

Water Resources Coordinating Council

Thursday March 20th, 2014

9:00-11:00 AM

Des Moines Water Works - Board Room

2201 George Flagg Pkwy - Des Moines, IA

WRCC Website: <http://www.agriculture.state.ia.us/WRCC.asp>

AGENDA

Welcome & Introductions

Iowa Nutrient Reduction Strategy Update (IDALS/ISU/DNR)

Measures Sub-Committee Update (ISU - John Lawrence)

Flood Mitigation Board Update (IHSEMD - John Benson)

WPAC Update

Other Topics

- RCPP - NRCS
- RP33 - Corps/NRCS

Future Meeting Dates/Locations

- May 23, 2014 – Location TBD
- July 17, 2014 – Location TBD
- September – Date & Location TBD
- November 14, 2014 – Location TBD

Public Comments (Please contain comment length to 3 minutes per person)

Adjourn

3-20-14

Water Resources Coordinating Council Attendance

WRCC Representative	Position	Organization
<input checked="" type="checkbox"/> 1 Bill Northey	Secretary (WRCC Chair)	Iowa Department of Agriculture & Land Stewardship
<input type="checkbox"/> 2 Terry Branstad <i>Julie Vande Hoef</i>	Governor <i>Designee</i>	Governor's Office Governor's Office
<input type="checkbox"/> 3 Chuck Gipp <i>Bruce Trautman</i> <input checked="" type="checkbox"/> <i>Bill Ehm</i>	Director <i>Designee</i> <i>Designee</i>	Iowa Department of Natural Resources Iowa Department of Natural Resources Iowa Department of Natural Resources
<input checked="" type="checkbox"/> 4 Jim Gillespie <input checked="" type="checkbox"/> <i>Jake Hansen</i>	Director <i>Designee</i>	IDALS - Division of Soil Conservation IDALS - Division of Soil Conservation
<input type="checkbox"/> 5 Mariannette Miller-Meeks <input type="checkbox"/> <i>Kenneth Sharp</i> <input type="checkbox"/> <i>Stu Schmitz</i>	Director <i>Designee</i> <i>Designee</i>	IA Department of Public Health IA Department of Public Health IA Department of Public Health
<input type="checkbox"/> 6 Mark Schouten <input checked="" type="checkbox"/> <i>John Benson</i>	Administrator <i>Designee</i>	Iowa Homeland Security & Emergency Management Iowa Homeland Security & Emergency Management
<input type="checkbox"/> 7 Wendy Wintersteen <input checked="" type="checkbox"/> <i>John Lawrence</i>	Dean <i>Designee</i>	College of Agriculture and Life Sciences, ISU College of Agriculture and Life Sciences, ISU
<input type="checkbox"/> 8 Susan Curry <input checked="" type="checkbox"/> <i>David Osterberg</i>	Dean <i>Designee</i>	College of Public Health, University of Iowa College of Public Health, University of Iowa
<input type="checkbox"/> 9 Joel Haack <input checked="" type="checkbox"/> <i>Maureen Clayton</i>	Dean <i>Designee</i>	College of Humanities, Arts and Sciences, UNI College of Humanities, Arts and Sciences, UNI
<input checked="" type="checkbox"/> 10 Paul Trombino III <i>Scott Marler</i>	Director <i>Designee</i>	Iowa Department of Transportation Iowa Department of Transportation
<input type="checkbox"/> 11 Debi Durham <input type="checkbox"/> <i>Tim Whipple</i>	Director <i>Designee</i>	Iowa Economic Development Authority Iowa Economic Development Authority
<input checked="" type="checkbox"/> 12 Dave Jamison <i>Lori Beary</i>	Executive Director <i>Designee</i>	Iowa Finance Authority Iowa Finance Authority
<input checked="" type="checkbox"/> 13 Alec Scranton <input checked="" type="checkbox"/> <i>Larry Weber</i>	Dean <i>Designee</i>	College of Engineering, University of Iowa College of Engineering, University of Iowa
<input checked="" type="checkbox"/> 14 Kevin Richards	Director	USGS, Iowa Water Science Center
<input checked="" type="checkbox"/> 15 Jay Mar <input checked="" type="checkbox"/> <i>Marty Adkins</i>	State Conservationist <i>Designee</i>	USDA, Natural Resources Conservation Service USDA, Natural Resources Conservation Service
<input checked="" type="checkbox"/> 16 John Whitaker	State Executive Director	USDA, Farm Services Agency
<input type="checkbox"/> 17 Bill Menner <input type="checkbox"/> <i>Karla Peiffer</i>	State Director <i>Designee</i>	USDA, Rural Development USDA, Rural Development
<input type="checkbox"/> 18 Karl Brooks <input type="checkbox"/> <i>Karen Flournoy</i> <input type="checkbox"/> <i>Damon Frizzell</i>	Regional Administrator <i>Designee</i> <i>Designee</i>	EPA-Region 7 EPA-Region 7 EPA-Region 7
<input checked="" type="checkbox"/> 19 Colonel Mark Deschenes <i>Diane Karnish</i>	Rock Island District Commander <i>Designee</i>	US Army Corps of Engineers Rock Island District US Army Corps of Engineers Rock Island District

Dan Hayes

3-20-14

WRCC Public Attendance Sign-In Sheet

(Public comments will be accepted at specified time on agenda)

	Name	Affiliation	Have Comments (Y/N)
1	STEVE WILLIAMS	IDNR	N
2	Larry Weber	LIHR	N
3	JOHN TORBERT	IOOA	N
4	William Underwood	ISU LALS	N
5	John Lawrence	ISU	N
6	Ben Colgan	ICGA	N
7	Way Edward	ICGA	N
8	Dan Hayes	USACE Rock Island	N
9	Jim Gillespie	IDHLS	
10	Tyler Better	IPPA	N
11	Kevin Richards	USGS	N
12	Wendy Hieb	IDNR	N
13	Jan Benson	HSEMO	N
14	Steen Richmond	IPALS	N
15	Bill Ethel	DNR	
16	Virginia Soelberg	Sierra Club	N
17	Jeff Bercko	DNR	N
18	John Hittaly	USDA/FSA	
19	Maureen Clayton	UNI	
20	Jen Terry	IEC	?
21	Marty Adkins	NRCS	N
22	Jake Hanson	IPALS-OSC	N
23			
24			
25			
26			
27			
28			
29			
30			
31			
32			
33			
34			
35			

Water Resources Coordinating Council
Thursday March 20, 2014 @ Des Moines Water Works
Meeting Minutes

WRCC Members/Designees Present:

Bill Northey, Bill Ehm, Jim Gillespie, Jake Hansen, John Benson, John Lawrence, David Osterberg, Maureen Clayton, Scott Marler, Lori Beary, Larry Weber, Kevin Richards, Jay Mar, Marty Adkins, John Whitaker, Diane Karnish, Dan Hayes

Public Attendance:

Steve Williams, John Torbert, William Underwood, Ben Gleason, Gary Edwards, Tyler Bettin, Wendy Hieb, Shawn Richmond, Virginia Soelberg, Jeff Berckes, Jen Terry. Several other people were in attendance but did not sign in.

Welcome & Introductions: Welcome and introductions made. Meeting convened at 9:05 AM.

Nutrient Reduction Strategy Updates:

Nonpoint Source Update (Jim Gillespie)

- Status update of IDALS Water Quality Initiative provided
- 8 current demo projects, likely RFP for additional project in near future

Science Update (John Lawrence)

- Iowa Nutrient Research Center progress report provided
- An estimated 9000 presentations across all of Agricultural and Natural resources disciplines have been made related to the Strategy, reaching over 150,000 contacts
- Work is underway on a display for the Farm Progress Show
- Ongoing work with nitrate soil sensors is occurring
- Q – Is social science being included in efforts?
- A – One of the funded projects from center includes social science elements

Point Source Update (Adam Schnieders)

- Point source report presented and distributed

Measures Sub-Committee Update (John Lawrence)

- PowerPoint presentation made on status of subcommittee work
- Many measures have been proposed, but specifics have yet to be determined. Many of the measures will rely upon having available resources and staff to compile them.
- John Tindall is working on economics of BMPs included in science assessment.
- Q – Will raw data be included, or just final reports?
- A – Measures will be reported in aggregate at appropriate scales such as watershed, county, and state. Individual producer information will not be disclosed, which is consistent with privacy laws that forbid inclusion of any personally identifiable information being disclosed without producer consent.
- Discussion
 - NRCS is committed to assisting these efforts

- Need to match up estimates with monitoring where possible to better refine and validate estimates
- Having a centralized database would help. Information is available across several sources, but is not in a common format. Would be a large effort to centralize.
- Desire to measure items that will provide clearest picture of how nutrient strategy is working.
- Osterberg commented that a timeline should be established for achieving the 45% N and P load reduction goals, and suggested a 10-year timeline.
- Q – Does WRCC vote on timeline?
- A – WRCC is not a policy making body, it is a coordinating council and does not vote on policy recommendations.
- Suggestion was made that more updates on water monitoring efforts by agencies be presented at future WRCC meetings.
- Q – Are sufficient resources available for the tasks assigned to the WRCC?
- A – A gap analysis would be helpful to assess this and make it clear to legislature what resource need there is

Flood Mitigation Board Update (John Benson)

- 2 handouts provided
- Board consists of 5 state and 4 public members appointed by Governor
- 7 projects underway so far
- \$400M available over 20 years, \$30M annual cap, \$15M entity cap
- Grant fund available for smaller cities without positive tax growth
- Locally derived increments within legal jurisdiction

Other Topics

- Regional Conservation Partnership Program (RCPP)
 - PowerPoint presented on program by Marty Adkins
 - More information forthcoming soon from NRCS
- Regional Permit 33 (Dan Hayes – Corps)
 - 7 years ago Corps and NRCS staff reviewed drainage areas across state to estimate Corps jurisdiction under Clean Water Act. Relied on spatial relationships.
 - Supreme Court Rapanos decision made this method invalid
 - EPA guidance issued in 2008
 - Going back to informal agreement between Corps and NRCS is not plausible
 - RP33 is now requiring more review, while at same time Corps has seen a large turnover of experienced staff and does not have capacity and experience at current time
 - Desire to issue a new general permit for specific practices in order to streamline permitting process
 - Some spring projects may not have been built due to permitting delays, other states have ceased practices altogether
 - Programmatic approaches may be a possibility. Need to move to more of an electronic process with more pre-planning.

WPAC Update (Gary Edwards)

- WPAC annual report has been delivered to legislature

- Concerned over comments about desire for field level/specific producer information as part of measures tracking
- National Corn Growers is opposed to any such effort to obtain producer specific information
- Information can stay anonymous while still informing us about progress

The meeting was adjourned at 12:02 PM.

Point Source Nutrient Reduction Strategy Report

WRCC – March 2014

6. Accountability and Verification Measures

The IDNR will convene a technical work group beginning in 2013 to define the process for providing a regular nutrient load estimate (i.e., nutrient budget) based on the ambient water quality data network. This will include specifying the most appropriate mathematical model, the acceptability of the data, and a process for making future adjustments based on the latest information and advancements in science and technology.

Status: The technical work group met December 3, 2013. At the meeting the “charge” from the Nutrient Strategy was described and discussed with potential solutions (different load calculation techniques) offered and discussed. A method to compare the various solutions was discussed and established. At the end of the meeting, subtasks were developed, including development of a standardized data set based on the work completed for the Nutrient Reduction Strategy development, assigning workgroup members with specific load calculation techniques to apply to the standard data set, and a general timeline agreed to by the workgroup. **The next meeting is scheduled for March 27, 2014 at 10:00 AM at the Wallace Building.** Outcomes from the different load calculation techniques that were tested will be evaluated.

The IDNR will track progress for implementing the point source nutrient reduction strategy using several measures:

- 1) Number of permits issued that require nutrient reduction feasibility studies

Status: The following 13 permits have been issued:

Rembrandt Enterprises – Thompson, IA
City of Grinnell
City of West Liberty
Dairiconcepts, L.P. – Allerton, IA
City of Dubuque
City of Harlan
City of Mt. Pleasant

Tyson Foods – Perry, IA
City of Eldridge
City of Atlantic
Oakland Foods LLC – Oakland, IA
Manildra Milling Corporation – Hamburg, IA
City of Grundy Center

The following permits are on public notice with the nutrient strategies provisions:

City of Boone
City of West Burlington
City of Cedar Falls
City of New Hampton
City of Winterset
Walter Scott, Jr. Energy Center

City of Iowa City
City of Fort Dodge
City of Red Oak
John Deere Dubuque Works
Swiss Valley Farms – Luana, IA

Progress Report – Projects Funded for 2013-2014

Highlights from first quarter progress reports:

- Cover crop management techniques are the focus of one project. Fifty-four field plots were established in October and a rye cover planted for experiments and measurements that will take place this spring. In addition, two experiments in controlled environment chambers are underway, and simulate the field experiments.
- One project involves extensive fieldwork in the Cedar River watershed. Fourteen monitoring sites were selected last fall, with stream water collected from each site once every two weeks from mid-October until early December. Water sampling will resume in the spring, plus soil samples will be collected. The research will help identify actual nutrient losses in relation to land use practices.
- Farmers need solid financial information and user-friendly tools to help them make decisions about adopting effective non-point source Best Management Practices (BMP). This project began with development of preliminary BMP budgets for the majority of the nitrogen and phosphorus practices described in the Iowa Nutrient Reduction Strategy. Design work is underway on spreadsheets that could be used by producers as they analyze BMP options on their farms.
- Another project focuses on measuring nitrogen and phosphorus loads on a scale from a few hundred acres to a few thousand acres. Eighteen monitoring sites have been established in several central Iowa watersheds, where water quality monitoring will begin this spring. Nutrient concentrations and flow data will be used to calculate mass nutrient load from the watersheds for evaluation against land use and management information.
- Two potential sites for a second project on cover crops were visited last October. Since then, the landscape, slopes and other available GIS-based information have been studied to determine the best site for this study. Tillage and crop rotation treatments for the systems to be evaluated will be established this spring, plus runoff-monitoring systems installed. This project is designed to determine the impact of a rye annual cover crop on sediment, phosphorus and nitrogen loss.
- Site preparation is set to begin this spring as soon as weather permits for six pilot-scale bioreactors. Bioreactors are excavated pits filled with woodchips. Tile drainage water flowing through the woodchips converts nitrate into a harmless gas. The pilot-scale bioreactors will intersect an existing tile line and redistribute flow to the experimental reactors. Once construction is complete, water quality and bioreactor material analysis will be ongoing.
- In October, erosion pins previously installed in 27 locations within the Onion Creek Watershed were measured to determine stream bank recession rates. Analysis of soil samples for soil texture and total phosphorus content is ongoing. A permanent water-quality sampling site is in place. When spring flows begin, water testing will be used to help better understand how much of the sediment

and P delivered to surface waters originates from stream bed and bank erosion.

- A project to establish saturated buffers within a subset of the high-priority HUC-12 watersheds is in the beginning stages. Eight demonstration watersheds were announced December 8, 2013. Project partners met with IDALS representatives in early January to discuss the land use/terrain databases and conservation-planning tool that will be used in this project. Meetings with coordinators whose projects would contain artificial subsurface drainage are underway.
- Three new models are in development to quantify nitrogen removal benefits over a range of precipitation and stream flow. Real-time nitrate sensors were deployed in 2013 at 26 sites. In 2014, another three or four sensors will be installed. As the new models are developed, the real-time N data will be more useful than monthly grab-samples.
- Existing data from three sources was used to develop a more complete understanding of Iowa farmers' current management strategies and attitudes toward innovative approaches to managing nutrients and soil health. Initial results were presented November 20, 2013, to the Iowa Water Resources Coordinating Council. A complete report will be released this spring.

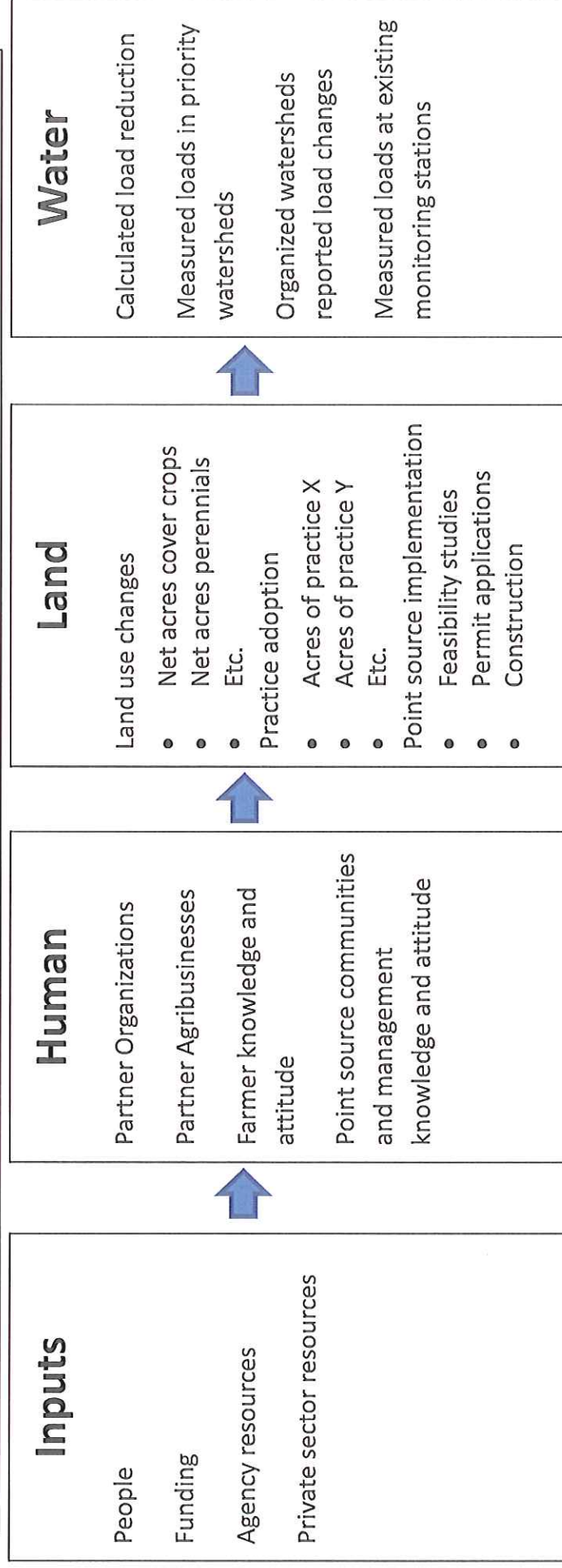
Measures of Success Progress report 3/20/14

Update from Lawrence,
not the full committee

Measures of success committee

Measurable indicators of desirable change

Specific indicators in attached text



Resources for Water Quality

Drops in the Bucket:

The Erosion of Iowa Water Quality Funding

- Will Hoyer, Brian McDonough, David Osterberg
- March, 2012. The Iowa Policy Project

Report tracks funding for 10 distinct funding lines directed to water quality for the FY 2002-2012 period.

Resources for Water Quality

IDALS

- Conservation Reserve Enhancement Program (CREP)
- Conservation Reserve Program (CRP)
- Watershed Protection Fund
- Soil Conservation Cost Share
- Agricultural Drainage Well Closure
- Water Protection Loan Program

DNR and IDALS

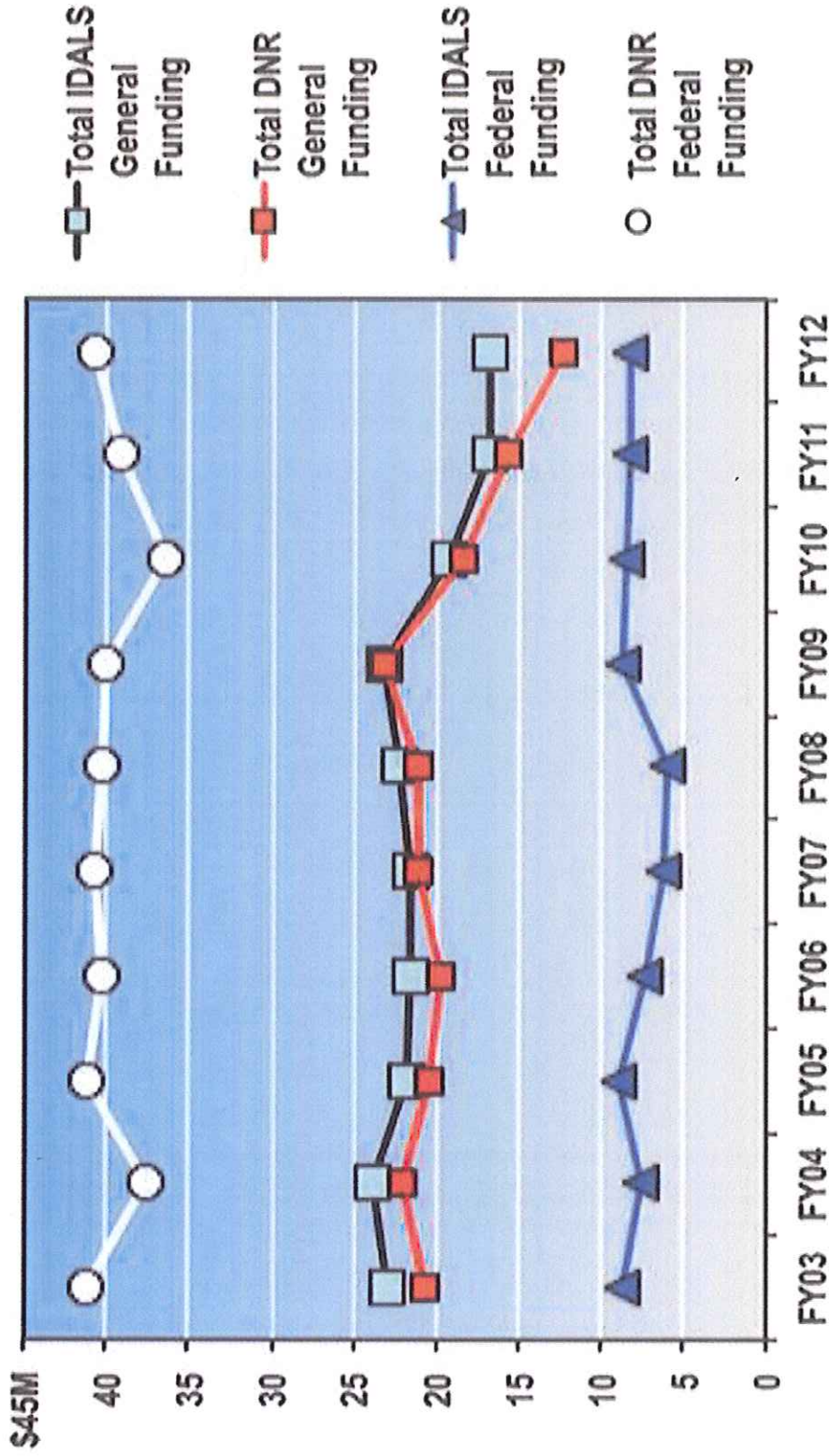
- Resource Enhancement and Protection

DNR

- Geographic Information Systems (GIS) for Watersheds
- Water quality monitoring
- Water Quality Protection Fund

Resources for Water Quality

Figure 2. Adjusted for Inflation, General Funding Flat or Down from Iowa, U.S.
 Values in Millions — 2011 Dollars



Farm and Rural Life Poll

- Iowa State University
- Established in 1982
- Approximately 2,000 Iowa farm operators participate annually
- Reoccurring questions that include conservation attitude and action

Farm and Rural Life Poll 2010

	<u>Strongly Disagree</u>	<u>Disagree</u>	<u>Uncertain</u>	<u>Agree</u>	<u>Strongly Agree</u>
	—Percentage—				
a. Cover crops can reduce soil erosion significantly (n=1,275)	0.9	2.6	14.1	67.6	14.7
b. Cover crops reduce N and P losses (n=1,271)	0.6	5.7	35.4	49.3	9.0
c. If 50 percent cost-share were available for cover crop establishment, I would plant them (n=1,263)	3.3	15.3	53.6	22.2	5.5
d. I don't know enough about cover crops to use them (n=1,264)	5.0	27.1	32.9	32.7	2.3
e. Cover crops can improve soil productivity (n=1,263)	0.6	3.2	33.1	54.9	8.2
f. I don't have the necessary equipment for cover crops (n=1,257)	4.0	24.7	31.1	36.2	4.1
g. Cover crops can delay spring planting (n=1,260)	1.5	15.2	45.6	33.7	4.0
h. If shorter-season crop varieties yielded the same as longer-season, I would be more likely to plant cover crops (n=1,258)	1.4	12.4	54.6	29.3	2.3
i. There is rarely enough time between harvest and winter to justify the use of cover crops (n=1,269)	1.1	7.4	30.6	47.8	13.1
j. I would like to learn more about using cover crops (n=1,249)	2.9	13.1	43.6	36.0	4.5

Farm and Rural Life Poll 2010

A good farmer is one who...

	Not Important at All	Not Really Important		Somewhat Important		Very Important
		Important	Important	Important	Important	
	—Percentage—					
d. considers the health of streams that run through or along their land to be their responsibility (n=1,323)	0.5	1.4	16.7	54.0	27.5	
e. minimizes soil erosion (n=1,323)	0.1	0.3	7.3	50.0	42.3	
f. minimizes nutrient runoff into waterways (n=1,321)	0.1	0.4	8.1	49.1	42.3	
k. uses cover crops between harvest and planting (n=1,313)	5.5	38.3	39.5	13.0	3.7	
u. avoids fall tillage (n=1,308)	3.9	22.9	33.1	29.2	10.9	
y. minimizes tillage (n=1,317)	1.7	11.2	34.7	38.4	14.0	
aa. puts long-term conservation of farm resources before short-term profits (n=1,314)	0.8	3.3	28.0	47.6	20.3	
ad. thinks beyond their own farm to the social and ecological health of their watershed (n=1,320)	0.7	3.5	32.5	47.8	15.5	

Farm and Rural Life Poll 2010

Conservation practices

	Have established practice to <u>adequate extent</u>	Should establish practice or improve	Practice not needed or not <u>applicable</u>	Don't <u>know</u>
a. Terraces (n=1,283)	36.2	12.0	46.9	4.9
b. Grassed waterways (n=1,296)	66.0	18.1	14.4	1.5
c. Conservation tillage (no-till, reduced tillage, strip tillage, etc.) (n=1,292)	66.5	11.6	18.0	3.9
d. Buffer strips of grass and/or trees along ditches, streams, and other waterways (n=1,291)	53.3	13.3	29.7	3.7
e. Contour buffer strips of grass or other perennial vegetation (n=1,287)	28.4	11.7	53.8	6.1
f. Manure management plan (n=1,282)	24.6	6.8	64.0	4.6
g. Nutrient management plan (n=1,274)	41.6	18.1	31.6	8.7
h. Cover crops (n=1,275)	11.5	18.2	57.5	12.9
i. Integration of small grain or forage crops into your crop rotation (n=1,255)	25.7	11.0	53.1	10.1

Farm and Rural Life Poll

- Examples of other topics
 - Nutrient removal wetlands
 - Perennials, CRP and biomass
 - Land owner attitudes
 - Water quality attitude

Public Cost Share Practices Annual Survey of Partners

Agency	Contract/Easement Length
Program	State/County/Watershed Level Tracking Potential
Practice Type/Code	Annual N Load Reduction (lbs)
Number of Practices	Annual P Load Reduction (lbs)
Practice Units (acres, feet, etc.)	Annual Sediment Load Reduction (lbs)
Area Served (ac)	Lifetime N Load Reduction (lbs)
Total C/S	Lifetime P Load Reduction (lbs)
Total Private Match	Lifetime Sediment Load Reduction (lbs)
Year Implemented	Reduction Calculation Method
Lifetime Expectancy (years)	

Farm Service Administration Annual County Level Data Example of crops and use

Crop Code	Crop	Intended Use	Planted Acres
0011	Wheat	Forage	
0016	Oats	Grain	
0094	Rye	Left Standing	
0129	Rapeseed	Forage	
0265	Clover	Grazing	
0296	Mixed forages	Cover Only	
0099	CRP by type		
0158	TRITICALE		

Farm Service Administration

CRP in Adair County

CP1 EST PERM INTRO GRASS AND LEGUME	CP21 FILTER STRIPS	CP3A HARDWOOD TREE PLANTING
CP2 EST PERM NATIVE GRASSES	CP22 RIPARIAN BUFFER	CP42 POLLINATOR HABITAT
CP3 TREE PLANTING	CP23 WETLAND RESTORATION	CP4D PERM WL HABITAT NONEASE
CP4 PERMANENT WL HABITAT	CP25 RARE AND DECLINING HABITAT	CP5A FIELD WINDBREAK NONEASE
CP8 GRASS WATERWAYS	CP28 FWP BUFFER	CP8A GRASS WATERWAY NONEASE
CP9 SHALLOW WATER AREAS FOR WL	CP29 MPL WL HABITAT BUFFER	CP15A EST CONTR GRASS STRPS NONEASE
CP10 VEG COVER, GRASS ALREADY EST	CP30 MPL WETLAND BUFFER	CP15B EST CONTR GRAS STRP ON TERRAC
CP12 WILDLIFE(WL) FOOD PLOT	CP32 EXPIRED HARDWOOD TREES	CP23A WETLAND RESTOR NONFLOODPL
CP15 EST PERM VEG CVR CONTOUR STRPS	CP33 HABITAT BUFERS UPLAND BIRDS	CP38B SAFE WETLANDS
		CP38E SAFE GRASS

N and P Load Measurement in Iowa's Water

- **Iowa DNR: Iowa's Ambient Watershed Monitoring and Assessment Program**
 - 98 Sites throughout State
 - Includes Sites Upstream and Downstream of Urban Centers
 - Monitored monthly
 - Mostly paired with USGS Gage locations
 - Data from 2000-2010

N and P Load Measurement in Iowa's Water

- **ISU, U of Iowa and UNI have monitoring**
- **Watershed scale monitoring**
- **Demonstration site monitoring**
- **Research scale monitoring**

Other ongoing activities

- AAI technical committee on utilizing CCAs and agronomic databases to document acres
- WQI Communications Committee suggesting elements of “Partner Organizations”
- WPAC asked to suggest elements of “Partner Agribusinesses”
- DNR Nutrient Balance Committee discussing load measurements.

DNR 2012 Nonpoint Source Management Plan

Goals

- 1. Build Partnerships to Enhance a Collaborative Watershed Approach to Nonpoint Source Water Pollution**
- 2. Improve Technical Assistance, Outreach and Education to Facilitate NPS Assessment, Planning and Implementation**
- 3. Science-Based Performance Measures**
- 4. Funding**

DNR 2012 Nonpoint Source Management Plan

Objective 3: SCIENCE-BASED PERFORMANCE MEASURES

1. Encourage greater public participation in the monitoring and evaluation of water quality best management practices.
2. Develop local natural resource goals with targeted solutions to meet watershed needs.
3. Utilize long-term research projects, including monitoring, funding, and alternative management practices to confirm post-project results of demonstration projects.
4. Place greater focus on up-scaling small-plot research to watershed scale.
5. Establish uniform practices and protocols for monitoring that can be applied to watershed needs.
6. Adopt system-based implementation and monitoring strategies versus practice-based approaches.

Challenges

- What agency is responsible to
 - Collect each measure
 - Compile report
 - Post report
- What resources are available

DNR 2012 Nonpoint Source Management Plan

- Objective 1.1 Recommends a centralized clearing house for information and data sharing
- *The WRCC and WPAC provide the perfect structure for a centralized clearing house for this type of reporting.*
- *Since the councils closely associate with the Secretary of Agriculture, the Department of Agriculture and Land Stewardship's Division of Soil Conservation acts as the lead entity in this objective.*

Cedar Rapids

The goal of the proposed system when completed is to reduce or eliminate the future flood damages resulting from flood events similar or less than the event that occurred in June of 2008. The proposed mitigation system includes construction of 6.24 miles of levee and floodwalls (permanent and removable), 11 pump stations, 21 roadway and railroad gate closures, improvements to a flood prone bridge (elevation of approaches), and design on a second river crossing.

Dubuque

The Bee Branch Watershed Flood Mitigation Project is a multi-phased approach to address the severe and frequent flash flooding experienced in the Bee Branch Watershed in the City of Dubuque. This multi-faceted, holistic approach includes the following phases: 1. Carter Road Detention Basin, 2. West 32nd Street Detention Basin, 3. Historic Millwork District, 4. Lower Bee Branch Creek Restoration, 5. Flood Mitigation Gate Replacement, 6. Impervious Surface Reduction, 7. Upper Bee Branch Creek Restoration, 8. 22nd Street Storm Sewer Improvements, 9. Flood Mitigation Maintenance Facility, 10. North End Storm Sewer Improvements, 11. Water Plant Flood Protection, 12. 17th Street Storm Sewer Improvements.

Iowa City

The Iowa City project includes two steps involving the relocation of the wastewater treatment operations. The first step of the flood mitigation project was the relocation of wastewater operations from the north plant to a newer plant located south of Iowa City and out of the flood plain. The second step of the project is to demolish the flood prone north wastewater treatment facility.

Coralville

This project consists of multiple small projects in two phases comprising a comprehensive approach to mitigating damages from both creeks, back up flooding from the Iowa River, and overland flooding issues caused by rainfall during high water events. The uncompleted work (Phase II) involves two components: 1. Construction of a flood wall and 2. Elevating the 5th Street Bridge to prevent flooding of 5th Street and the area immediately adjacent to and downstream of Biscuit Creek.

Storm Lake

The City of Storm Lake requested assistance from the Flood Mitigation Fund Program for help in funding a project consisting of four separate phases as follows: 1. East Central Storm Water Project, 2. North Central Storm Water Project, 3. East 10th Street Project (Street Reconstruction due to North Central Project), 4. Expansion Blvd. Storm Water Project. These four phases will address the worst flooding areas within the City of Storm Lake providing relief to both residential and commercial/industrial properties within the corporate limits of the City of Storm Lake. The project is generally located on the East side of Storm Lake.

Waverly

The Waverly Flood Mitigation Improvements consist of mitigating flood hazards from the Cedar River and Dry Run Creek which have overlapping flood plains. The Dry Run Creek improvements are divided into three sections; section "A" of the Dry Run Creek from 4th Street SW (IA116) to W. Bremer Avenue (IA3) with construction occurring in 2015; section "B" of the Dry Run Creek from W. Bremer Avenue (IA3) to 7th Street NW is projected to be constructed in 2015-16; and construction of section "C" of the Dry Run Creek from 1st Street SW to 4th Street SW (IA116) is projected to also be built in 2015-16.

Cedar Falls

The intent of this project is to increase the level of protection for the City to the 0.2 percent annual chance exceedance (500-year) level of protection. Increasing the flood protection levels for the City will require additional levee and/or floodwall extensions, modifications to existing storm sewer gatewells, modifications to closure structures (pedestrian and street openings), and modifications to areas with sandbag closure plans. Protected facilities include the city wastewater treatment plant and Cedar Fall Utilities.

IOWA FLOOD MITIGATION PROGRAM

Proposed Sales Tax Increment Projections (as of 3/11/14)

YEAR	CEDAR RAPIDS (APPROVED)	DUBUQUE (APPROVED)	IOWA CITY (APPROVED)	CORALVILLE (APPROVED)	STORM LAKE (APPROVED)	WAVERLY (APPROVED)	CEDAR FALLS (APPROVED)	COUNCIL BLUFFS (ESTIMATE)	DES MOINES VRA (ESTIMATE)	AMES	OTTUMWA	SPENCER	APPROVED ANNUAL INCREMENT REQUEST TOTAL	REMAINING INCREMENT BASED ON \$30M MAX	APPROVED/PROPOSED ANNUAL INCREMENT REQUEST TOTAL	REMAINING INCREMENT BASED ON \$30M MAX
2014	\$ 2,492,988	\$ 332,489	\$ 372,676.35	\$ 620,772	\$ 4,083,060.00	\$ 5,647,004.00	\$ 6,625,000.00	\$ 580,134	\$ -	\$ -	\$ -	\$ -	\$ 4,350,423.35	\$ 25,643,576.65	\$ 4,358,423.35	\$ 25,643,576.65
2015	\$ 5,662,477	\$ 1,407,664	\$ 642,055.76	\$ 2,757,894	\$ 500	\$ 236,446	\$ 1,577,673	\$ -	\$ 3,000,000	\$ -	\$ -	\$ -	\$ 16,704,632.40	\$ 18,715,592.24	\$ 12,884,707.76	\$ 17,715,592.24
2016	\$ 7,689,027	\$ 2,132,253	\$ 802,613.40	\$ 3,919,811	\$ 54,324	\$ 313,965	\$ 1,791,137	\$ -	\$ 2,000,000	\$ -	\$ -	\$ -	\$ 19,677,679.20	\$ 13,295,367.60	\$ 18,704,632.40	\$ 11,795,367.60
2017	\$ 10,381,241	\$ 2,871,069	\$ 1,074,890.20	\$ 2,471,033	\$ 54,324	\$ 398,087	\$ 2,427,065	\$ -	\$ 3,000,000	\$ -	\$ -	\$ -	\$ 21,573,849.50	\$ 10,322,330.80	\$ 22,676,393.69	\$ 7,322,330.80
2018	\$ 13,140,760	\$ 3,624,322	\$ 1,321,915.69	\$ 2,471,033	\$ 54,324	\$ 488,081	\$ 646,991	\$ -	\$ 4,000,000	\$ -	\$ -	\$ -	\$ 21,573,849.50	\$ 8,426,150.50	\$ 26,573,849.50	\$ 3,426,150.50
2019	\$ 15,000,000	\$ 4,392,361	\$ 1,551,832.50	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 22,799,167.70	\$ 7,200,832.30	\$ 27,999,167.70	\$ 2,200,832.30
2020	\$ 15,000,000	\$ 5,175,452	\$ 1,805,515.70	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 22,921,928.46	\$ 7,078,071.54	\$ 27,921,928.46	\$ 2,078,071.54
2021	\$ 15,000,000	\$ 6,287,982	\$ 1,125,751.46	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 22,610,167.00	\$ 7,389,833.00	\$ 27,610,167.00	\$ 2,389,833.00
2022	\$ 15,000,000	\$ 6,944,424	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 22,770,074.00	\$ 7,229,926.00	\$ 27,770,074.00	\$ 2,229,926.00
2023	\$ 15,000,000	\$ 6,968,288	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 22,777,818.00	\$ 7,222,182.00	\$ 27,777,818.00	\$ 2,222,182.00
2024	\$ 15,000,000	\$ 6,946,514	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 22,211,148.00	\$ 7,789,852.00	\$ 27,211,148.00	\$ 2,789,852.00
2025	\$ 15,000,000	\$ 6,947,487	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 22,204,065.00	\$ 7,795,935.00	\$ 27,204,065.00	\$ 2,795,935.00
2026	\$ 15,000,000	\$ 6,947,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 22,207,053.00	\$ 7,792,947.00	\$ 27,207,053.00	\$ 2,792,947.00
2027	\$ 15,000,000	\$ 6,505,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 21,762,894.00	\$ 8,237,106.00	\$ 26,762,894.00	\$ 3,237,106.00
2028	\$ 15,000,000	\$ 6,000,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 21,266,124.00	\$ 8,733,876.00	\$ 26,266,124.00	\$ 3,733,876.00
2029	\$ 15,000,000	\$ 5,500,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 20,770,243.00	\$ 9,229,757.00	\$ 26,270,243.00	\$ 3,729,757.00
2030	\$ 15,000,000	\$ 5,000,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 19,102,068.00	\$ 11,466,764.00	\$ 24,533,236.00	\$ 5,466,764.00
2031	\$ 15,000,000	\$ 4,500,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,189,532.00	\$ 11,897,532.00	\$ 24,602,068.00	\$ 5,397,532.00
2032	\$ 15,000,000	\$ 4,000,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 12,719,127.00	\$ 24,602,068.00	\$ 5,397,532.00
2033	\$ 15,000,000	\$ 3,500,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 13,540,212.00	\$ 24,602,068.00	\$ 5,397,532.00
2034	\$ 15,000,000	\$ 3,000,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 14,361,297.00	\$ 24,602,068.00	\$ 5,397,532.00
2035	\$ 15,000,000	\$ 2,500,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 15,182,382.00	\$ 24,602,068.00	\$ 5,397,532.00
2036	\$ 15,000,000	\$ 2,000,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 16,003,467.00	\$ 24,602,068.00	\$ 5,397,532.00
2037	\$ 15,000,000	\$ 1,500,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 16,824,552.00	\$ 24,602,068.00	\$ 5,397,532.00
2038	\$ 15,000,000	\$ 1,000,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 17,645,637.00	\$ 24,602,068.00	\$ 5,397,532.00
2039	\$ 15,000,000	\$ 500,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 18,466,722.00	\$ 24,602,068.00	\$ 5,397,532.00
2040	\$ 15,000,000	\$ 0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 19,287,807.00	\$ 24,602,068.00	\$ 5,397,532.00
2041	\$ 15,000,000	\$ 0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 20,108,892.00	\$ 24,602,068.00	\$ 5,397,532.00
2042	\$ 15,000,000	\$ 0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 20,929,977.00	\$ 24,602,068.00	\$ 5,397,532.00
2043	\$ 15,000,000	\$ 0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 21,751,062.00	\$ 24,602,068.00	\$ 5,397,532.00
2044	\$ 15,000,000	\$ 0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 22,572,147.00	\$ 24,602,068.00	\$ 5,397,532.00
2045	\$ 15,000,000	\$ 0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 23,393,232.00	\$ 24,602,068.00	\$ 5,397,532.00
2046	\$ 15,000,000	\$ 0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 24,214,317.00	\$ 24,602,068.00	\$ 5,397,532.00
2047	\$ 15,000,000	\$ 0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 25,035,402.00	\$ 24,602,068.00	\$ 5,397,532.00
2048	\$ 15,000,000	\$ 0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 25,856,487.00	\$ 24,602,068.00	\$ 5,397,532.00
2049	\$ 15,000,000	\$ 0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 26,677,572.00	\$ 24,602,068.00	\$ 5,397,532.00
2050	\$ 15,000,000	\$ 0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 27,498,657.00	\$ 24,602,068.00	\$ 5,397,532.00
2051	\$ 15,000,000	\$ 0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 28,319,742.00	\$ 24,602,068.00	\$ 5,397,532.00
2052	\$ 15,000,000	\$ 0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 29,140,827.00	\$ 24,602,068.00	\$ 5,397,532.00
2053	\$ 15,000,000	\$ 0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 29,961,912.00	\$ 24,602,068.00	\$ 5,397,532.00
2054	\$ 15,000,000	\$ 0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 30,782,997.00	\$ 24,602,068.00	\$ 5,397,532.00
2055	\$ 15,000,000	\$ 0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 31,604,082.00	\$ 24,602,068.00	\$ 5,397,532.00
2056	\$ 15,000,000	\$ 0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 32,425,167.00	\$ 24,602,068.00	\$ 5,397,532.00
2057	\$ 15,000,000	\$ 0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 33,246,252.00	\$ 24,602,068.00	\$ 5,397,532.00
2058	\$ 15,000,000	\$ 0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 34,067,337.00	\$ 24,602,068.00	\$ 5,397,532.00
2059	\$ 15,000,000	\$ 0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 34,888,422.00	\$ 24,602,068.00	\$ 5,397,532.00
2060	\$ 15,000,000	\$ 0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 35,709,507.00	\$ 24,602,068.00	\$ 5,397,532.00
2061	\$ 15,000,000	\$ 0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 36,530,592.00	\$ 24,602,068.00	\$ 5,397,532.00
2062	\$ 15,000,000	\$ 0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 37,351,677.00	\$ 24,602,068.00	\$ 5,397,532.00
2063	\$ 15,000,000	\$ 0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 38,172,762.00	\$ 24,602,068.00	\$ 5,397,532.00
2064	\$ 15,000,000	\$ 0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 38,993,847.00	\$ 24,602,068.00	\$ 5,397,532.00
2065	\$ 15,000,000	\$ 0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 39,814,932.00	\$ 24,602,068.00	\$ 5,397,532.00
2066	\$ 15,000,000	\$ 0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 40,636,017.00	\$ 24,602,068.00	\$ 5,397,532.00
2067	\$ 15,000,000	\$ 0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 41,457,102.00	\$ 24,602,068.00	\$ 5,397,532.00
2068	\$ 15,000,000	\$ 0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 42,278,187.00	\$ 24,602,068.00	\$ 5,397,532.00
2069	\$ 15,000,000	\$ 0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 43,099,272.00	\$ 24,602,068.00	\$ 5,397,532.00
2070	\$ 15,000,000	\$ 0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 43,920,357.00	\$ 24,602,068.00	\$ 5,397,532.00
2071	\$ 15,000,000	\$ 0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 44,741,442.00	\$ 24,602,068.00	\$ 5,397,532.00
2072	\$ 15,000,000	\$ 0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 45,562,527.00	\$ 24,602,068.00	\$ 5,397,532.00
2073	\$ 15,000,000	\$ 0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 46,383,612.00	\$ 24,602,068.00	\$ 5,397,532.00
2074	\$ 15,000,000	\$ 0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 47,204,697.00	\$ 24,602,068.00	\$ 5,397,532.00
2075	\$ 15,000,000	\$ 0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 48,025,782.00	\$ 24,602,068.00	\$ 5,397,532.00
2076	\$ 15,000,000	\$ 0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 48,846,867.00	\$ 24,602,068.00	\$ 5,397,532.00
2077	\$ 15,000,000	\$ 0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,000,000	\$ -	\$ -	\$ -	\$ 18,102,068.00	\$ 49,667,952.00	\$ 24,602,068.00	\$ 5



United States Department of Agriculture

Regional Conservation Partnership Program (RCPP)

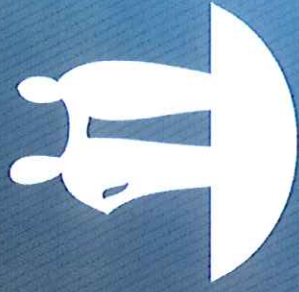
*Promoting coordination to deliver
conservation assistance*





United States Department of Agriculture

RCPP encourages partners to join in efforts with producers to increase the restoration and sustainable use of soil, water, wildlife and related natural resources on regional or watershed scales.





United States Department of Agriculture

Assistance through...

- ▶ Partnership agreements
- ▶ Program contracts
- ▶ Easement agreements



RCPP



United States Department of Agriculture

Combines authorities of...

- ▶ Agricultural Water Enhancement Program
- ▶ Chesapeake Bay Watershed Program
- ▶ Cooperative Conservation Partnership Program
- ▶ Great Lakes Basin Program



RCPP



United States Department of Agriculture

Rules from...

- ▶ Environmental Quality Incentives Program
- ▶ Conservation Stewardship Program
- ▶ Agricultural Conservation Easement Program
- ▶ Healthy Forests Reserve Program
- ▶ Watershed Operations and Flood Prevention Program (in certain places)



RCPP



United States Department of Agriculture

RCPP

- ▶ Partners leverage funding in selected project areas and report on the benefits achieved.
- ▶ The Secretary of Agriculture may also designate up to eight critical conservation areas to focus RCPP assistance.



RCPP



United States Department of Agriculture

Eligible Partners

- ▶ Agricultural or silvicultural producer associations
- ▶ Farmer cooperatives or other groups of producers
- ▶ State or local governments
- ▶ American Indian tribes
- ▶ Municipal water treatment entities
- ▶ Water and irrigation districts
- ▶ Conservation-driven nongovernmental organizations
- ▶ Institutions of higher education.



RCPP



United States Department of Agriculture

Eligible Participants

- ▶ Eligible producers and landowners of...
 - Agricultural land
 - Non-industrial private forestland



RCPP



United States Department of Agriculture

Applying for RCPP

- ▶ Request for Proposals
- ▶ After selections...
 - NRCs/Partner partnership agreement
 - Up to five years
 - Up to 12 months extension possible



RCPP



United States Department of Agriculture

Producer Applications

- ▶ Through project partner organization, or
- ▶ Directly at USDA Service Center in selected project area, or
- ▶ Directly at USDA Service Center in critical conservation area designated by the Secretary of Agriculture.



RCPP



United States Department of Agriculture

Partner Responsibilities

- ▶ Contribute to the cost of the project
- ▶ Outreach and education to eligible producers.
- ▶ Assess project effects.
- ▶ At project closing assess project costs and conservation effects.



RCPP



United States Department of Agriculture

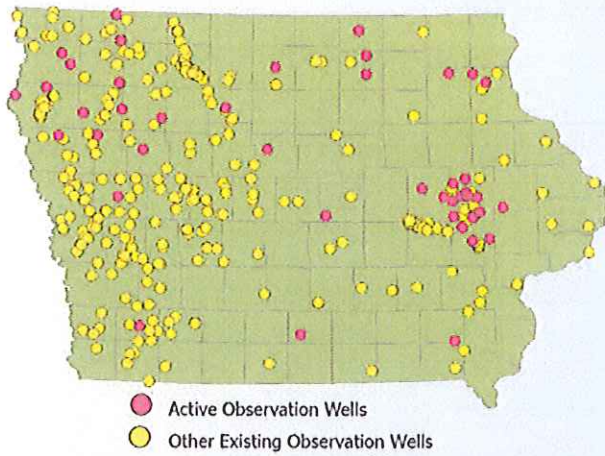
For more information:
www.ia.nrcs.usda.gov

USDA is an equal opportunity provider and employer.

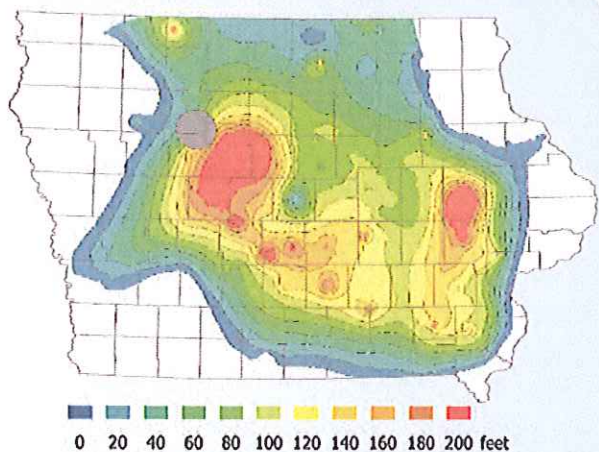
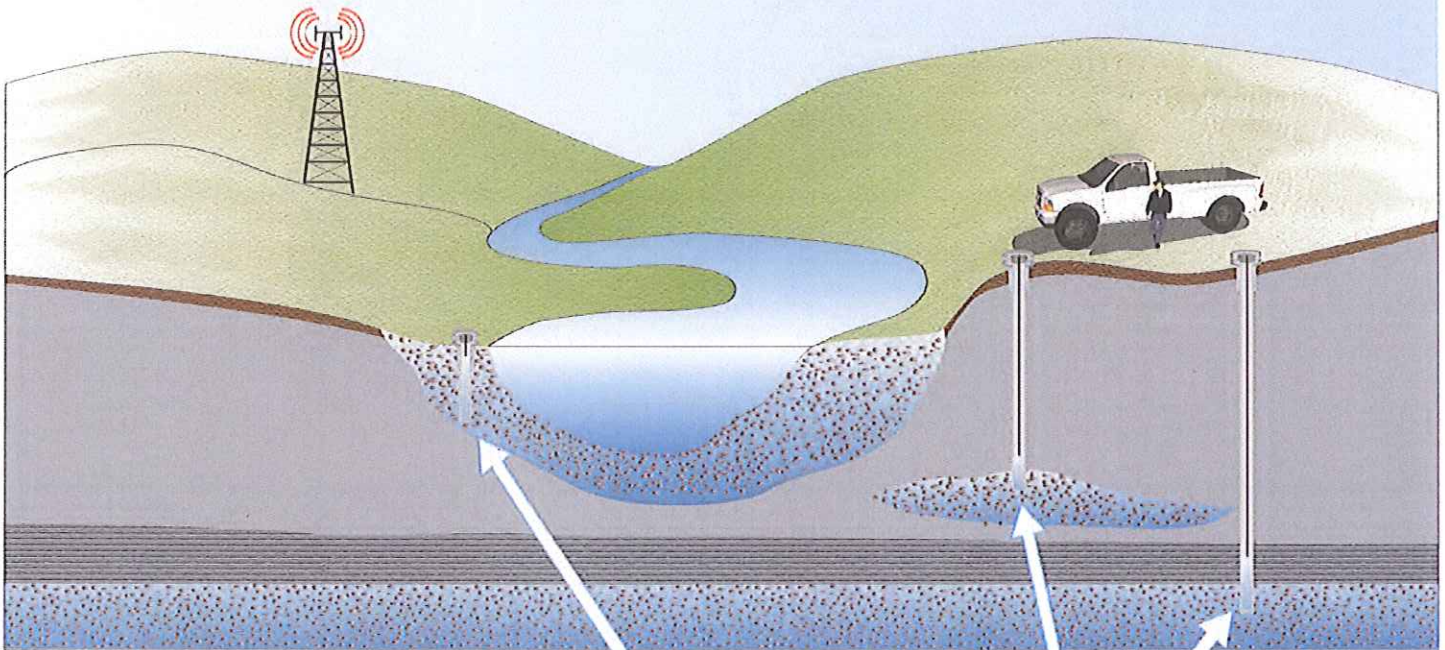


RCPP

Iowa Groundwater Observation and Forecasting Program



Current Iowa groundwater observations are inadequate. However, numerous existing observation wells can be used to expand upon available information. Restoration and sampling of wells carefully selected to ensure a complete and accurate characterization of Iowa's aquifers will inform appropriate use of this valuable and limited resource.



Simulated decrease in Cambrian-Ordovician Aquifer water levels through 2034

Alluvial aquifers are well connected to rivers and streams, and respond quickly to changes in rainfall. Automated measurement systems can frequently capture changes in water levels and transmit them to a central database.

Deep aquifers respond slowly to changes in precipitation. They are slowly replenished and are susceptible to overuse. Quarterly manual measurements are sufficient to capture trends in their water levels.

Observations will provide information necessary to create computer simulations of regional groundwater levels. Computer simulations will be used to forecast aquifer changes and aid in planning and management of groundwater resources.

Iowa Groundwater Observation and Forecasting Program

Groundwater is a valuable but limited resource

A more complete understanding of Iowa's groundwater resources is necessary to ensure they remain a reliable source for municipal, industrial, and private water needs.

More groundwater observations are needed

Numerous wells have already been installed throughout the state and can be used to observe groundwater levels. Manual and automated measurements at up to 120 wells, carefully selected to ensure a complete and accurate characterization of Iowa's aquifers, will capture current conditions and trends in Iowa's groundwater levels.

Groundwater forecasting will aid in planning and resource management

The observation program will provide information necessary to create computer simulations of regional groundwater resources. Computer simulations will be used to forecast aquifer response to changes in rainfall or groundwater withdrawals.

Groundwater information is valuable in understanding droughts and floods

Measurement and simulation of Iowa's groundwater resources will complement ongoing and developing programs at the Iowa Flood Center by providing a complete characterization of atmospheric, surface water, and groundwater systems affecting water quantity. Alluvial wells will allow Iowa Flood Center researchers to better understand surface water / groundwater connectivity and its importance in flood processes, improving their ability to forecast short-term flood risks.

Scope of work

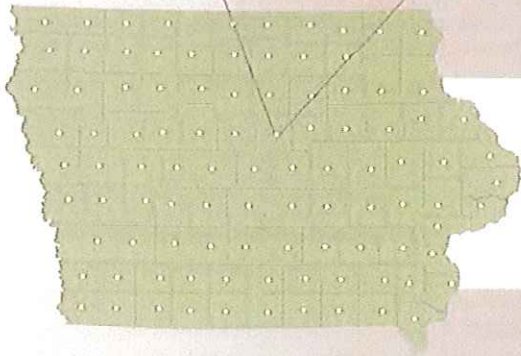
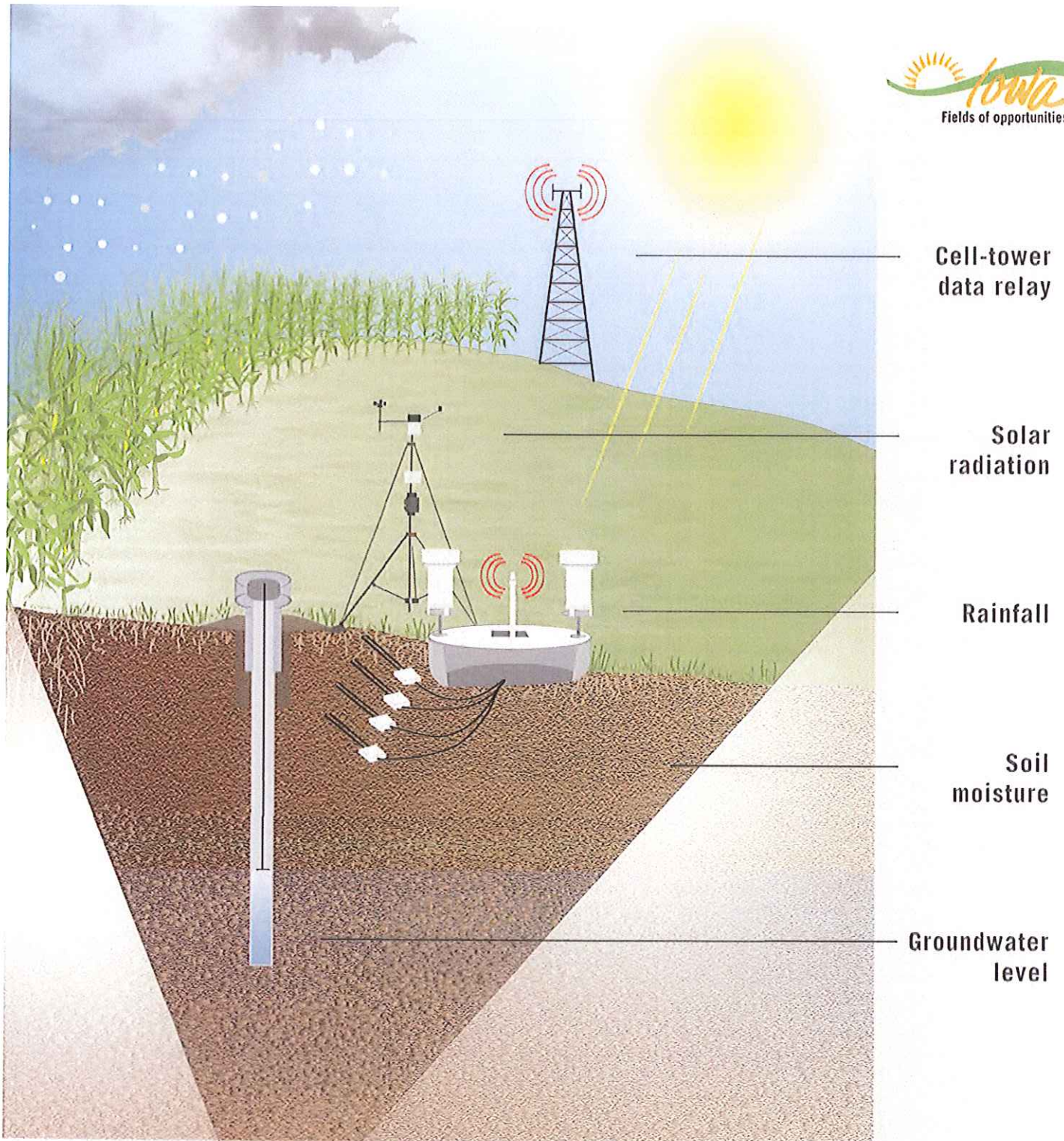
The Iowa Geological Survey, a unit of the University of Iowa's IIHR-Hydrosience & Engineering, will

- develop a groundwater measurement program to track water levels in Iowa aquifers using manual and automated measurement techniques at up to 100 sites;
- drill up to 20 new wells in targeted areas to better understand how withdrawals associated with municipal, industrial, and private activities may interact, and to create nested well groups that allow sampling from multiple aquifers at different depths;
- perform computer simulations of regional groundwater resources to predict groundwater availability;
- and make measurement and simulation data available via a web-based portal.

Budget

- | | |
|--|------------|
| • Drilling of new wells in targeted areas of intense withdrawal or geological significance | \$ 100,000 |
| • Automated groundwater level measurement instrumentation (up to 20 sites) | \$ 100,000 |
| • Quarterly well measurement and maintenance (up to 100 sites) | \$ 100,000 |
| • Computer simulation of Iowa's groundwater resources | \$ 100,000 |

Total **\$ 400,000**



Iowa Hydrologic Network

To Analyze and Predict Floods and Droughts, Soil Moisture, Ground Water Levels, and Improve Crop Yields

What is it?

A network of 100 stations to measure water content and temperature in the soil, groundwater level in shallow wells, rainfall, and other weather data.

Why do we need it?

To better predict floods, assess droughts, manage our water resources, and help Iowa's ag producers with crop management and increased yields.

Who will do it?

IIHR-Hydrosience & Engineering of the University of Iowa with the recently acquired Iowa Geological Survey (formerly with Iowa DNR), Iowa Flood Center, and Iowa State University experts.

Can they do it?

IIHR will leverage the expertise and experience of building and deploying over 200 bridge sensors in Iowa; building similar networks for NASA, and operating a research rainfall network for over 15 years. All data will be publicly available in real time over the Internet.

How much will it cost?

One time investment of \$1M plus \$100K annually for upkeep and operation. Each station costs about \$5K plus \$5K for well drilling. There will be a station in each county.

When can we have it?

The network will be constructed and deployed over a two-year span 2015-2016.