Farmers, Cities, Ag Retail and More: Diverse Partnerships Working to Improve Water Quality in Iowa

Jim Jordahl
Wisconsin Chapter – American Water Resources Association Annual Meeting
March 8, 2018
Nitrate Yields

JEQ, David et al. (2010)
Iowa Agriculture Water Alliance

• Mission
  – Increase the pace and scale of farmer-led efforts to improve water quality

• Founding organizations
  – Iowa Corn Growers Association
  – Iowa Pork Producers Association
  – Iowa Soybean Association
IAWA Advisory Council

• Iowa State University
• Univ. of IA / Iowa Flood Center
• Greater Des Moines Partnership
• Iowa League of Cities
• City of Cedar Rapids
• IDNR, IDALS
• USDA-ARS, NRCS
• USGS
• Iowa Finance Authority
• LICA
• ACWA, AAI (ag retail)

• The Nature Conservancy
• Practical Farmers of IA
• Pheasants Forever
• Conservation Districts of IA
• SWCS
• Beef, Dairy, Turkey, Egg
• IA Soybean, IA Corn, IA Pork
• IA Farm Bureau
Outline

• Conservation Infrastructure
• Middle Cedar River Programs
• Sponsored Projects
• One Water
Conservation Infrastructure
PAYING $307,000,000 FOR IOWA DRAINAGE

Private Owners of Farms to Spend All But $60,000,000 of the Sum.

TO RECLAIM SWAMP LANDS

Values Will Be Increased Millions of Dollars, Making the State One of the Richest for Agriculture.

BURLINGTON, Iowa, Sept. 22.—So quietly that the fact has not become known widely, Iowa farmers have been arranging for drainage improvements in their low lands at a cost that will come within $85,000,000 of equaling the expense of building the Panama Canal. The general public has little conception of the extent of the enterprise which will increase the value of Iowa lands by millions of dollars.

The total expenditures now planned in Iowa for these improvements is figured at $307,000,000. This service will result in reclaiming thousands of acres of the most valuable land in the world, and carry out in good measure the policy urged by James J. Hill of making every use possible of the swamp lands of the West. Much of the work has been started already in the various river counties in the State, and some of it has been finished. When completed Iowa will be among the richest agricultural States in the world.

Hand digging tile, Boone Co. IA ca 1914
Source: ‘An Iowa album: a photographic history, 1860-1920’ by M. J. Bennet, University of Iowa Press, Iowa City, Iowa

Excavating a large ditch using steam power, circa 1910.

Note: With inflation, the cost of the investment in drainage just in Iowa would be roughly $7.3B
Need = Opportunity for Economic Growth and Innovation

Cover Crops
- Now: ~700K acres now
- Need: 12-17M acres

Future Opportunities
- 300,000 acres of seed production
- 300 aerial seed applicators
- 1000’s special planters
- 100’s-1000’s seed cleaners
- 17,000 semis to transport seed
- and people...
Need = Opportunity for Economic Growth and Innovation

Bioreactors / Saturated Buffers
- Now: ~85 installed
- Need: 120,000 or more

Future Opportunities
- Engineering design
- Materials
- Construction
- Monitoring
- Maintenance
CI Co-Chairs Vision and Definition of Success

**VISION:** We envision a prosperous, sustainable and resilient Iowa with HEALTHY SOIL AND WATER and ECONOMICALLY VIBRANT COMMUNITIES that is recognized as THE national leader in both agriculture and conservation.

**DEFINITION OF SUCCESS:** Conservation practices are economically compelling and easier for farmers and landowners to implement. Increased investments in conservation practices that lead to healthy soil and improved water quality for the benefits of all Iowans and downstream communities.
### Conservation Infrastructure Co-Chairs
Bill Northey and Ray Gaesser

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Conservation Infrastructure Initiative

- 25 meetings and workshops
- 40 recommendations

Conservation Infrastructure PARTICIPANTS

- Agri Drain Corporation
- Agribusiness Association of Iowa
- USDA Agricultural Research Service
- Agriculture’s Clean Water Alliance
- Agrium
- AgSolver
- Bolton & Menk
- City of Cedar Rapids
- Conservation Districts of Iowa
- Central Valley Ag Co-op
- Iowa Drainage District Association
- DuPont Pioneer
- Eco Engineers
- Ecosystems Services Exchange
- Farm Nutrients
- Farmers
- Hagie Manufacturing
- Heartland Co-op
- Iowa Cattlemen’s Association
- Iowa Corn Growers Association
- Iowa Department of Agriculture and Land Stewardship
- Iowa Department of Natural Resources
- Iowa Economic Development Authority
- Iowa Farm Bureau Federation
- Iowa Finance Authority
- Iowa League of Cities
- Iowa Pork Producers Association
- Iowa Poultry Association and Iowa Egg Council
- Iowa Soybean Association
- Iowa State Dairy Association
- Iowa State University
- Iowa Turkey Federation
- IS Group
- Jacobson-Westergard & Associates
- La Crosse Seed
- Land Improvement Contractors Association
- Mosaic Company
- Natural Resources Conservation Service
- Peoples Company
- Pheasants Forever
- Practical Farmers of Iowa
- Syngenta
- The Fertilizer Institute
- The Nature Conservancy
- U.S. Geological Survey
- United Suppliers
- University of Iowa
- Verdesian Life Sciences
- Vermeer
- WinField

www.iowaagwateralliance.com
Leading recommendations:

- Education and training
- Watershed planning
- Financing mechanisms
- Private sector Technical Assistance
- Restructure cost-share programs

*Weighting scale = average likelihood of success + average size of benefit*

*Short-term (12-24 mo.) 33-37, Intermediate term (18-48 mo.) 38-43, Long-term (36-60 mo.) 44-49*
Leading recommendations:

• Income streams and customers for ag businesses

• Research - intersection of agronomics and economics

• Unified message - agronomics and conservation benefits of cover crops/soil health

• Economic incentives for landowners
Leading recommendations:

- Expand public-private partnerships
- Sustainable funding
- Land management and financial sector outreach
- Conservation planning capacity
  - Financial incentives for private sector conservation planning
Conservation Infrastructure

PATH FORWARD

C.I. Recommendations 11/29
Finalize C.I. Action Plan Q1 2018
Potentially Incorporate into Iowa NRS May 2018

Implement C.I. Recommendations

Track C.I. Implementation

Follow Up C.I. Conference Nov. 2018

Iowa Agriculture Water Alliance

www.iowaagwateralliance.com
Midwest Agriculture Water Quality Partnership RCPP
RCPP Valued Partners

Lead Organizations
- Clean Water Iowa
- IAWA
- DNR

Farmer – Led Organizations
- Iowa Pork Producers Association
- Farmers of Iowa
- Iowa Soybean Association
- Iowa Corn

NGOs
- Conservation Districts of Iowa
- Soil Health Partnership
- Iowa Natural Heritage Foundation
- Pheasants Forever
- Field to Market
- Prairie Rivers

Supporters
- Iowa Cattlemen’s Association
- Iowa Farm Bureau
- Buena Vista Soil and Water Conservation District
- Polk County Soil and Water Conservation District

Public Entities
- U.S. Fish and Wildlife Service
- Walnut Creek Watershed Management Authority
- Des Moines, City of
- Fourmile Creek WMA

Agribusiness
- ACWA
- Agronomic Technology
- Agri
- Heartland Co-op

- Agrium
- Central Valley Ag
- Pioneer

- Growmark
- Houston Engineering Inc.
- Monsanto

- Syngenta

- United Suppliers
- Verdesian
- Farm4Nutrients

Iowa Agriculture Water Alliance

www.iowaagwateralliance.com
Conservation Planning and Technical Assistance

- Private sector contractors
- Funded with RCPP cash match
- Goal - practice implementation
Other Middle Cedar Projects – PTMAp

Prioritize, Target and Measure Application

Agricultural Conservation Planning Framework
Midwest Row Crop Collaborative

Leading companies and conservation groups committed to building a broad partnership in three pilot states: Illinois, Iowa and Nebraska.
Priority Watersheds: Planning and Design Phase

- Getting positioned for implementation

- **Illinois**: Upper Sangamon

- **Iowa**: Middle Cedar

- **Nebraska**: Middle Platte – Buffalo

- Set of players that span the entire supply chain – and further partnerships that enable pressure, leverage and support local projects
Sponsored Projects
Wastewater SRF Loan

- $1,000,000
- $200,000
- $800,000
- $600,000
- $400,000
- $200,000
- $-

Interest
Loan

SRF Loan with Sponsored Project

- $1,000,000
- $1,000,000
- $800,000
- $600,000
- $400,000
- $200,000
- $-

Watershed Project
Interest
Loan
One Water
Challenges – Upstream

- Increased erosion
- Flooding
- Crop damage
- Productivity
- Nutrient loss
- Algae Blooms
Challenges – Downstream

Cedar Rapids June 13, 2008
Groundwater

Wastewater

Rural vs. Urban
One Water Summit

• Connect, inspire, align stakeholders to accelerate the adoption of integrated, equitable and sustainable approaches to water resource management

• 2017 Summit – 650 attendees, 168 cities, 37 states, 26 state delegations
Register Now! OneWaterSummit.Cvent.com

One Water Summit 2018
July 10–12, 2018
Hyatt Regency Minneapolis

Presented by the US Water Alliance
With local host partner the Metropolitan Council
Thank you
INRS Logic Model

Figure 1: The logic model of the Iowa Nutrient Reduction Strategy, guided by measurable indicators of desirable change.
Helmers et al. (2018)
Nutrient Reduction Exchange

Nitrogen reduction
52-104 lbs/yr N

Financial Support

Built a Bioreactor

Landowner

WQ Benefits

City of Des Moines

Iowa Soybean Association
Ag Retail – Pay for Performance Pilot

• Agriculture’s Clean Water Alliance
  – Des Moines and Raccoon River Basins
• Incentives to field staff for new practices (bioreactors, no-till, cover crops, etc.)
• Incentives paid by member ag retailers
Middle Cedar Foresight and Partner Coordination

- Middle Cedar WMA and City of Cedar Rapids
- March 12, Cedar Rapids Water Division
- Facilitated discussion (Future IQ) of goals and capacity needs
Iowa Nutrient Reduction Strategy

- Nitrogen
- Phosphorus

Point | Nonpoint
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0% | 15%
5% | 20%
10% | 25%
15% | 30%
20% | 35%
25% | 40%
30% | 45%
35% | 50%
We’re Better Together
One Water Iowa
Strategic Focus

• Conservation practices that improve water quality
  – Voluntary conservation
  – Leverage private sector resources and partners
  – Harness market-based solutions
Can Iowa achieve collaboration between point and non-point sources to improve water quality?
RCPP Objectives

- Implement practices to improve water quality
- Build capacity to deliver conservation practices through expanded partnerships, especially with the private sector
- Integrate public and private sector planning platforms
Sponsored Projects

![Graph showing loan costs and project principal](image)
Purpose of CI

Recommendations - Provide Conservation Infrastructure Recommendations to IDALS that increase the likelihood of successfully reaching Iowa Nutrient Reduction Strategy Goals

Private Sector – Generate greater public/private engagement and investment to scale up conservation practices

Value - Harness economic drivers and market-based solutions to find more cost-effective ways to improve water quality