



2017 Agricultural Outlook Forum “A New Model for Delivering Conservation: Success With RCPP” February 23, 2017 City of Cedar Rapids Middle Cedar Partnership Project



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- Cedar River Watershed
- RCPP Project Area

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This material is based upon work supported by the Natural Resources Conservation Service, U.S. Department of Agriculture, under number 68-6114-15-004. Any opinions, findings and other conclusions or recommendations expressed in this presentation are those of the author(s) and do not necessarily reflect the views of the U.S. Department of Agriculture.

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WHY RCPP?
Historical Flood Crest in 2008

MCPP - Middle Cedar Partnership Project



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WHY COLLABORATE?

Historical Flood Crest in 2008



Over 1,000 blocks flooded. More than 7,000 homes,
300 public buildings and 900 businesses damaged.
18,700K citizens impacted
More than \$5.4 billion in damages

Water Treatment Facility, 2008

Mcloud's
Run





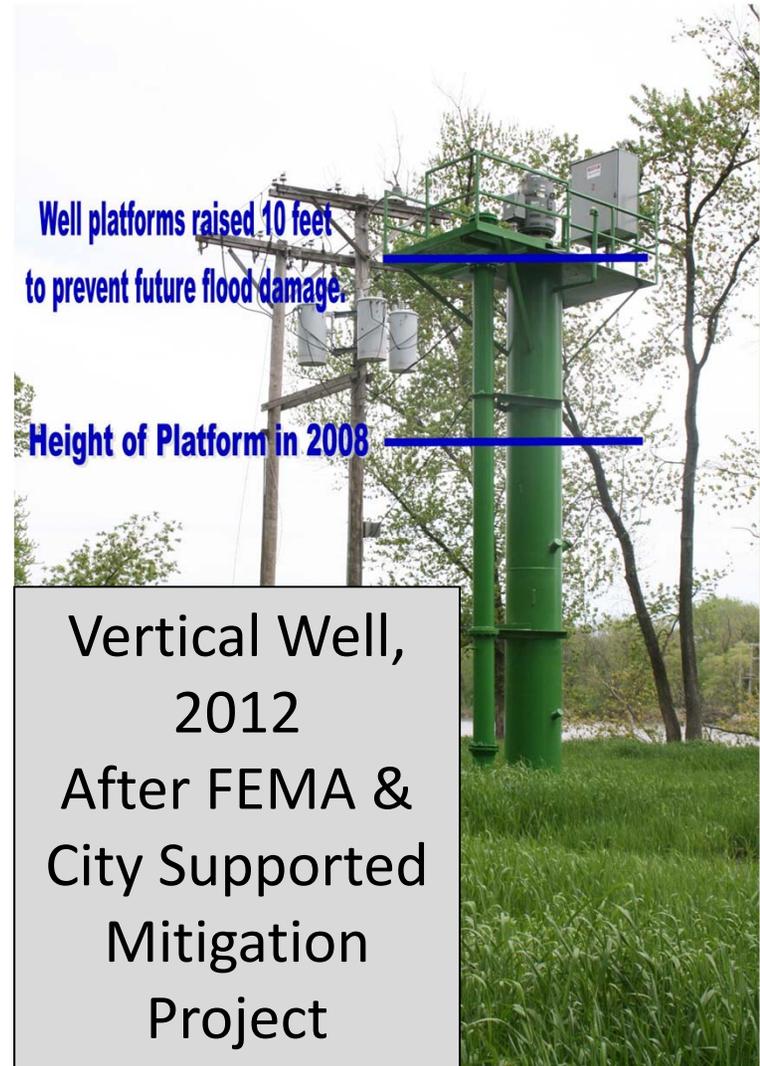
Vertical Well, 2008

13 2:20PM

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WHY COLLABORATE? (SOURCE WATER - PUBLIC WATER SUPPLY)

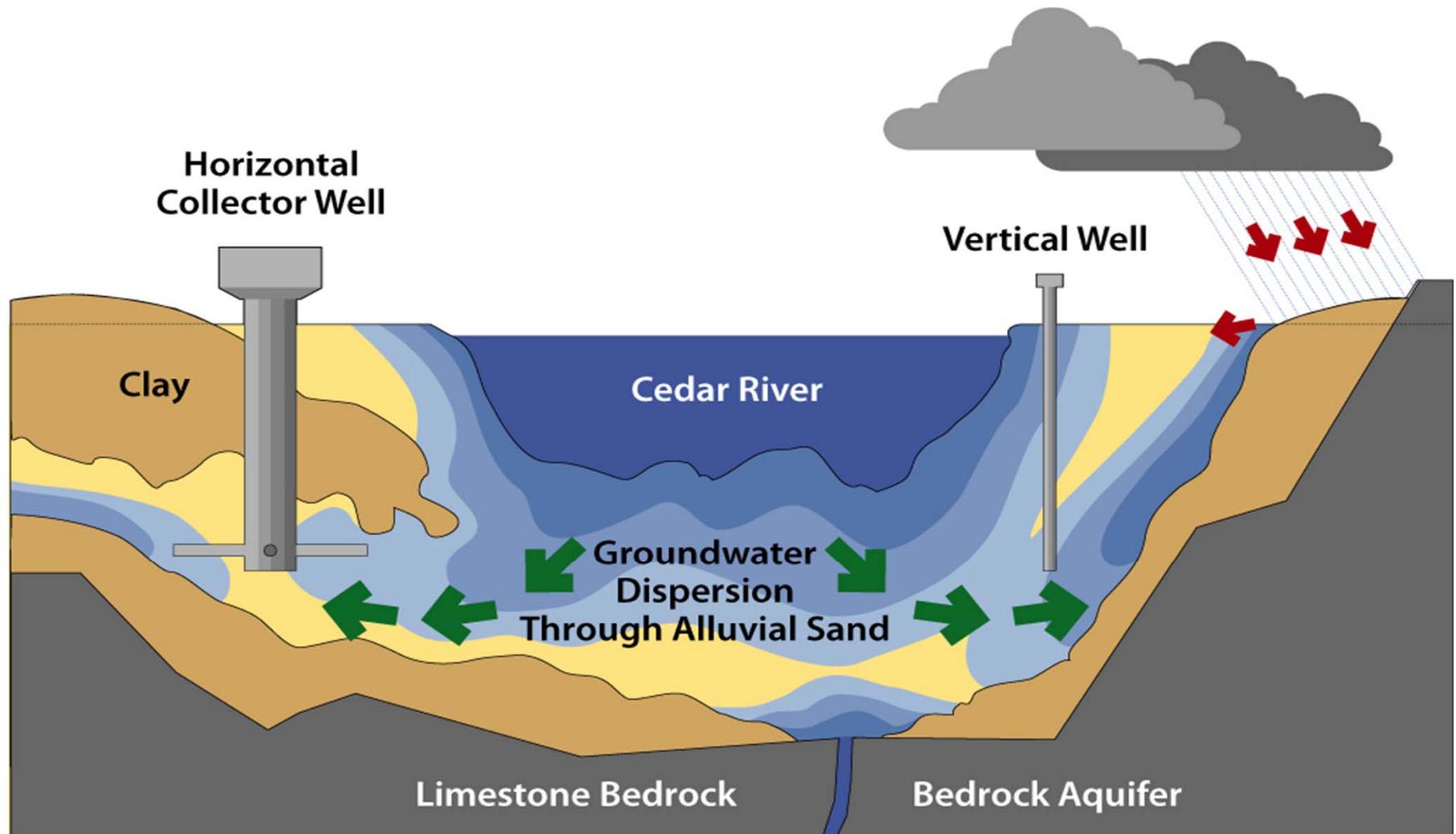
- Raw water highly influenced by river water quality
- Public notification for nitrates at 10 mg/L
- Hach Nitratax



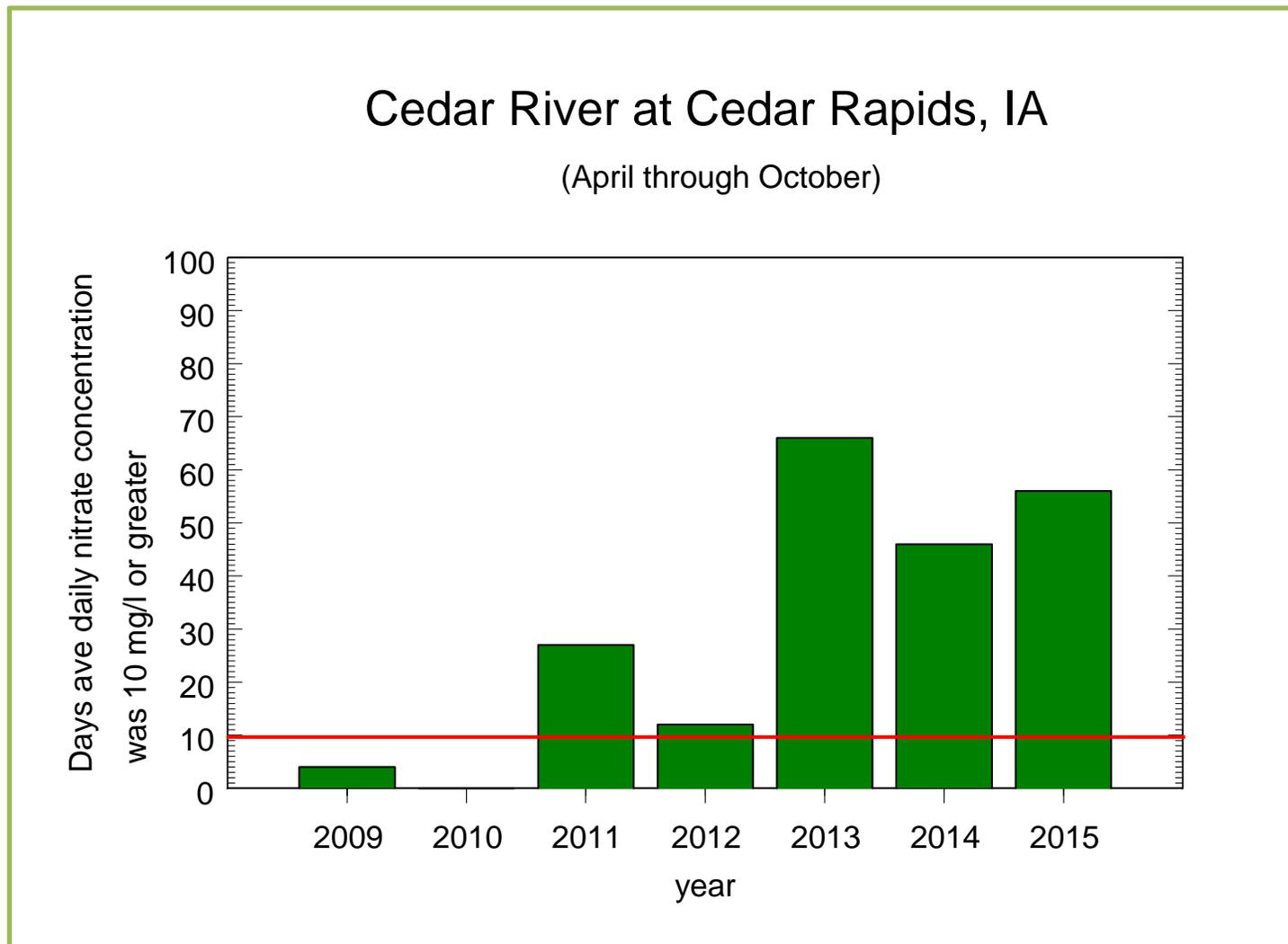
Vertical Well,
2012
After FEMA &
City Supported
Mitigation
Project

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WHY COLLABORATE?
(SOURCE WATER - PUBLIC WATER SUPPLY)



Nitrate concentrations in the Cedar River 2009-2015



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WHY PARTNER WITH
UPSTREAM FARMERS &
LANDOWNERS?

MCPP = Middle Cedar Partnership Project

**PUBLIC HEALTH &
WELFARE/FLOODING**



RCPP Benefits

Leverage Natural Resources
Conservation Service, U.S.
Dept. of Agriculture
program and technical
support

RCPP Benefits

Leverage existing County
Soil & Water Conservation
District Network resources



**INDUSTRY
& ECONOMY**

**SOURCE
WATER/PUBLIC
WATER SUPPLY**

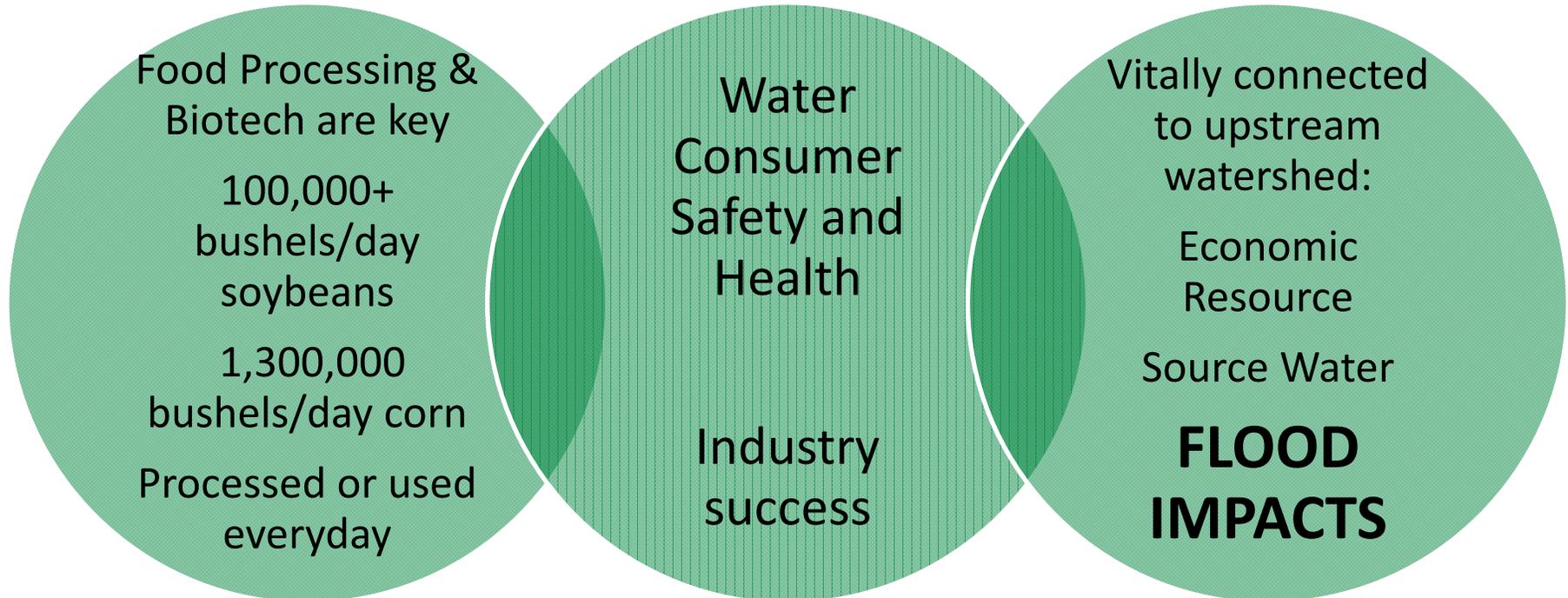


RCPP Benefits

Meeting critical needs of
our community (water
quality & flooding relief)

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WHY PARTNERSHIP? UTILITY/COMMUNITY VALUE



Cedar Rapids Working with 15 Partners

- Improve Water Quality
- Enhance Flood Protection

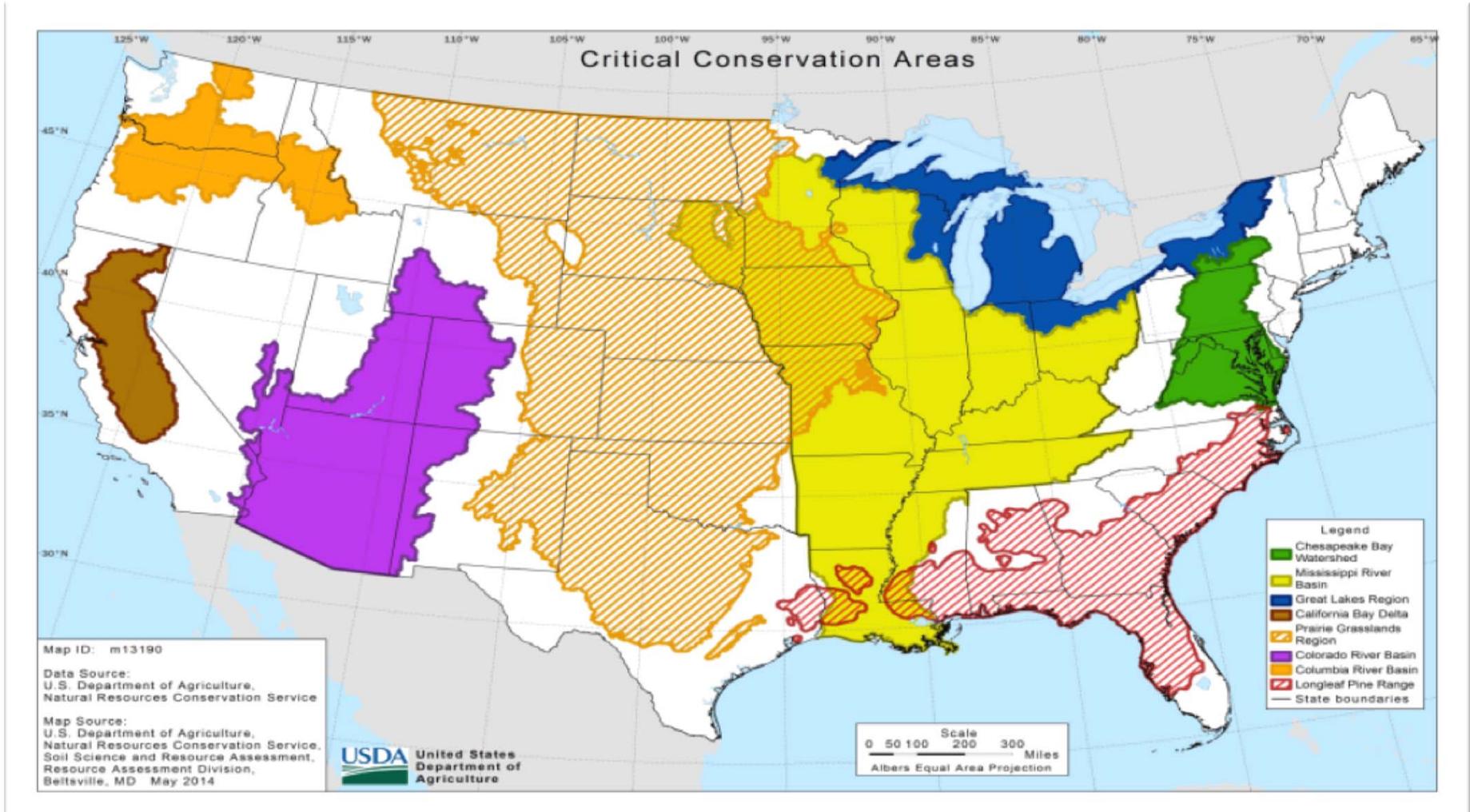
WHY AGRICULTURE IS IMPORTANT TO CEDAR RAPIDS



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NATIONAL PERSPECTIVE

(Regional Conservation Partnership Program –
Critical Conservation Areas)



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PARTNERING FOR SUCCESS MIDDLE CEDAR PARTNERSHIP PROJECT

NRCS through
Regional
Conservation
Partnership
Program (RCPP)
contributing \$2.0M
Primarily financial,
some technical
assistance



16 MCPP
partners
contributing
\$2.3M
Primarily
technical, some
financial
assistance



\$4.3M available
over the next
five years



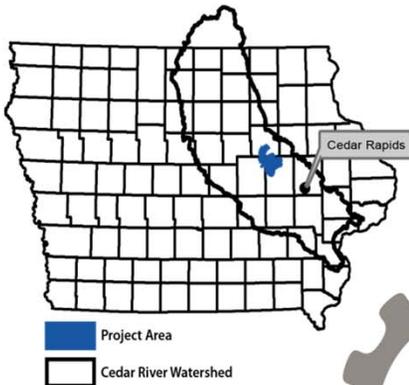
Clock started
June 5, 2015

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PARTNERING FOR SUCCESS
MIDDLE CEDAR PARTNERSHIP PROJECT

Middle Cedar Partnership Project (MCPP)

Collaborating for Soil & Water Quality



Project Area
Cedar River Watershed



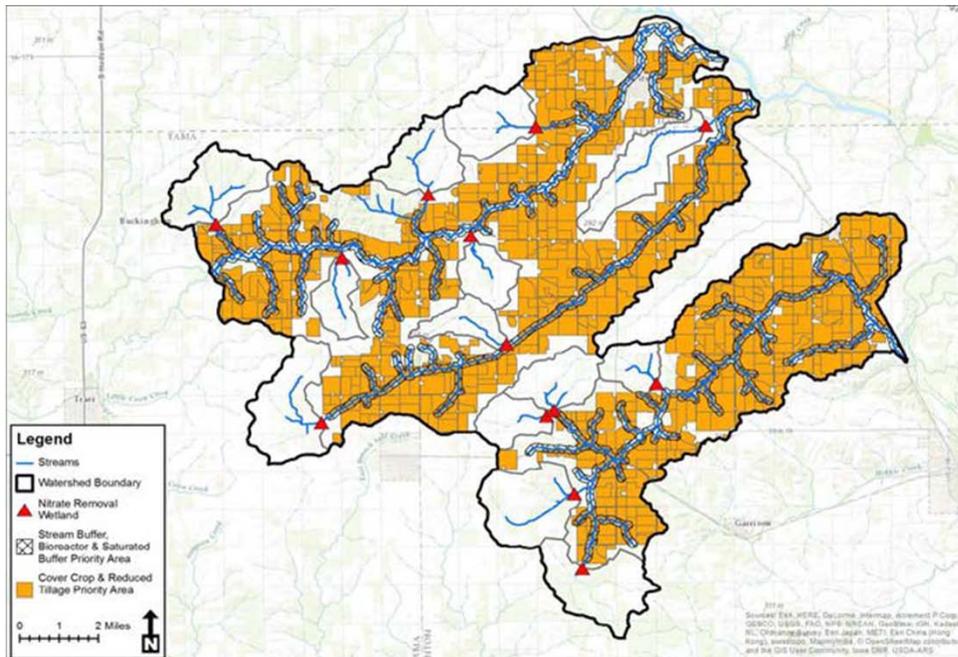
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PARTNERING FOR SUCCESS 1st Step - WATERSHED CONCEPT PLAN

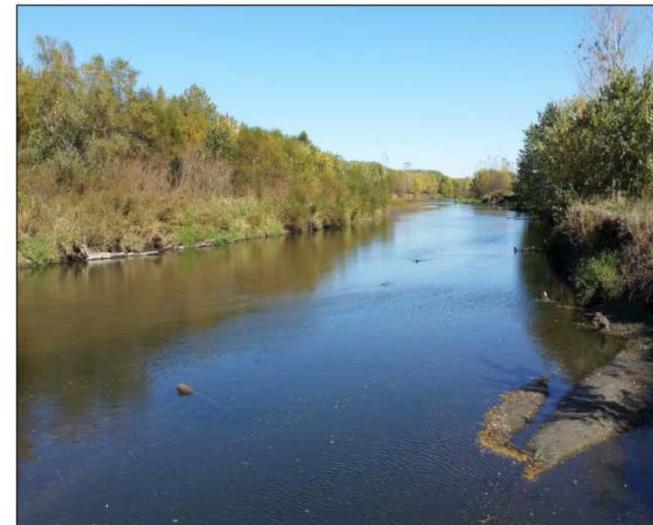
Support Iowa Nutrient Reduction Strategy by:
Reducing in-stream nonpoint nitrogen by 41%
Reducing in-stream nonpoint phosphorus 29%

Reduce flood risk within three watersheds &
downstream

Maintaining or increasing agricultural productivity
and profitability



BENTON/TAMA WATERSHED IMPROVEMENT PLAN



A roadmap for improved water quality, sustained agricultural
productivity & reduced flood risk

Prepared by:



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PARTNERING FOR SUCCESS
EXECUTING THE PLAN

16,539 acres of cover crops

- 134% increase in cover crops acres from 2015 to 2016.
- Approximately 15% of total crop acres in MCPP area are in cover crop program

6,522 acres of nutrient
management plans or practices

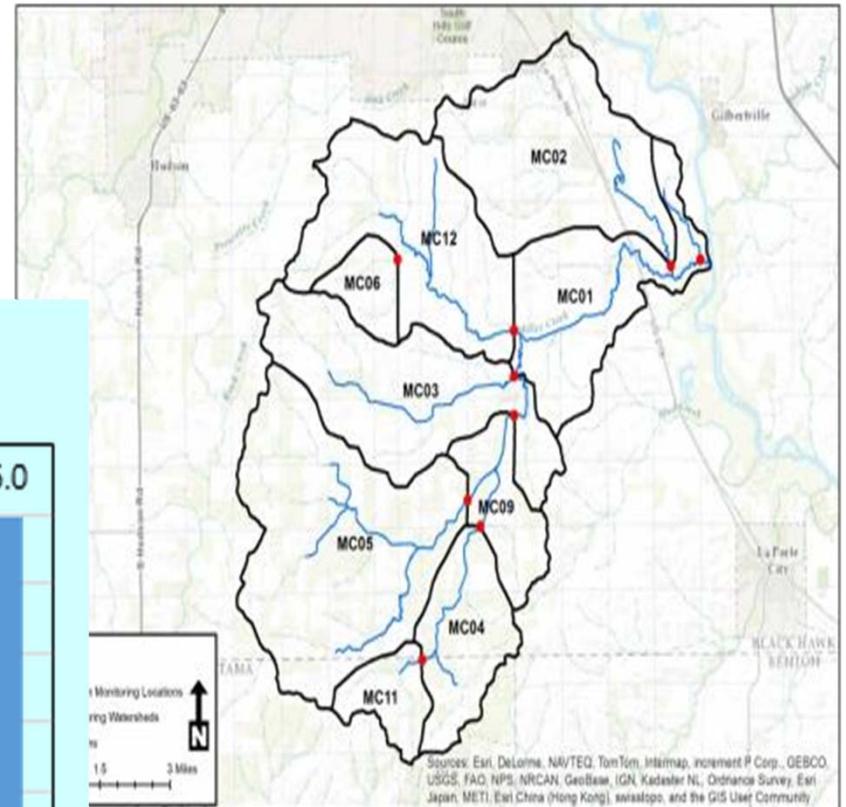
9,173 acres of no-till, strip-till
or reduced tillage practices

2 saturated buffers and
1 bioreactor

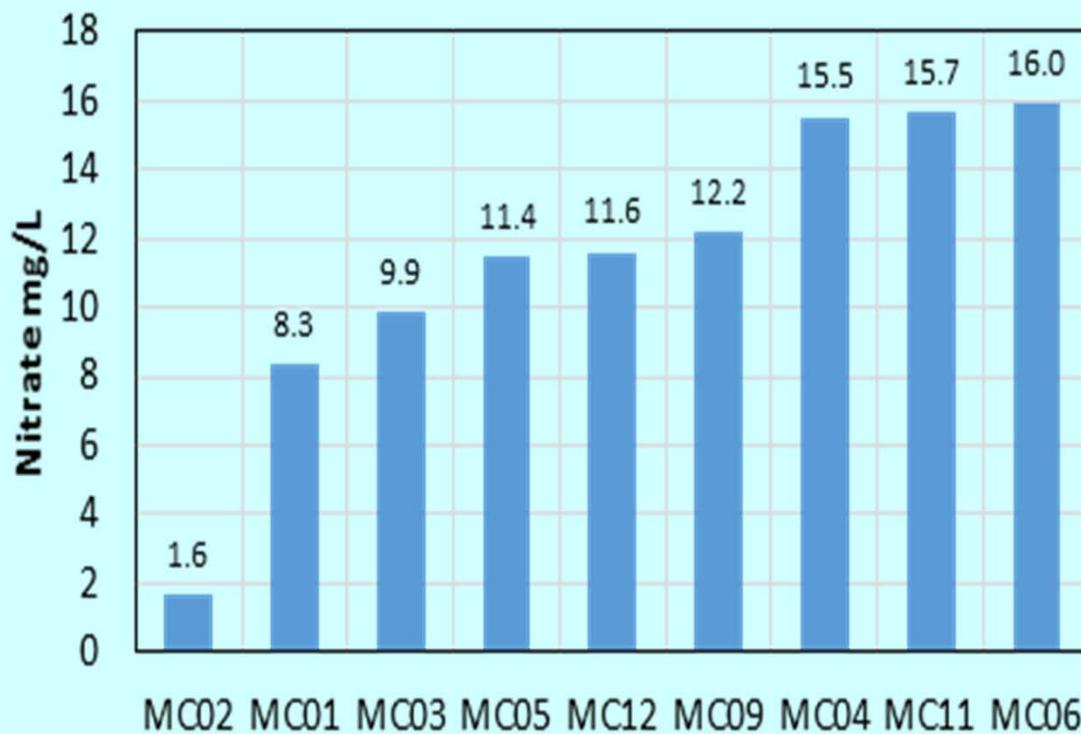


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EVALUATING RESULTS WATER QUALITY



Average Stream Nitrate 2014-2016



- Will watershed solutions happen fast enough to meet downstream needs?
 - This is start of long term effort, City is also working on a Flood Control System and exploring best treatment options to remove nitrates
- How do we connect with enough farmers & landowners to make a difference?
 - MCPP work plan includes outreach resources to contact producers and landowners directly, which helps target activities to watershed areas of potential greatest benefit
 - Cannot stress enough how important this outreach effort has been to increase farmer/land owner comfort level with new cropping techniques and installed practices

- How to meet NRCS - RCPP & other projects expanding technical resource needs for development of edge-of-field installations (bioreactors, saturated buffers, wetlands)?
 - Municipal or private partner water quality trading or nutrient registry opportunities represent a chance to expand technical resources through the use of consulting engineering resources that these entities use routinely
- City of Cedar Rapids actively encourages the concept of “One Water” supported the US Water Alliance
 - US Water Alliance’s One Water Summit will be held June 27 – 29, 2017 in New Orleans, we will be participating in a session titled “What are the critical success factors to effective agriculture-municipal partnerships to solve America’s nutrient challenge?”

Expanding Partnership Opportunities

- Iowa Flood Center – HUD Disaster Resilience Grant (\$96.9M)
- Midwest Agriculture Water Quality Partnership (RCPP 2nd Round - \$9.5M, project leverages total of \$47M)
- Iowa Water Quality Initiative (Miller Creek) ~\$1+M
- Iowa Nutrient Reduction Demonstration Project (Benton & Tama Counties) ~\$1+M

**Quarterly
Watershed Management
Authority Meetings
2016-17**

**Example:
Middle Cedar River WMA
Meeting**

Thursday, January 12, 2017
Farmers Savings Bank &
Trust, Vinton

**Iowa Watershed Approach
(IWA)** is a vision for Iowa's
future that voluntarily engages
stakeholders throughout the
watershed to achieve common
goals, while moving toward a
more resilient state.

**HUD Disaster Resilience Grant
to Iowa: \$96.9 million**



More information at: <http://www.iihr.uiowa.edu/iwa>



Urban Water Management

Community Opportunities (Changing Focus)

- Flood re-construction (LEED)
- Improve existing urban lake (Cedar Lake)
- Stormwater Utility Fees based on impervious surface (ordinance change) + BMP cost share
- Topsoil requirement post project development
- Sponsored projects



Downtown library constructed to platinum LEED certification



**Keeps 90% of precipitation
in place that falls on
property**

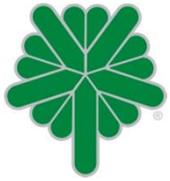


Permeable pavers on
3rd St SE



Bioswales





Incentivizing Infiltration

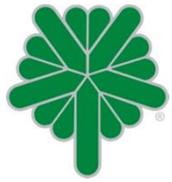




Sponsored Projects

- State supported alternate green infrastructure funding option using 1% of interest on SRF projects
- Noelridge Park 





URBAN WATERSHED EFFORTS



Watershed Involvement

- 2 Watershed Management Authorities

Green Infrastructure

- Cost-Share Program
- DNR Funding for Pilot Projects

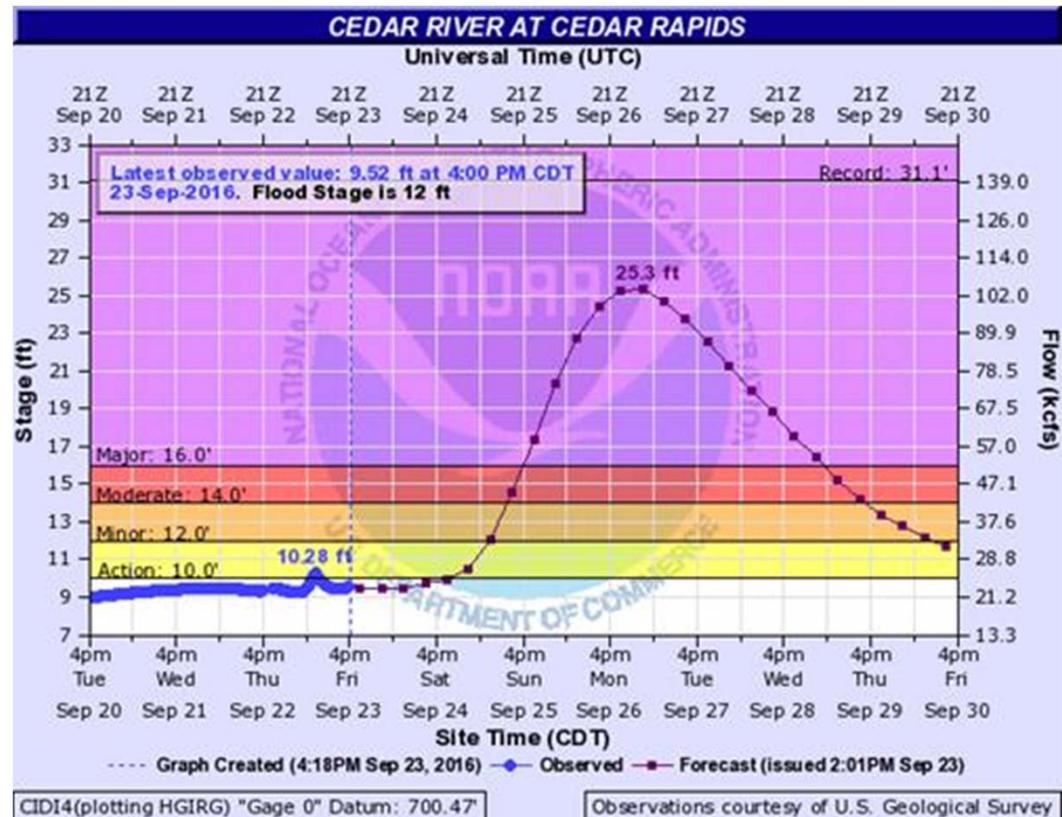
Policy Changes

- Nutrient Management
- Stormwater Rate Change
- Possible Topsoil Rule

September 22, 2016

- 2008 = 31.12 flood stage
- 19.5' predicted 9/22
- 25.3 predicted 9/24
- **4 days to prepare**

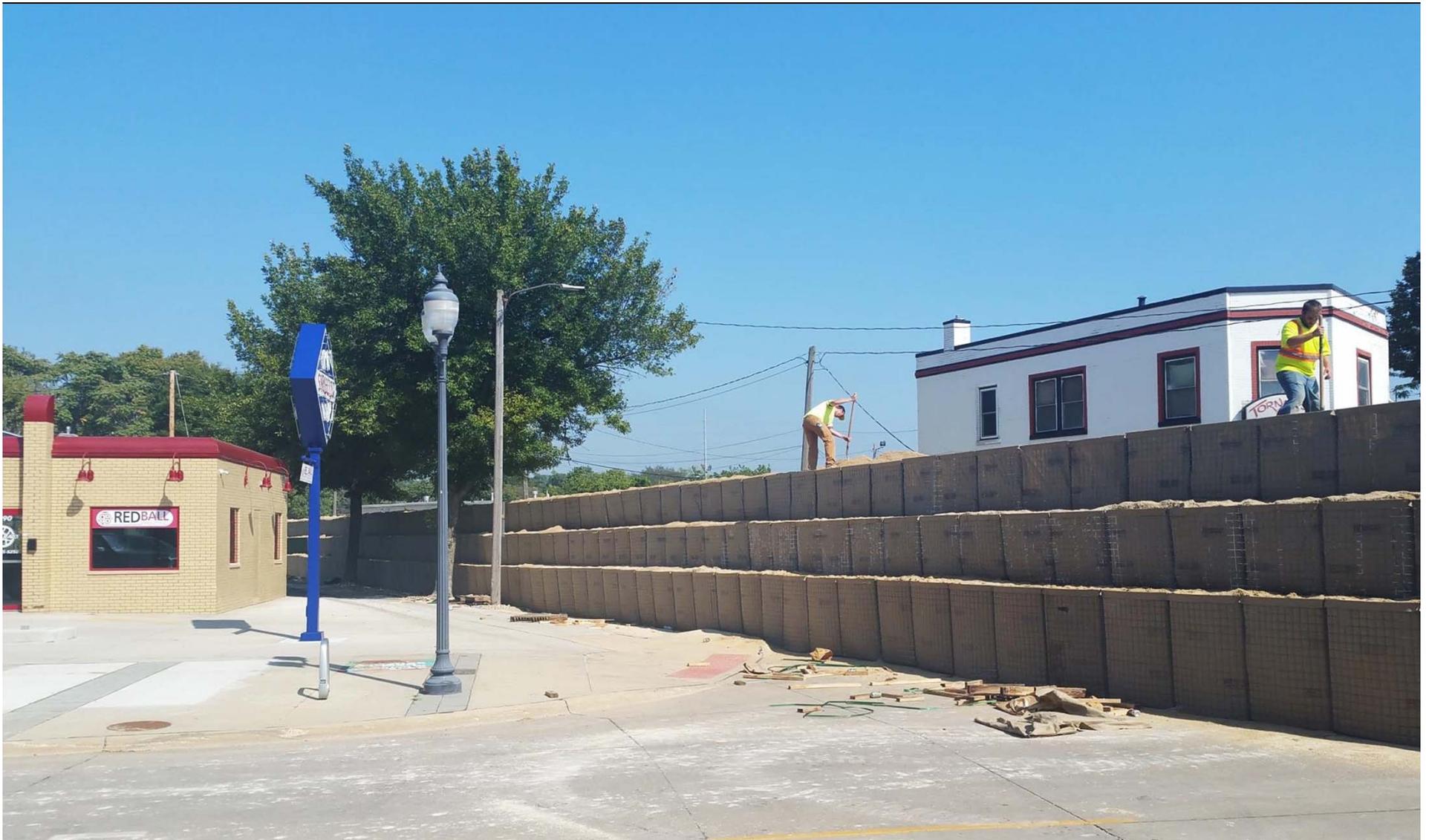
Crested at 21.97 feet 9/27,
2nd highest flood on record



FLOOD CONTROL SYSTEM

STRENGTHENING OUR COMMUNITY

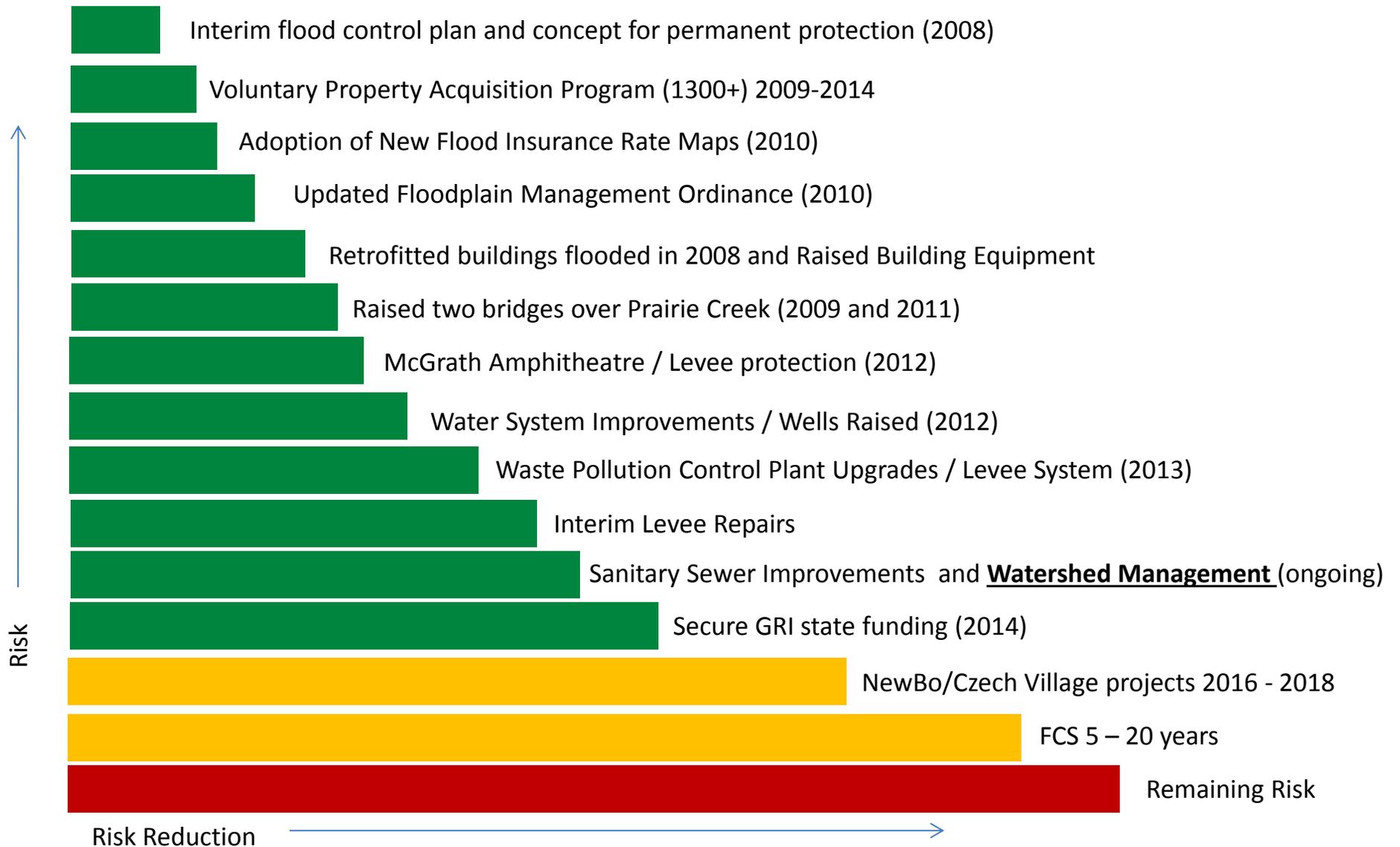
Above Ground Barrier: A Difficult Decision



Wall required solid foundation and elevation



Reducing Flood Risk – Flood Control System



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WHAT DOES FUTURE SUCCESS LOOK LIKE?

- **Improved soil health**, leading to increased productivity and a better bottom-line for upstream producers
- **Increased adoption of tested practices** because it makes financial sense and it's the right thing to do
- Demonstrated **water quality improvements** that benefit all downstream entities, including City of Cedar Rapids source water for our alluvial well system
- **Expansion of similar MCPP promoted activities** within Cedar River watershed and other watersheds across Iowa





MIDDLE CEDAR PARTNERSHIP PROJECT



QUESTIONS?

- Cedar River Watershed
- RCPP Project Area

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