

An aerial photograph of a city, likely Des Moines, Iowa, with a large river in the foreground that is significantly flooded. The water is brown and murky, covering large areas of land and surrounding the city. In the background, the city skyline is visible with several tall buildings. The sky is overcast.

# What Stands in the Way of Cleaner Iowa Waters?

Drake University Soil 2019 Presentation

by

John Norwood, Polk County SWCD Commissioner

Elected November 2019

November 4, 2019

(The Views & Opinions Expressed Herein are Solely Mr. Norwood's)

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# Soil and Water Commissioners of Iowa

The 500 soil and water conservation district commissioners, five for every soil and water conservation district in Iowa, make up the Conservation Districts of Iowa's membership. CDI's day-to-day operations are governed by an Executive Board and Regional Directors. The 9 CDI Regional Directors each represent 9-13 counties in one of nine regions. CDI staff includes an Executive Director, Office & Projects Manager, Water Quality Specialist, 4 Private Lands Wildlife Specialists, 4 Private Lands Wetland Easement Team Specialists, and 2 Source Water Community Facilitators.

## CDI Regional Map

[Download Map](#)



“It is hereby declared to be the policy of the legislature to integrate the conservation of soil and water resources into the production of agricultural commodities to insure the long-term protection of the soil and water resources....”

## Chapter 161.A. of the Iowa Code

- Surveys, Investigations, Research
- Demonstration Projects
- Carry out Preventative and Control Measures
- Cooperate with Other Governmental Entities
- Own Land
- Develop Comprehensive Plans



## REVIEW &amp; OUTLOOK

## Trump's Trouble in the Farm Belt

The Trump Administration said Thursday it will give \$16 billion to farmers to offset their lost income due to the trade brawl with China. The subsidies may buy some political time to resume negotiations, but they also underscore the economic harm and political risk of President Trump's trade showdown.

America's heartland is hurting as farm income has fallen due to low commodity prices, bad weather and flooding, and trade disruption, despite a buoyant national economy. The nearby chart shows the trend in agricultural GDP in three key crucial farm states since 2013.

The Bureau of Economic Analysis (BEA) reports that in 2018 Nebraska ranked 49th among the states in personal income growth per capita, Kansas was 46th, Missouri 33rd, and Iowa 25th. The contribution to personal income from agriculture last year was negative in other farm export states like Arizona, New Mexico, Oklahoma, California, Michigan and Illinois, according to the BEA. Wisconsin's personal farm income gain was zero.

This means the trade fight has cost U.S. farmers a bundle when they least can afford it. In 2017 U.S. farmers sent 25%—some \$140 billion—of production abroad. More than 17% went to China.

zilian competitors pay a 3% Chinese tariff while Americans now pay 28%. In 2018 U.S. soybean exports to China fell 75%, and U.S. farmers had to cut prices to unload oversupply in other markets. The total value of soy exports fell \$4.3 billion—a 20% decline.

Or consider pork exports, 40% of which has traditionally gone to Mexico and China. U.S. pork exports by volume to China dropped 58% in September 2018 from a year earlier and 80% since 2016. Mexico's 20% tariff on U.S. pork exports, in retaliation for Mr. Trump's steel tariffs, cost the pork industry an estimated \$1.5 billion in 2018.

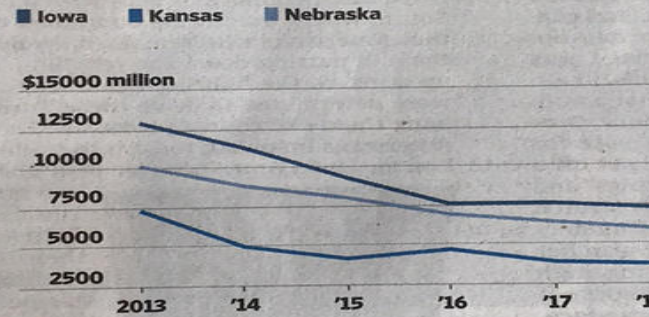
None of this comes as a surprise to Mr. Trump, who has been hearing complaints for months from his Farm Belt supporters. That's why Mr. Trump is responding with the \$16 billion in subsidies, most of which will be direct payments to farmers. These are in addition to the subsidies under traditional U.S. farm programs.

So in order to make up for losses from trade, Mr. Trump is dunning other American taxpayers. But as

Bill Gordon, vice-president of the American Soybean Association, recently told the South China Morning Post, farmers don't want welfare. "Here's a handout to make you happy?"

## Heartland Heartburn

Agriculture GDP in Iowa, Kansas and Nebraska, in millions of dollars, 2013-2018



Source: Bureau of Economic Analysis  
THE WALL STREET JOURNAL.

Trade  
War with  
China  
Did Not  
Start this  
Slide!



- 50% of US 11-year olds have a Smart Phone
- Adoption went from 2%-80% in a Decade
- EVs Far Superior to ICEs
- Today's WSJ Front Page - 2.1 million cars (2018) to 23-43 million (2030)
- Ethanol & Biodiesel will be Legacy Fuels



SCIENCE

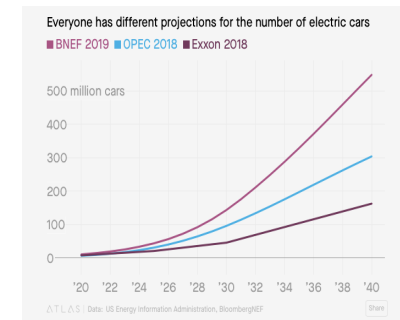
The New York Times

### Lithium-Ion Batteries Work Earns Nobel Prize in Chemistry for 3 Scientists

John B. Goodenough, M. Stanley Whittingham and Akira Yoshino were recognized for research that has "laid the foundation of a wireless, fossil fuel-free society."



The batteries developed through the work of John B. Goodenough, M. Stanley Whittingham and Akira Yoshino are used in "everything from mobile phones to laptops and electric vehicles," the Nobel committee said. Naina Helen Janna/TT News Agency, via Associated Press.



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### THE MORRISON ELECTRIC: IOWA'S FIRST AUTOMOBILE

by KETHE McCLELLAN

Mr. McClellan is currently teaching the Hammond, Indiana Public School System

At times it was so quiet in the laboratory below the Lumbard Jewelry store on the west side of 5th Street between Locust and Grand Avenues in Des Moines, that it was almost eerie. Mr. Morrison liked silence when he thought, and he found ample reason for thinking during those summer months of 1890. Not only was he in the process of building Iowa's first automobile, but he was a long way from his native Scotland and the new world about him was not as tranquil as it could have been.

On June 28, 1890 William Morrison's only child, William Earl, died of what the doctor called "congestion of the brain." The shock must have been great, as the boy was only 15 months old. A modern physician might well have seen a connection between the baby's "congestion of the brain" and its mother's coughing of blood and pronounced loss of weight, but physicians of 1890 knew little about tuberculosis and even less about its proper treatment. Not only was his child gone, but William Morrison was still faced with watching his young wife become bedridden and die before the coming winter was out.



- New 21<sup>st</sup> Century Vision For Iowa Agriculture Will Be Demanded by the Rise of the EV – Question is do we want to be Proactive or Reactive?
- There is a Menu (so called Nutrient Reduction Strategy) For One Crop Input that is Out of Balance (Nitrate) but No Holistic Plan of Action for Iowa Farmers
- Long-Term Funding to Drive Ag Infrastructure & Practice Improvements Plus Portfolio Diversification, 3 Golden Keys to building Sustainable, Resilient Farming Systems, is Missing at the Appropriate Scale & Scope w/method of Delivery
- Much of Our Focus Needs to be Directed at County Level Where the Key Infrastructure Modernization Decisions will be Made & Culturally Where Farm Level Innovation & Improvement Takes Place across our 99 Counties

We Need to Move from:  
Telling the Public We have a Water Quality  
Problem!



By the Way, We have a Soil Health Crisis – part physical, part chemical, part biological – and Fixing it Can help Address Water Quality, Flooding, and Perhaps Even Carbon & Methane Sequestration Needs



To: Here's What we are going to do about it.  
(It requires more than “Happy” Projects. And  
we need a 20-year vs. 300-year frame of action.)



# Three Parts to Our Strategy

## Old Vision:

Grow the Most  
Of a Few Commodity Crops

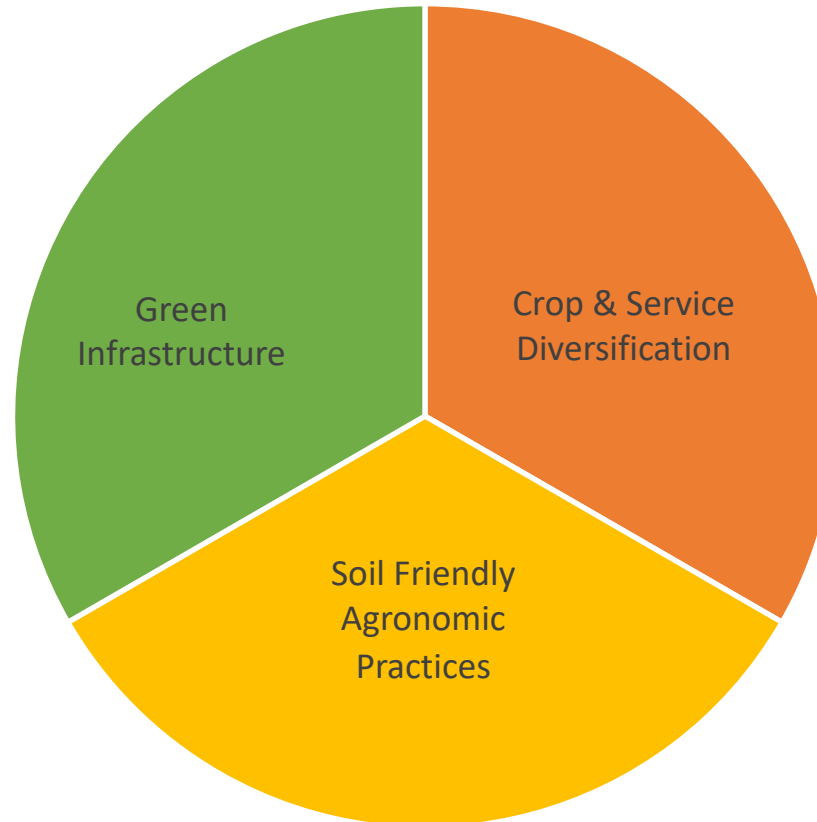
Feed the World

Flood Global Markets  
with Cheap Commodities

Produce Ethanol  
(for legacy ICE)

Cheap Protein for  
Livestock

Ignore or Excuse Externalities



## New Vision:

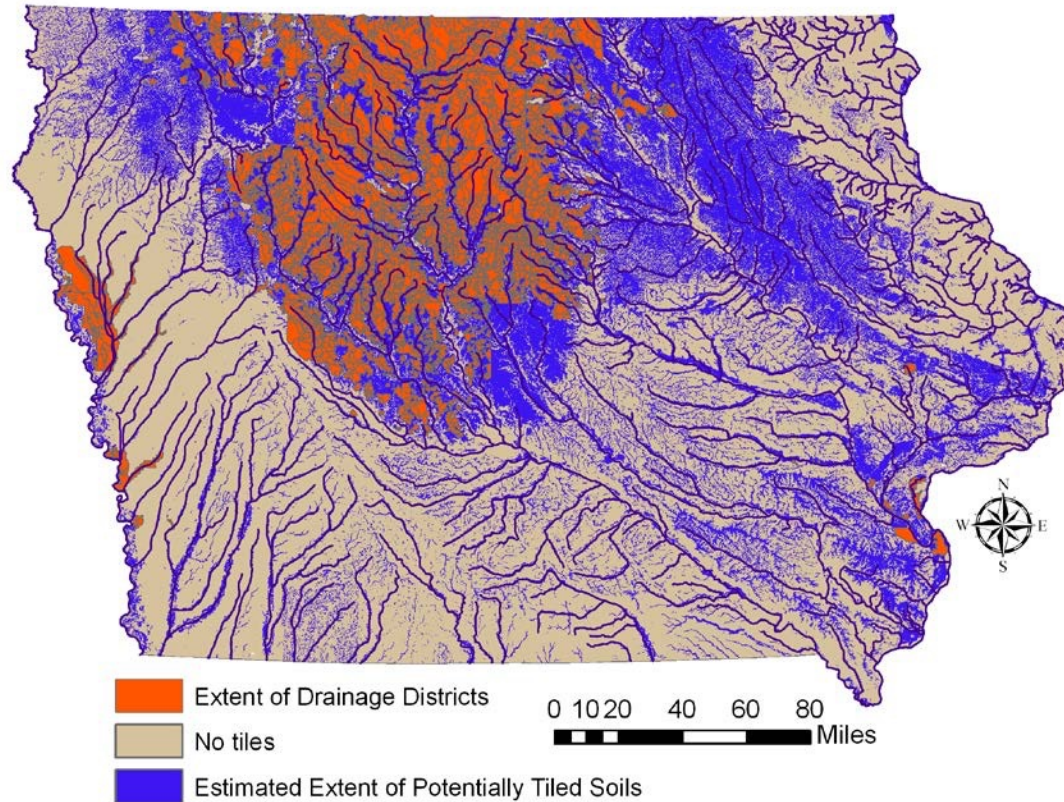
Grow the Best &  
Deliver Ag Services  
Globe Demands

Teach the World to  
Feed Itself

Provide Solutions for  
CO<sub>2</sub> & Methane  
Capture

Add Wind & Solar  
Energy Production

Drive Soil Health,  
Habitat Water Quality  
& Flood Control



Derived from IGS data obtained from <http://www.igsb.uiowa.edu/nrgislibx/gishome.htm>

- We Farm 23 million Acres to Row Crops (Corn & Beans)
  - 12 million Acres are Tiled
- Drainage Districts Control about 6 million Acres
  - Every Year we spend millions improving our Drainage Tiling because it impacts top line production
- We land apply manure from 50 Million Hogs Annually
- What about the Public Health Presumption of our Drainage Infrastructure?





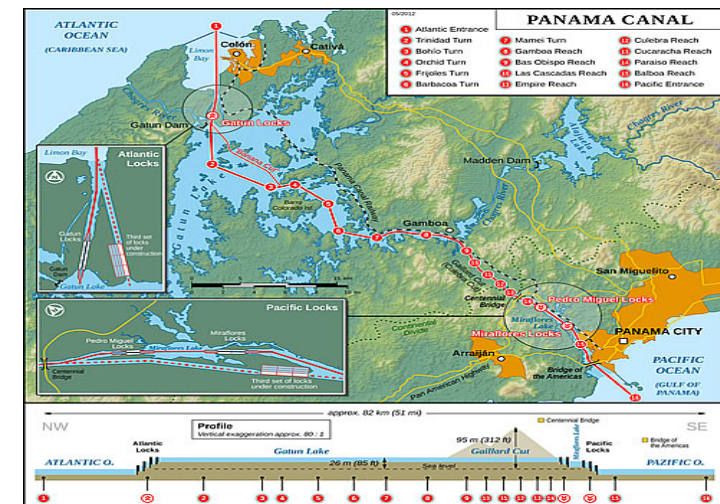
# IOWA DRAINAGE DISTRICT ASSOCIATION

ABOUT MEMBERSHIP BOARD MEETINGS PUBLICATIONS EVENTS LEGISLATIVE LINKS FAQ FACTS CONTACT

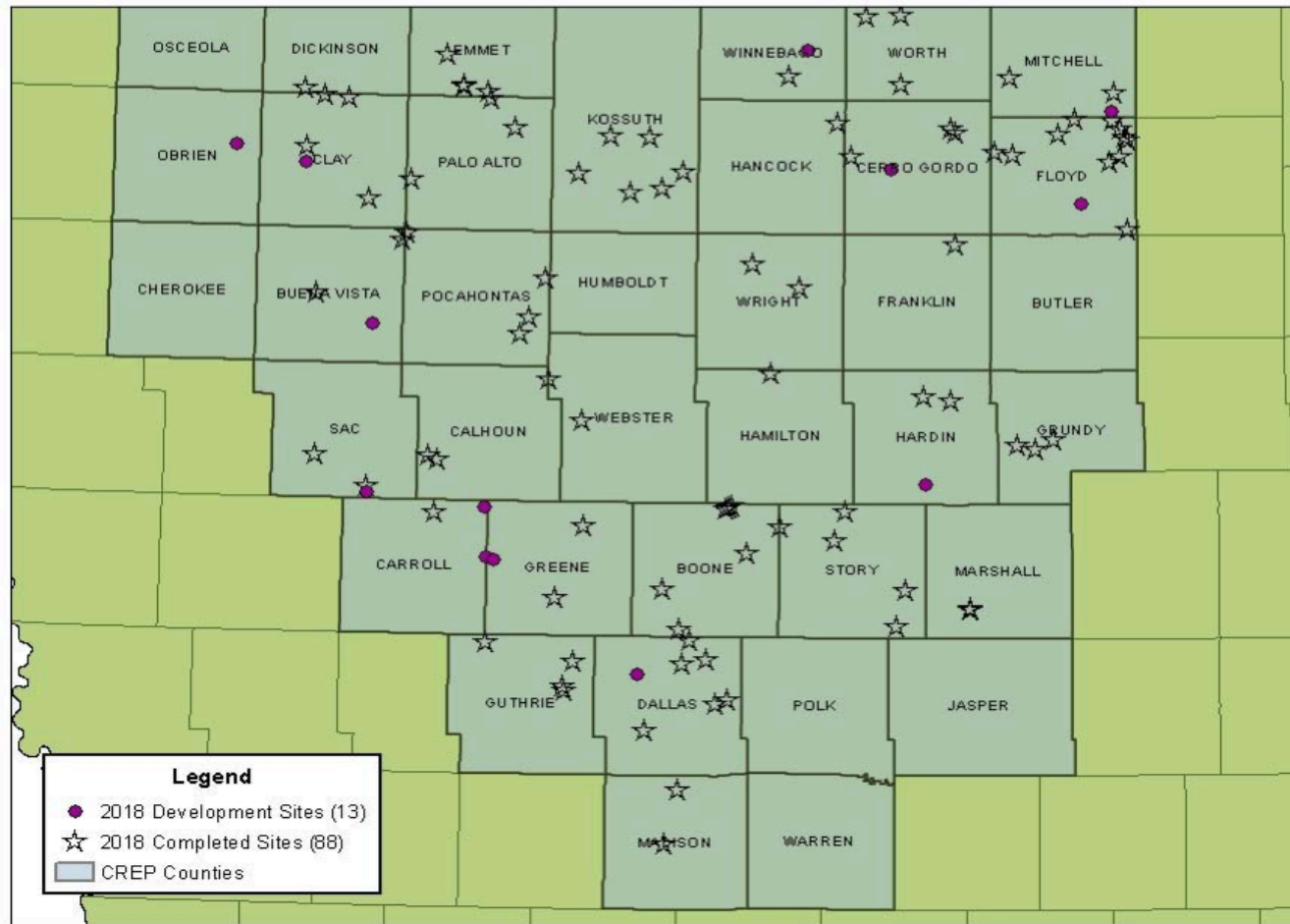


"The drainage of surface waters from agricultural lands and all other lands or the protection of such lands from overflow shall be presumed to be a public benefit and conducive to the public health, convenience and welfare."

- Chapter 468 (statutes written early 1900s) and Article 1, Section 18 of the Iowa Constitution
- Drainage Shall be "Presumed to be a public benefit and conducive to the public health, convenience and Welfare!"
- Most Drainage Districts are Managed by Boards of Supervisors
- Lands within the Confines are Assessed for Construction, Maintenance & Repair
- We've Spent as Much Money Building Drainage Districts as The Panama Canal
- More than 3,700 districts in IA



## Iowa CREP Status December 2018



+/- 1,400 Eligible CREP Wetland Sites Statewide

We are Completing 6-8 per year, we should be doing 100 per year

Constructed Wetlands Are Long-Term (100+ yr) Quasi-Public Investment Infrastructure (similar importance as roads)

Portfolio Diversification for Farm Income



# Drainage Districts => Water Management Districts

## Old Vision – Single Function

- Drainage to Improve Yield



Photo Credit: Lynn Betts

## New Vision – Multiple Functions

- Drainage
- Filtration
- Flood Storage
- Irrigation
- Aquifer Recharge
- Pollinator & Wildlife Habitat

Landowners Working Collectively  
to Address Water, Soil, Markets

# Polk County Drainage Districts



- Drainage
- Filtration
- Flood Storage
- Irrigation
- Aquifer Recharge
- Pollinator & Wildlife Habitat



## Green Infrastructure Fund Proposal (Part of IWILL?)

- Dedicated Infrastructure Fund to Help Drainage Districts Modernize
- Alt. Funding Model Similar to Road User Tax – Users, Contributors of Nitrogen Fertilizer and/or Manure Get to Help Pay, Urban and Rural Users
- Funding of \$60-\$100 million Annually Statewide vs. \$1.5 billion for Roads alone in the Metro the Next 5-10 Years
- Create Investment, Jobs, Economic Activity, New Income Streams in Rural Iowa

# Thank You

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- Linked-In (<https://www.linkedin.com/in/johnmnorwood>)