iowa Department of Agriculture and Land Stewardship

Email: tanner.puls@iowaagriculture.gov

Phone: 515-344-9319