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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WHY RCPP?
Historical Flood Crest in 2008

MCPP - Middle Cedar Partnership Project
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.
• Raw water highly influenced by river water quality
• Public notification for nitrates at 10 mg/L
• Hach Nitratax
WHY COLLABORATE?
(SOURCE WATER - PUBLIC WATER SUPPLY)
Monthly Maximum Nitrate Concentrations in the Cedar River 2008-2015
Nitrate concentrations in the Cedar River 2009-2015

Cedar River at Cedar Rapids, IA
(April through October)

Days ave daily nitrate concentration was 10 mg/l or greater
MCPP = Middle Cedar Partnership Project

**WHY PARTNER WITH UPSTREAM FARMERS & LANDOWNERS?**

- **PUBLIC HEALTH & WELFARE/FLOODING**
  - RCPP Benefits
    - Leverage existing County Soil & Water Conservation District Network resources

- **SOURCE WATER/PUBLIC WATER SUPPLY**
  - RCPP Benefits
    - Meeting critical needs of our community (water quality & flooding relief)

- **INDUSTRY & ECONOMY**
  - RCPP Benefits
    - Leverage Natural Resources Conservation Service, U.S. Dept. of Agriculture program and technical support
MCPP
WHY PARTNERSHIP?
UTILITY/COMMUNITY VALUE

Food Processing & Biotech are key
100,000+ bushels/day soybeans
1,300,000 bushels/day corn
Processed or used everyday

Water Consumer Safety and Health
Industry success

Vitally connected to upstream watershed:
Economic Resource
Source Water

FLOOD IMPACTS

Cedar Rapids Working with 15 Partners

• Improve Water Quality
• Enhance Flood Protection
WHY AGRICULTURE IS IMPORTANT TO CEDAR RAPIDS
NATIONAL PERSPECTIVE
(Regional Conservation Partnership Program –
Critical Conservation Areas)
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.
Middle Cedar Partnership Project (MCPP)
Collaborating for Soil & Water Quality
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
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
MCPP | EVALUATING RESULTS
WATER QUALITY

Average Stream Nitrate 2014-2016

<table>
<thead>
<tr>
<th>Location</th>
<th>Nitrate mg/L</th>
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<tbody>
<tr>
<td>MC02</td>
<td>1.6</td>
</tr>
<tr>
<td>MC01</td>
<td>8.3</td>
</tr>
<tr>
<td>MC03</td>
<td>9.9</td>
</tr>
<tr>
<td>MC05</td>
<td>11.4</td>
</tr>
<tr>
<td>MC12</td>
<td>11.6</td>
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<td>MC09</td>
<td>12.2</td>
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<tr>
<td>MC04</td>
<td>15.5</td>
</tr>
<tr>
<td>MC11</td>
<td>15.7</td>
</tr>
<tr>
<td>MC06</td>
<td>16.0</td>
</tr>
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Map showing monitoring locations in the watershed.
• 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
IOWA CONSERVATION AREAS
Regional Conservation Partnership Program
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**

<table>
<thead>
<tr>
<th>Watershed Involvement</th>
<th>Green Infrastructure</th>
<th>Policy Changes</th>
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<tbody>
<tr>
<td>• 2 Watershed Management Authorities</td>
<td>• Cost-Share Program</td>
<td>• Nutrient Management</td>
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<tr>
<td></td>
<td>• DNR Funding for Pilot Projects</td>
<td>• Stormwater Rate Change</td>
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<td>• Possible Topsoil Rule</td>
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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
Above Ground Barrier: A Difficult Decision
Wall required solid foundation and elevation
Reducing Flood Risk – Flood Control System

Interim flood control plan and concept for permanent protection (2008)
Voluntary Property Acquisition Program (1300+) 2009-2014
Adoption of New Flood Insurance Rate Maps (2010)
Updated Floodplain Management Ordinance (2010)
Retrofitted buildings flooded in 2008 and Raised Building Equipment
Raised two bridges over Prairie Creek (2009 and 2011)
McGrath Amphitheatre / Levee protection (2012)
Water System Improvements / Wells Raised (2012)
Waste Pollution Control Plant Upgrades / Levee System (2013)
Interim Levee Repairs
Sanitary Sewer Improvements and Watershed Management (ongoing)
Secure GRI state funding (2014)
NewBo/Czech Village projects 2016 - 2018
FCS 5 – 20 years
Remaining Risk
Risk Reduction
MCP P 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
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