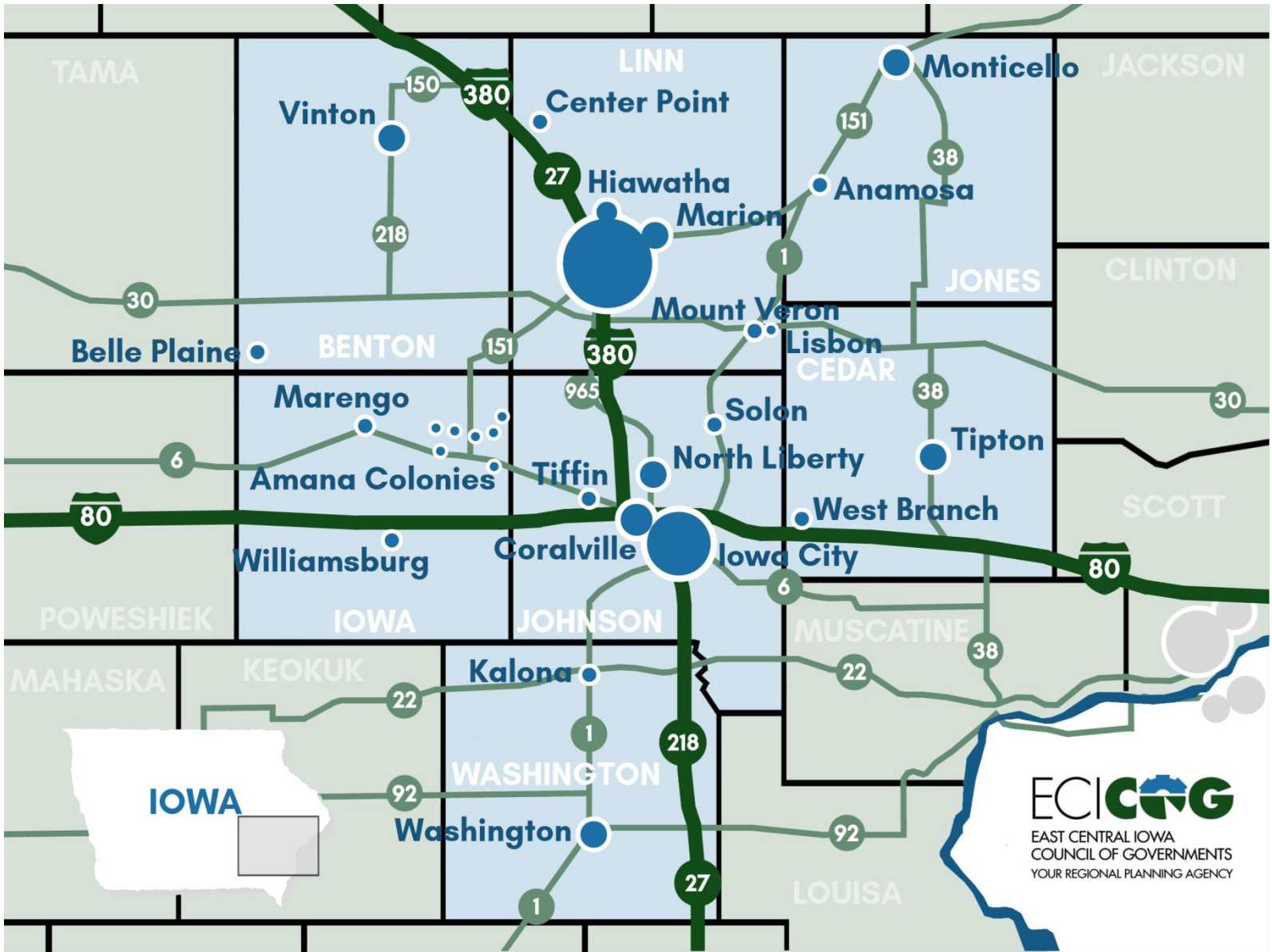




Integrating Planning in the Clear Creek Watershed

**Growing Sustainable Communities
Conference**

October 24, 2019



ECICOG
 EAST CENTRAL IOWA
 COUNCIL OF GOVERNMENTS
 YOUR REGIONAL PLANNING AGENCY

ECICOG Services



- Community Development
- Iowa Waste Exchange / Solid Waste Planning
- Hazard Mitigation Planning
- Housing Rehab Programs / Planning
- Revolving Loan Programs
- Transit / Transportation Planning
- Watershed Management / Planning



Presentation Goal

Discuss how local governments can improve water quality and reduce flood risk by connecting planning efforts and leveraging grant opportunities

Watershed Related Plans

- Plans leading to grant or cost share eligibility
 - Hazard Mitigation Plan → Hazard Mitigation Assistance
 - EPA 319 Watershed Plan → Department of Natural Resources Watershed Implementation grant
 - Sub-basin (HUC–12) Plan → Water Quality Initiative
 - Natural Resource Conservation Service 9-Element Conservation Plans → Ag Practice cost share

Watershed Focused Plans



- Plans developed with grant funding
 - Iowa Watershed Approach
 - 8 watershed plans completed linked w/ Hazard Mitigation planning guidance
 - Iowa Department of Natural Resources Watershed Planning Grant
 - Annual grant opportunity for \$100,000
 - One or two plans each year – limited resources
- Look to Hazard Mitigation grants in the future?

Iowa Watershed Approach



- National Disaster Resiliency Competition
 - HUD & Rockefeller Foundation funding
- Funds to benefit unmet needs from floods in 2011-2013 and vulnerable populations
- 2016 five-year award - \$97,887,177
- Eight watersheds
 - WMA – Monitor/Modeling – Plan – Projects - Assess
- Three cities (Dubuque, Storm Lake, Coralville)
 - Healthy Homes and infrastructure projects

Iowa Watershed Approach



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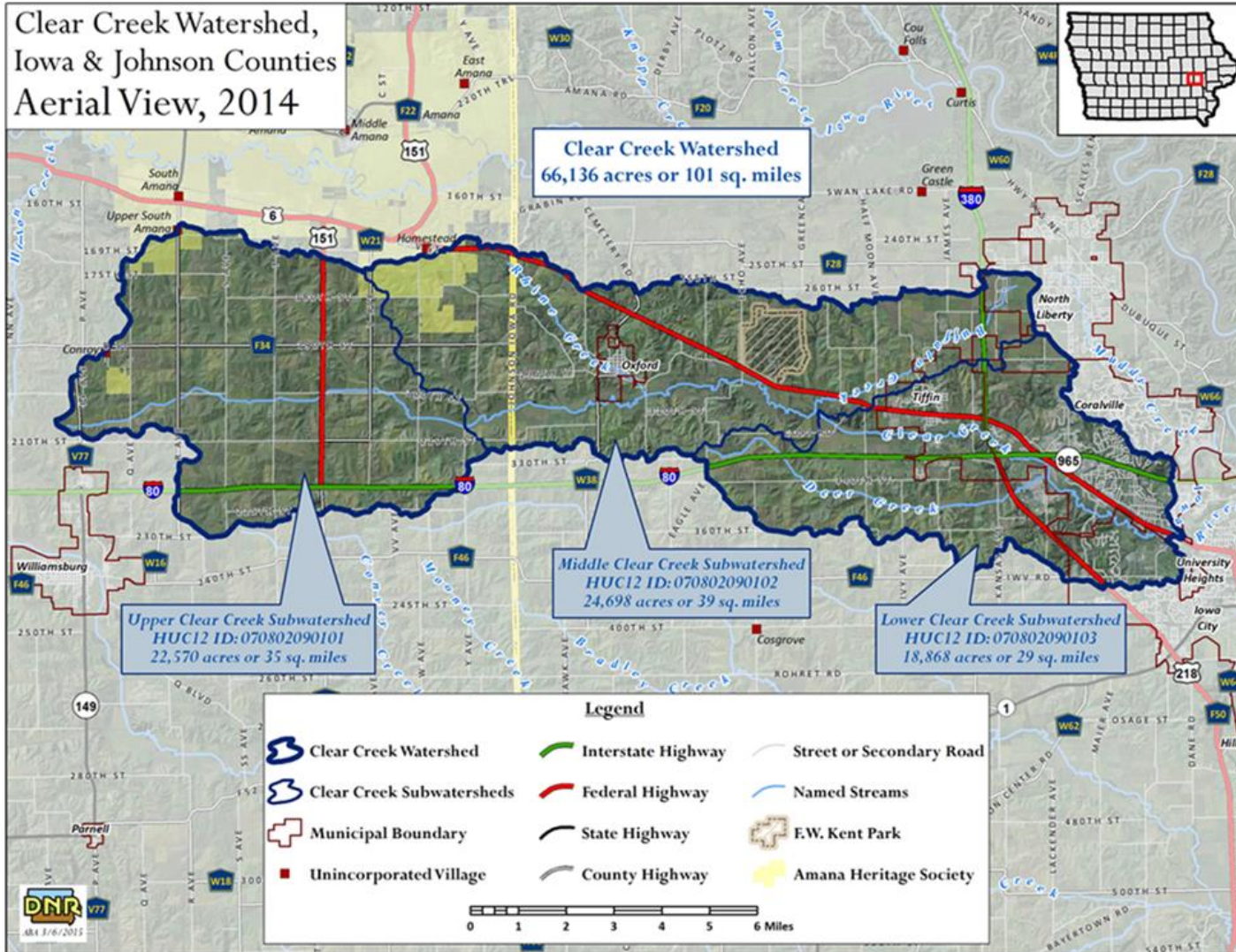
What's in a Watershed Plan?

- Watershed Characteristics:
 - Topography / geology / soils
 - Climate / flood history
 - Land use / population
- Water Quality
- Stream Condition / Soil Health
- Hydrology / Flooding / Resiliency
- Social Assessment
- Goals & Implementation Strategies

Clear Creek Watershed Plan



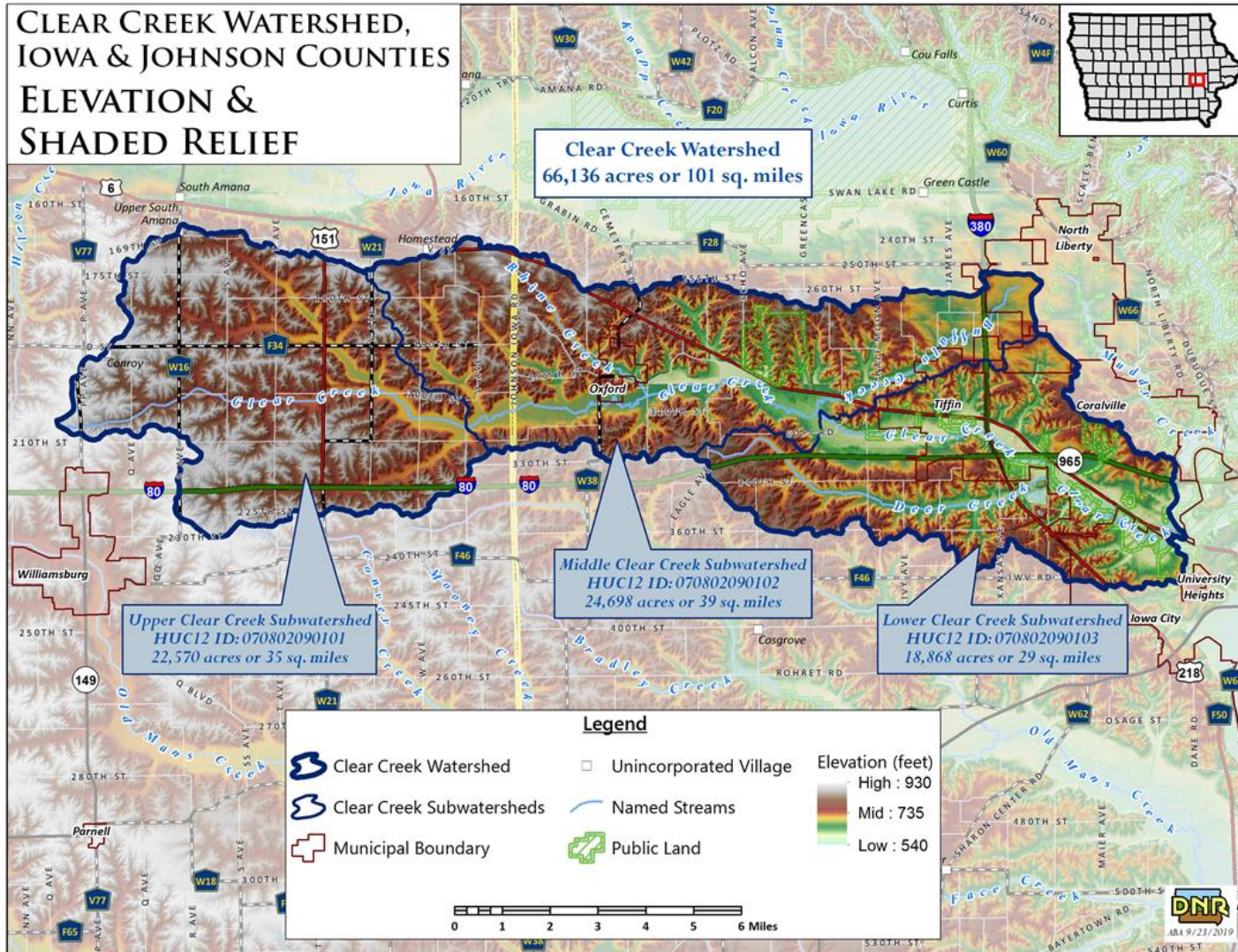
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Existing Conditions

- Clear Creek watershed is 66,136 acres
 - urban / rural mix
- 53% row crops; 23% grasslands; 7% wooded area; 14% developed
- Upland hills; 84% Highly Erodible Land
- Seasonal nutrient loss; livestock operations
- Historic straightening; development
- Concerns: flooding; sediment and bacteria

Topography



Stream Channel Comparison



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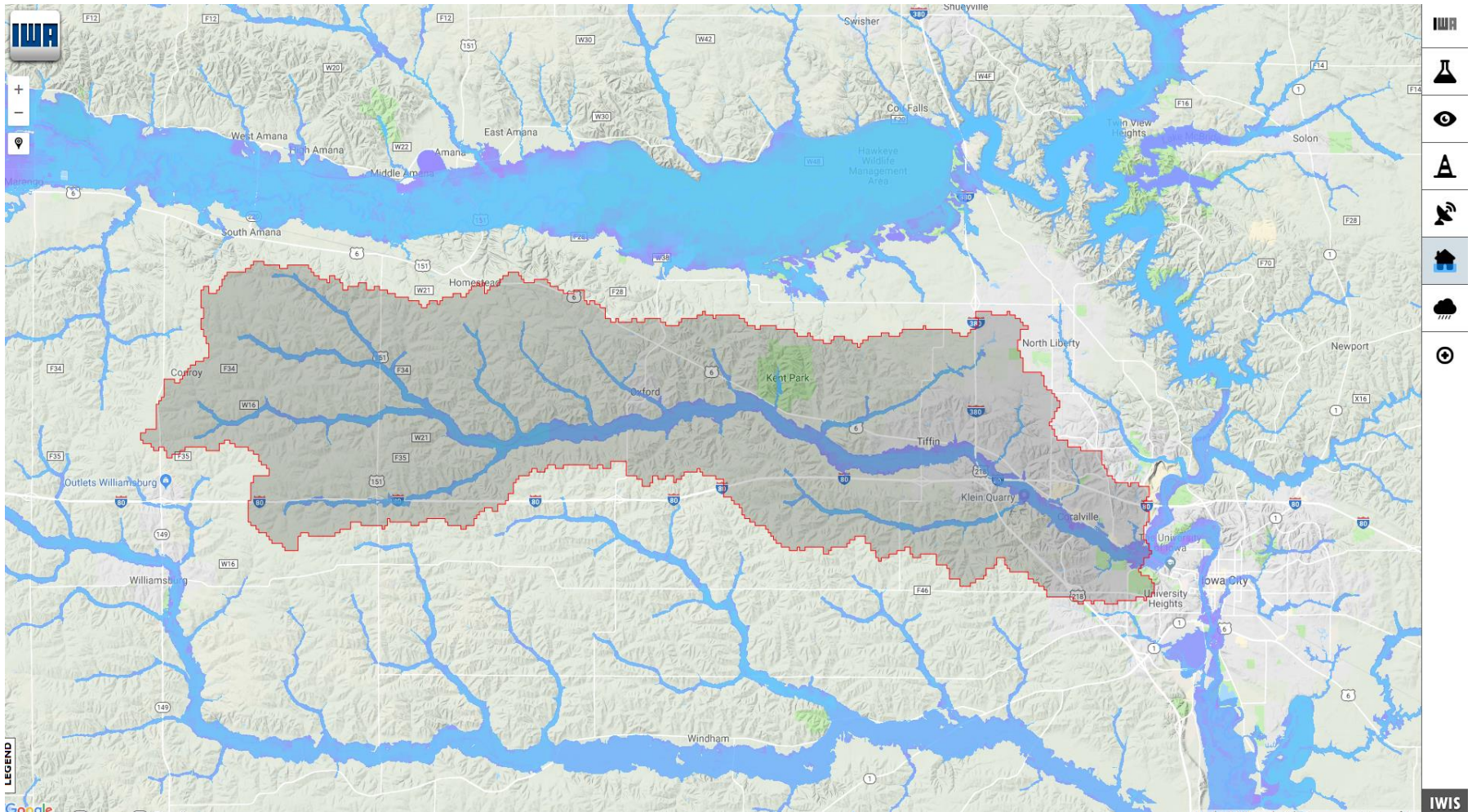


Source: Lower Clear Creek Stream Assessment Within Coralville, HR Green

Inundation 0.2% Flood Risk



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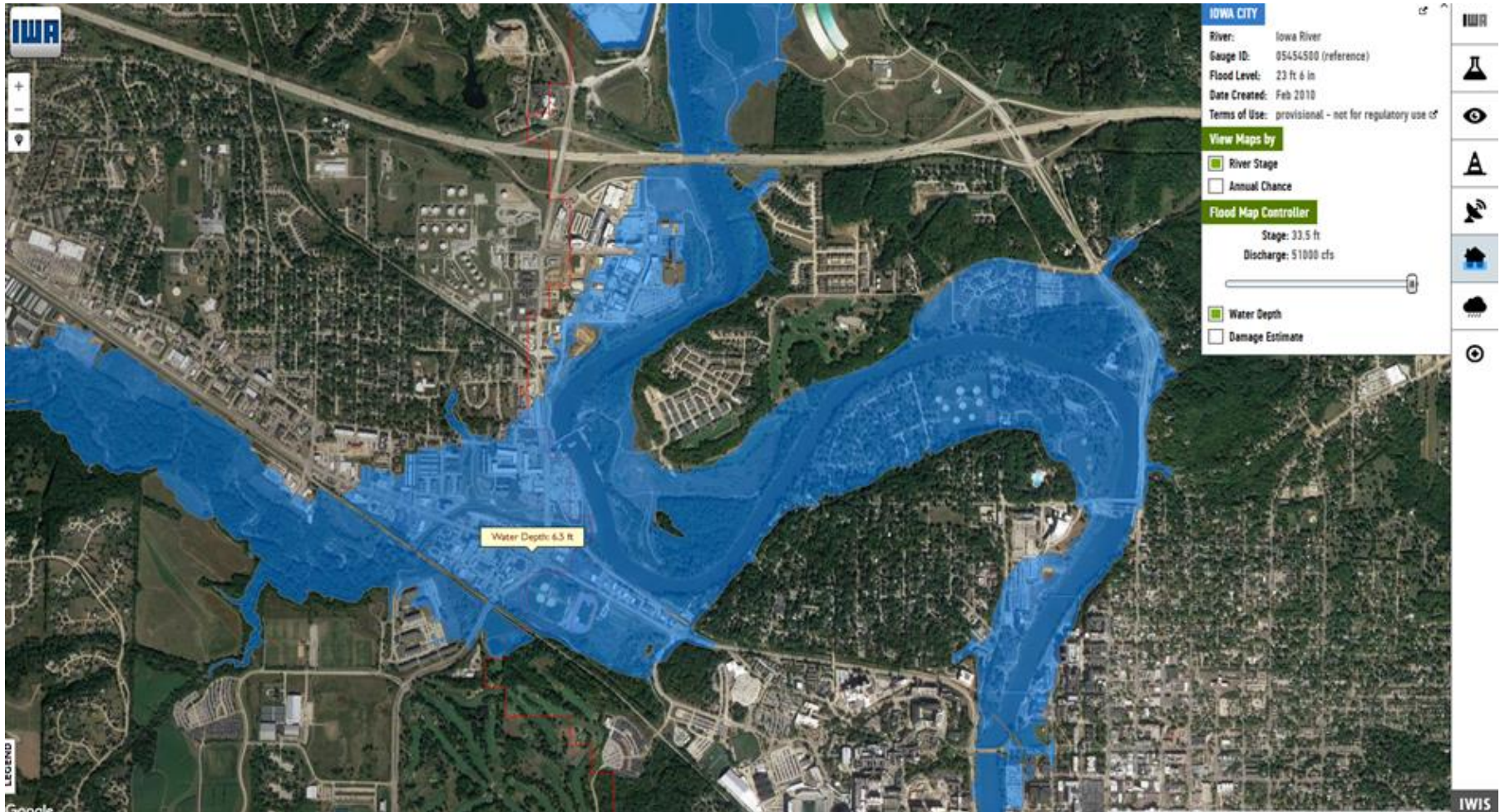


Source: Flood Mitigation Planning for the Clear Creek Watershed, UI-IIHR

Inundation 0.2% Flood Risk



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Source: Flood Mitigation Planning for the Clear Creek Watershed, UI-IIHR

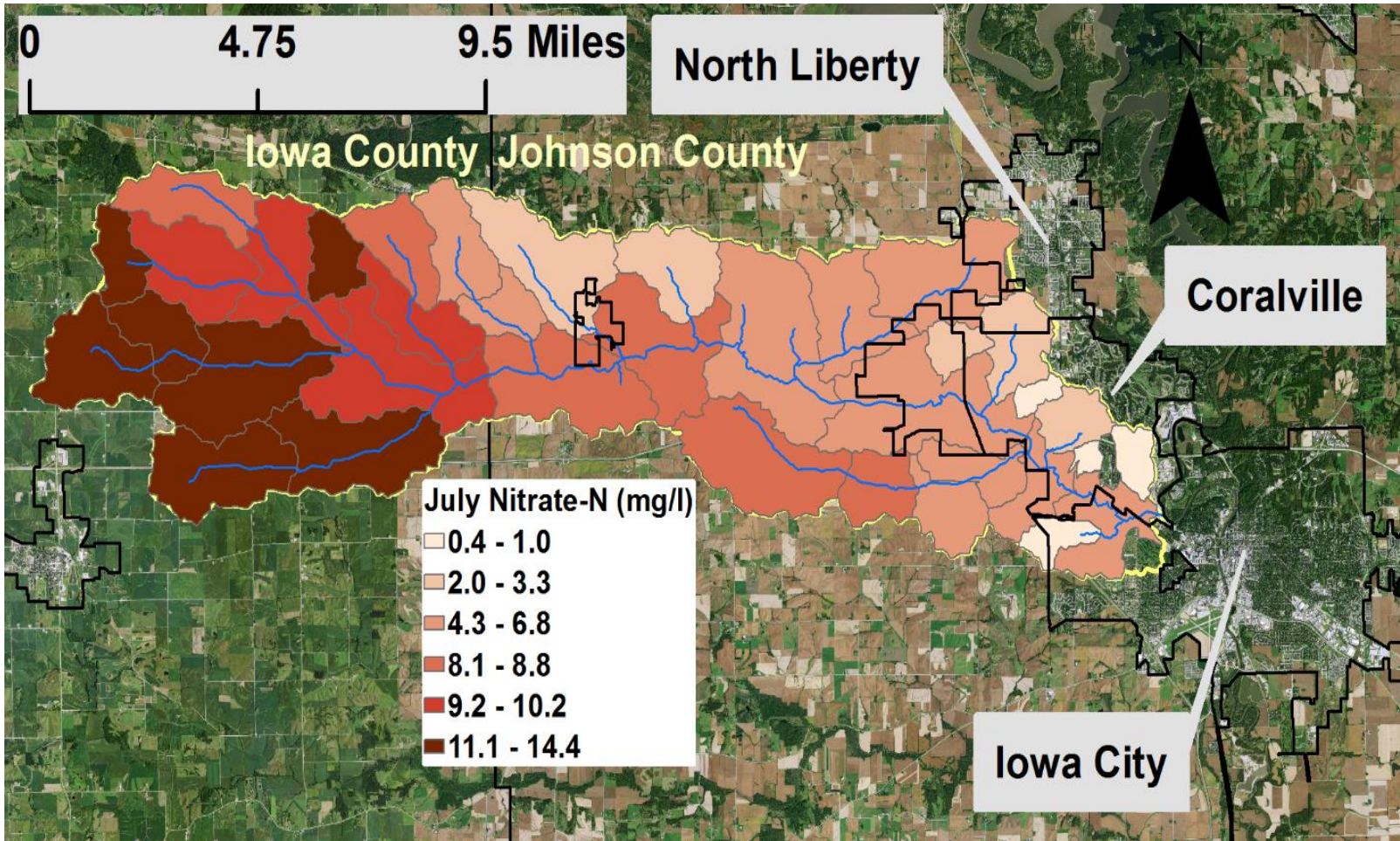
Flood Impacts



Repetitive Loss Properties December 2008 - 2018

City/County	Total Buildings	Commercial	Residential	Total Building Payments	Total Contents Payment	Total Payments
Iowa County	4	-	4	\$25,057.98	\$0	\$25,057.98
Johnson County	17	-	17	\$404,287.98	\$78,696.72	\$482,981.70
Coralville	13	13	-	\$1,246,887.88	\$367,879.03	\$1,614,766.91
Iowa City	2	-	2	\$4,440.76	\$0	\$4,440.76
North Liberty	2	-	2	\$11,335.22	\$0	\$11,335.22
Tiffin	2	-	2	\$13,668.78	\$0	\$13,668.78
Total	40	-		\$7,712,139.63	\$446,575.75	\$2,158,715.38

Source: Flood Mitigation Planning for the Clear Creek Watershed, UI-IIHR



Source: Clear Creek Watershed Hydrologic Assessment Report, UI-IIHR



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Water Quality



Lose 27 dump truck loads N / year

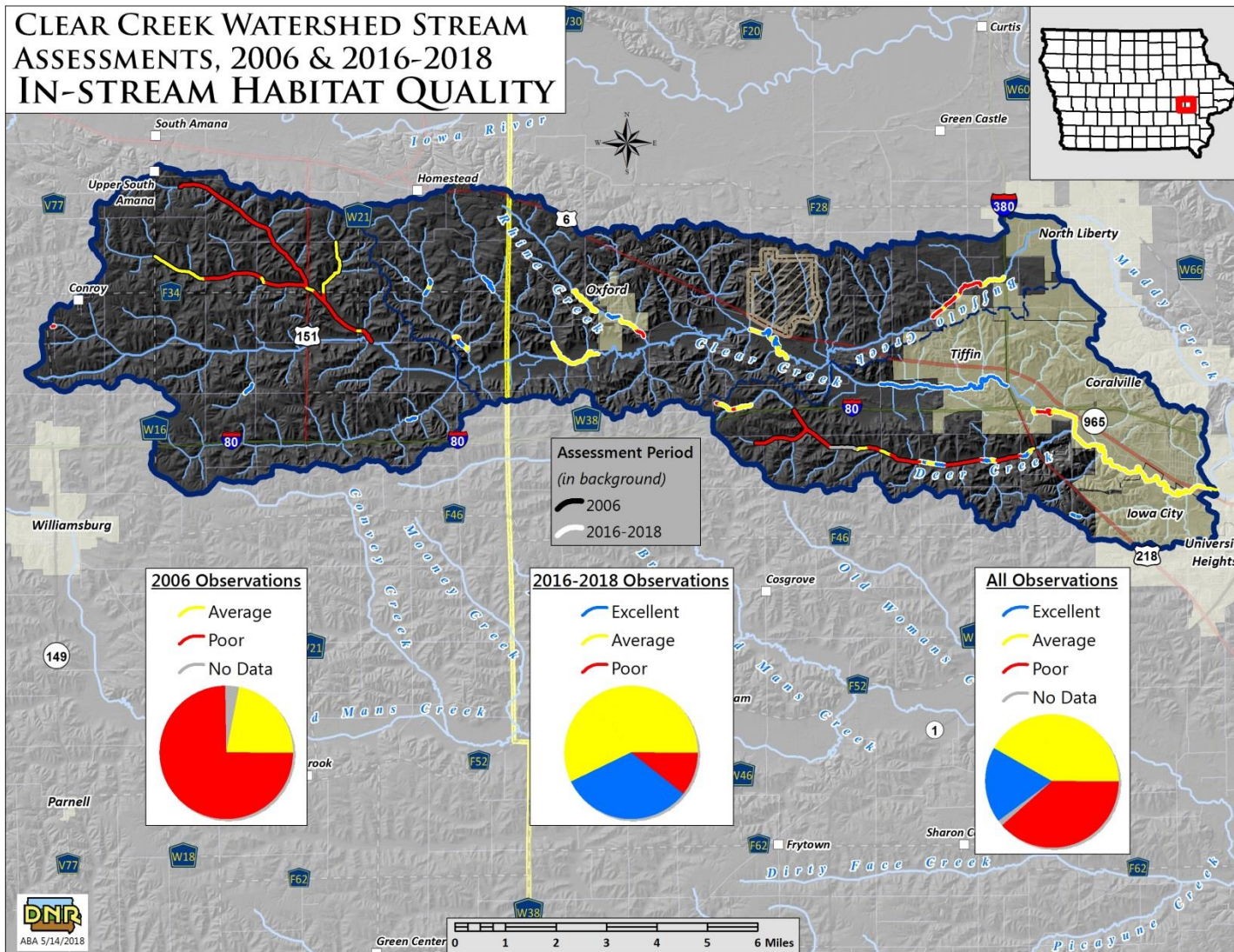


Value of lost N \$307,124 / year

Stream Condition



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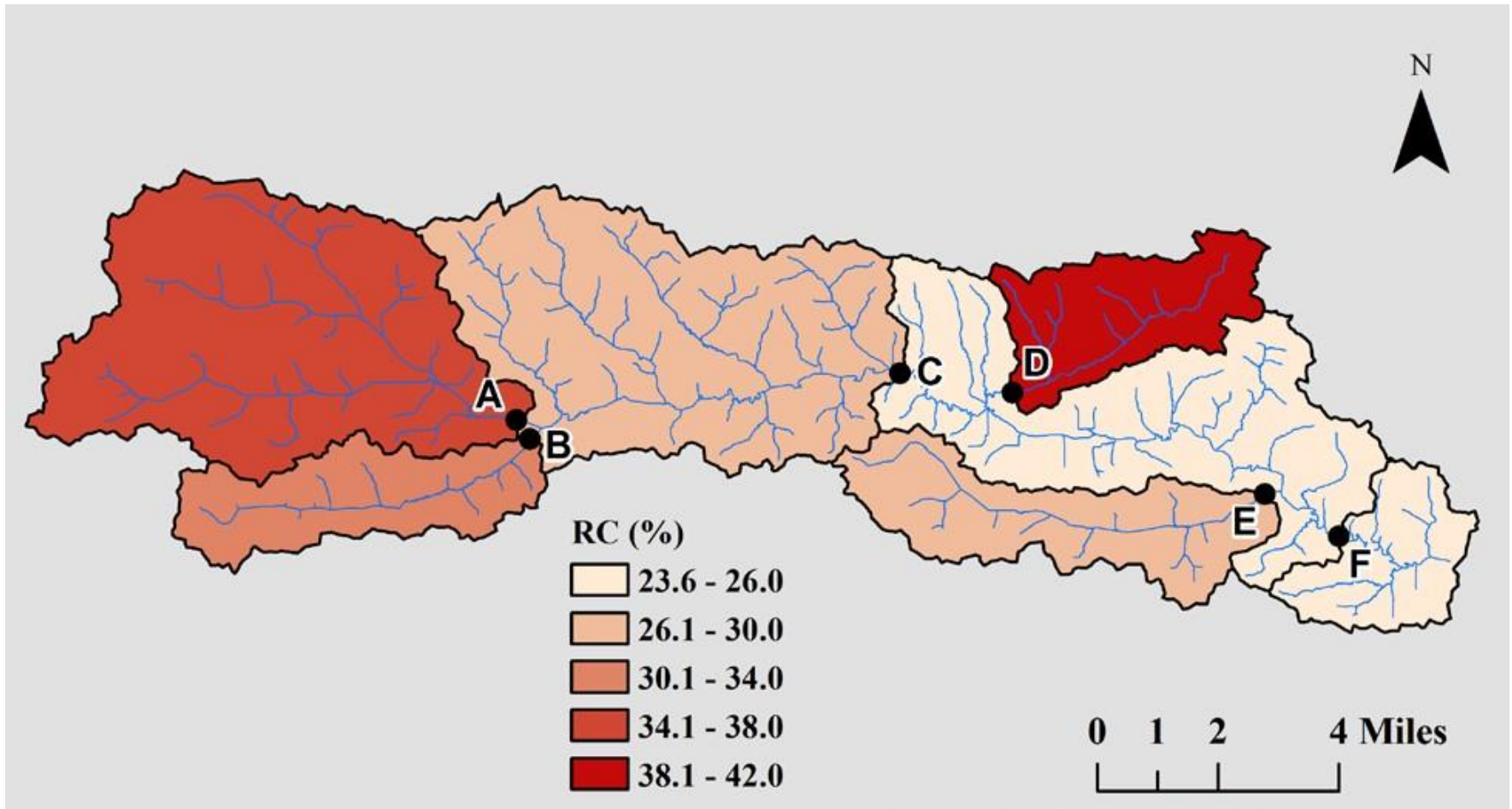


Hydrology



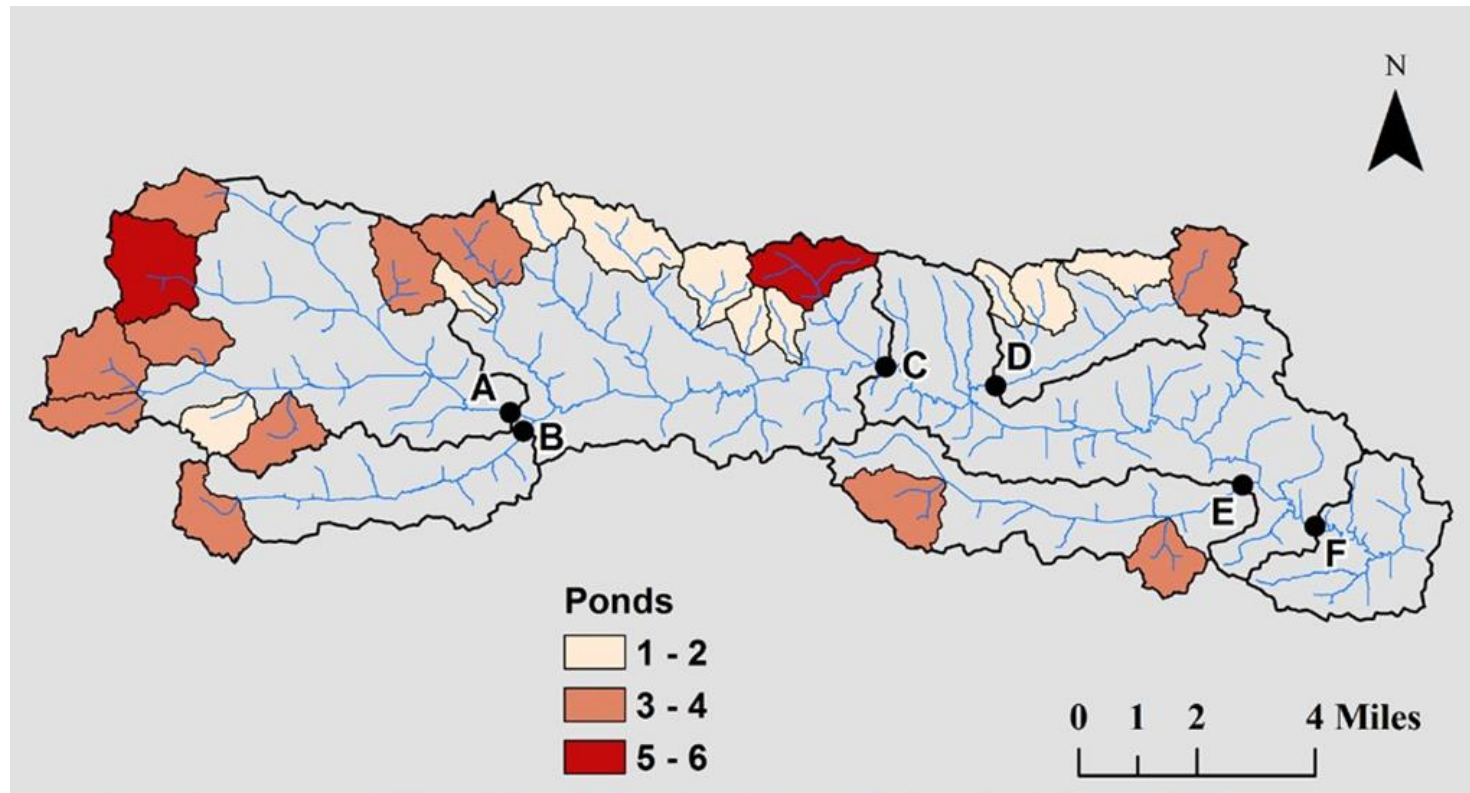
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Runoff potential



Source: Clear Creek Watershed Hydrologic Assessment Report, UI-IIHR

Distributed Storage Scenario



Source: Clear Creek Watershed Hydrologic Assessment Report, UI-IHR

Index Point	Drainage Area	Number of Ponds	Ave Peak Reduction (%)	Ave Peak Reduction under IP (%)
A	26.5	26	23	8
B	8.3	3	17	-1
C	58.4	50	14	-2
D	7.6	8	23	8
E	10.1	7	11	-12
F	98.1	65	10	-6

Increasing Infiltration & Ponds Comparison

Top graph:

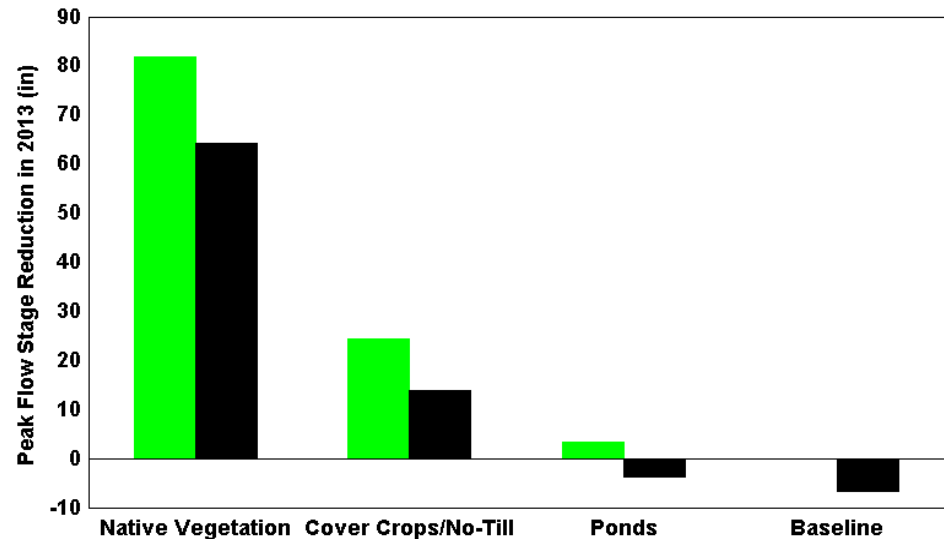
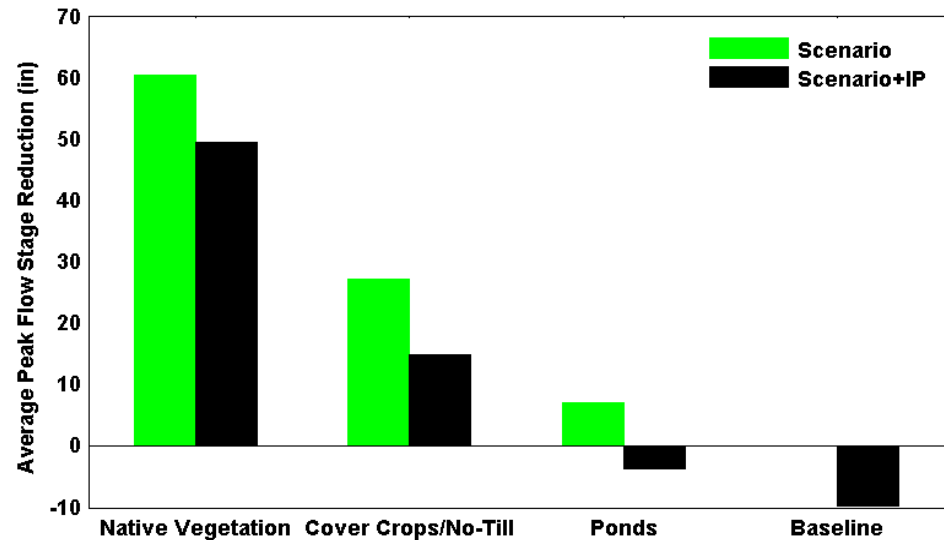
Average peak flow stage reduction

- green bars = historic precipitation
- black bars = increased precipitation

Bottom graph:

Maximum peak flow stage reduction

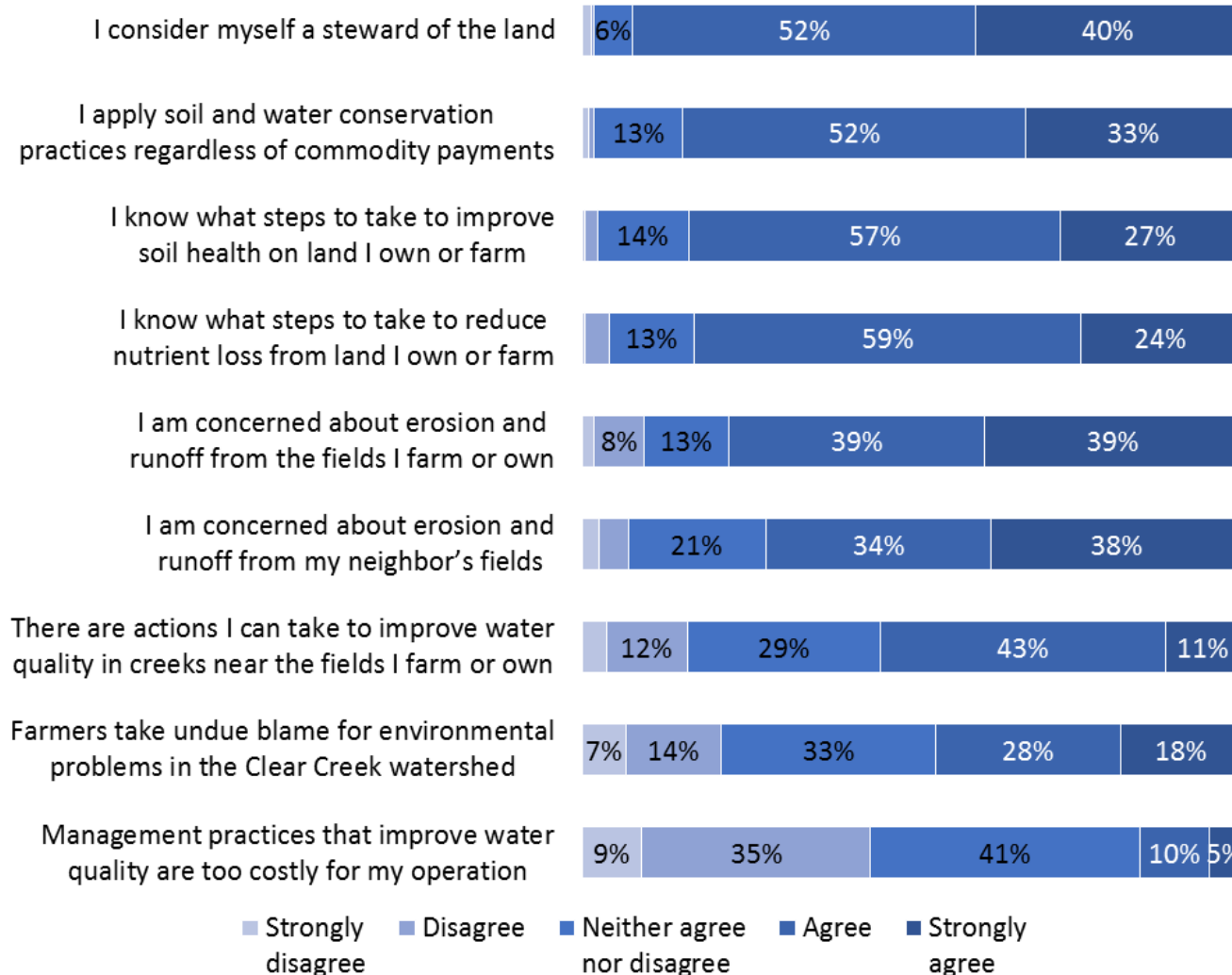
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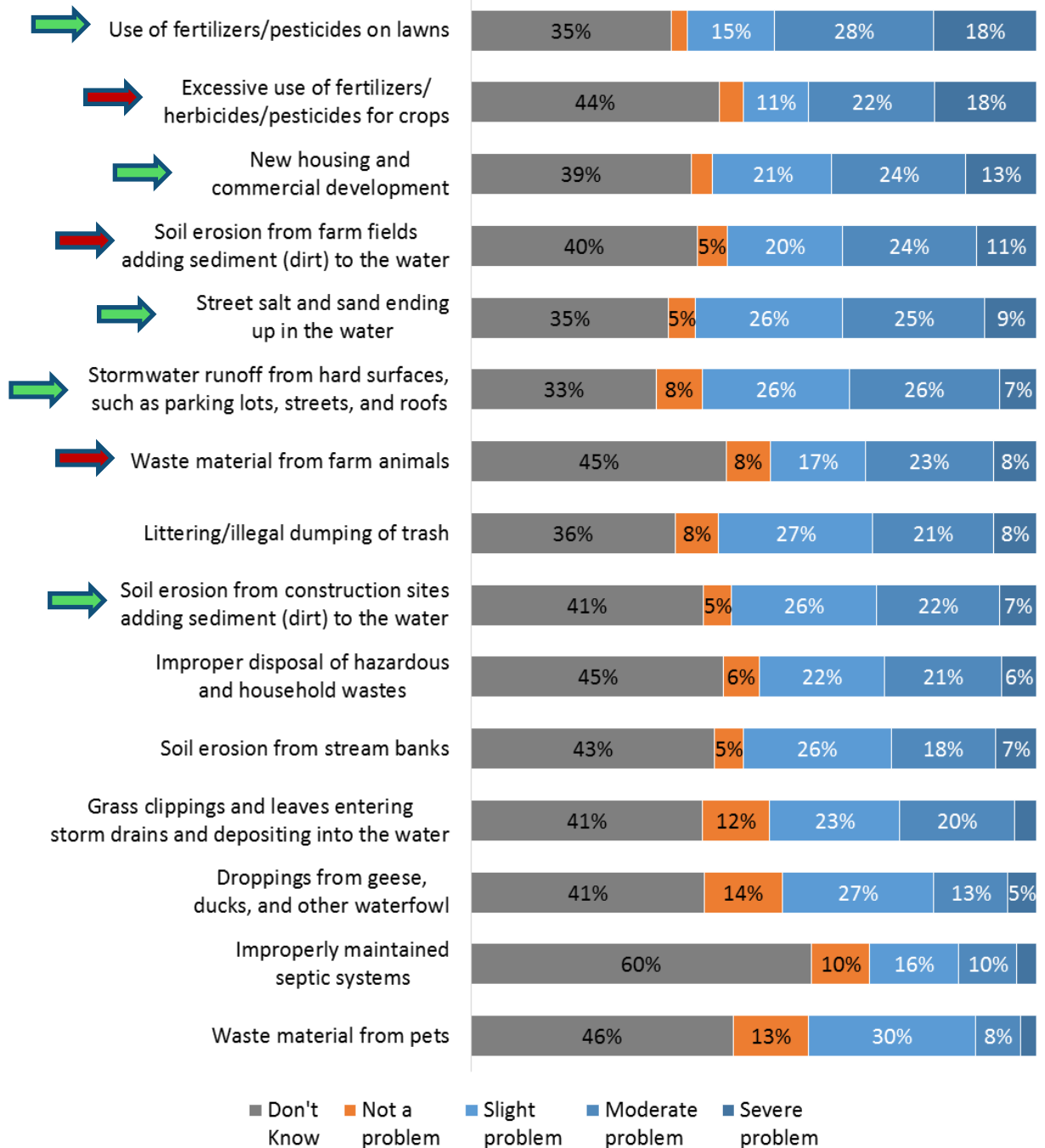
Ag Social Assessment



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Urban Social Assessment



Urban Flood Goals

- Manage stormwater to reduce peak flows
 - BMPs, buyouts & large detention projects
- Recommend policies to protect floodplain
 - Land use policy & join Community Rating System
- Encourage projects to protect critical infrastructure and other projects in Hazard Mitigation Plans
- Improve community resilience by connecting people and building watershed empathy
 - Flood impacts more than structures

Rural Flood Goals

- Flood risk reduction conservation scenario
 - 10% perennial veg, 50% cover crops, structural practices to treat 40% of all row crop acres
- Iowa Watershed Approach projects
 - 72 practices such as ponds, wetlands & waterways
- County Road Department partner on projects
 - On-road structure projects

Questions?



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CCWC Website

www.clearcreekwatershedcoalition.org