

USDA's National Water Quality Initiative

A Watershed Academy Webcast



Tuesday, July 10, 2012
1:00pm – 3:00pm Eastern

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Webcast Logistics

- **To Ask a Question** – Type your question in the “Questions” tool box on the right side of your screen and click “Send.”
- **To report any technical issues** (such as audio problems) – Type your issue in the “Questions” tool box on the right side of your screen and click “Send” and we will respond by posting an answer in the “Questions” box.

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Topics for Today's Webcast

- Overview of Water Quality issues and the CWA 319 Program
- Introduction to the NWQI in FY12
- Iowa's Experience with the NWQI



USDA National Water Quality Initiative

Lynda Hall, Chief
Nonpoint Source Control Branch
EPA Office of Water

In this presentation

- Scope of nonpoint source (NPS) pollution nationally and contributions from agriculture
- How EPA's CWA Section 319 Program addresses NPS pollution
- USDA's NWQI an opportunity for better environmental outcomes through program collaboration

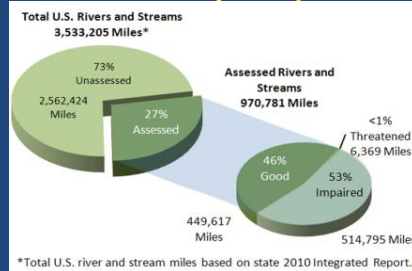
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National Scope of Nitrogen & Phosphorus Pollution

- More than 15,000 nutrient-related impaired waters
 - ~ 101,000 miles of rivers and streams impaired by nutrients
 - ~ 3.5 million acres of lakes and reservoirs impaired by nutrients
- More than 8,000 nutrient-related TMDLs completed to date
- Approximately half of assessed streams have medium to high levels of nitrogen and phosphorus
- More than 40% of lakes have medium to high levels of nitrogen and phosphorus
- 78% of continental U.S. coastal waters exhibit eutrophication
- 168 Hypoxic Zones in U.S. Waters
- Current nutrient control efforts hard fought, but collectively inadequate at state and national level

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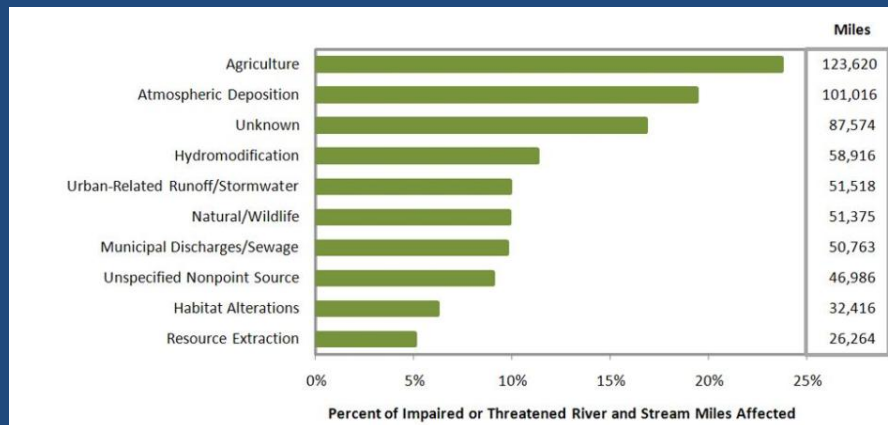
Agricultural NPS is a Leading Source of Water Quality Impairment



- Number one source for rivers and streams
 - 123,620 miles, 24% of impaired miles
 - Number three source for lakes, ponds, and reservoirs
 - 1,821,113 acres, 14% of impaired acres
 - Number nine source for estuaries
 - 3,027 square miles, 14% of impaired area
- (Source: Draft CWA 305(b) National Water Quality Inventory: Report to Congress, 2010 Reporting Cycle)

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National Summary: Source and Causes of Impairments



(Source: Draft CWA 305(b) National Water Quality Inventory: Report to Congress, 2010 Reporting Cycle)

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Goals of CWA 319 Program

- Nonpoint Source Program (§319)
 - Grants to states/tribes for technical and financial assistance, education, training, technology transfer, demonstration projects, and monitoring
 - Many projects focus on agriculture, especially nutrient and pathogen reductions, often coordinated with USDA conservation programs
- Improve and maintain water quality by addressing NPS pollution sources
 - One success measure: waters with improving quality or that now meet state water quality standards
 - 370 success stories to date
- How: staffing support at state and local levels, planning, technical assistance, on-the-ground BMPs, monitoring, building partnerships.

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Section 319 Funding

- 319 Appropriation:
 - 2001-04: \$237 – 238M
 - 2005-10: \$199-207M
 - 2011: \$175M
 - 2012: \$165M
- States implement nonpoint source programs
 - Receive 319 funds via allocation formula
 - Pursuant to EPA guidelines
 - Add 40% non-federal match and often other state funds
- **Base funds:** state/local staff, project coordination, outreach, technical assistance, **partnership-building and leveraging.**
- **Incremental funds:** develop, implement, and monitor watershed projects

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319 and USDA Conservation Programs...

- Are complementary and work well together
 - Shared goals
 - Rely on voluntary actions by landowners
 - Fueled by partnerships at the local level
- Have active and ongoing collaboration in about half of states – NWQI an opportunity to expand
- Provide great opportunity to enhance coordinated implementation of our programs to:
 - Better serve watershed partnerships
 - Produce better conservation and water quality outcomes
- Deliver powerful results when they work together
 - Nearly 30% of 319 “success stories” involved collaboration with USDA programs

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Nonpoint Source Success Stories www.epa.gov/nps/success

- A measure of 319 program progress: number of NPS-impaired waterbodies with water quality partially or fully restored.
 - Current Tally: 370
- Projects often funded through CWA section 319 and/or other funds targeted at NPS pollution control

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Common Attributes of NPS Success Stories

- Specific NPS problem areas and practices/BMPs identified and implemented
- Watershed planning or TMDLs inform implementation
- Section 319 funds support planning and/or implementation
- **Multiple project partners** providing resources, expertise
- Local buy-in
- Concerted effort over several years
- WQ monitoring data showing improvement

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USDA National Water Quality Initiative

- An FY12 opportunity to better integrate State NPS/319 programs and conservation programs
- NRCS National Bulletin
 - Primary focus = water quality in high-priority impaired (or other) waters
 - Nutrient and sediment impairments
 - One to three watersheds per state – seek input on candidate watersheds from state water quality agency
 - 5% of EQIP funds in selected watersheds
- An exciting opportunity going forward to expand the partnership and multiply water quality successes

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Looking Ahead to FY13

- Joint USDA/EPA water quality initiative
- Similar in focus to FY12 with opportunity to refine
- USDA invests EQIP funds in targeted watersheds
- EPA/states provide monitoring support to gauge water quality results

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Questions?



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National Water Quality Initiative (NWQI)

EPA National Webcast
July 10, 2012
Washington, DC

Tom Christensen
Regional Conservationist – Central Region
USDA Natural Resources Conservation Service

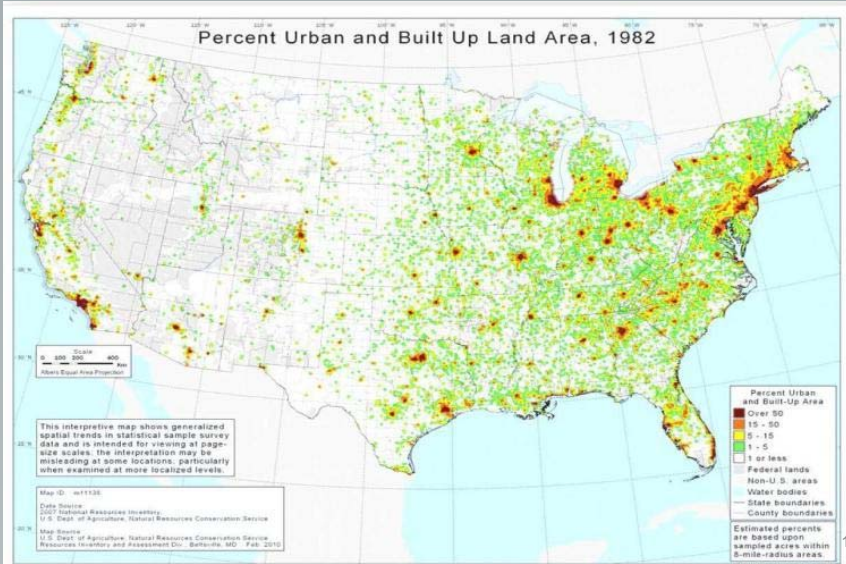
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Partnership Challenge

- By 2050 there will be **2.4 billion** more people to feed.
- The 2007 National Resources Inventory (NRI) tells us that U.S. cropland acreage dropped by 63 million acres between 1982 and 2007, from 420 to 357 million acres.
- To close the gap between current food production and future food demand, food output will need to increase by 70 percent over the next 40 years.
- **Challenge:** Increased and safe food production that safeguards conservation values: healthy soil, clean air and water, quality wildlife habitat . . .

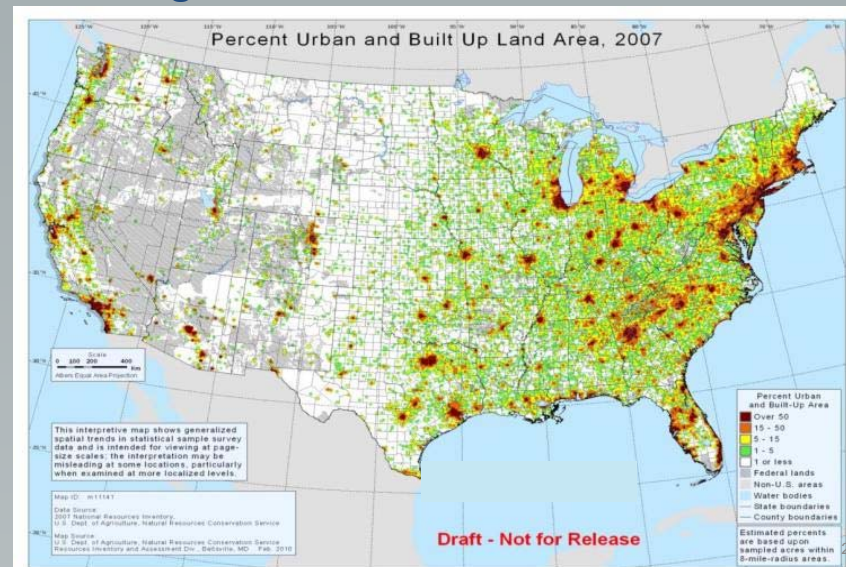
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Loss of Agricultural Land: 1982



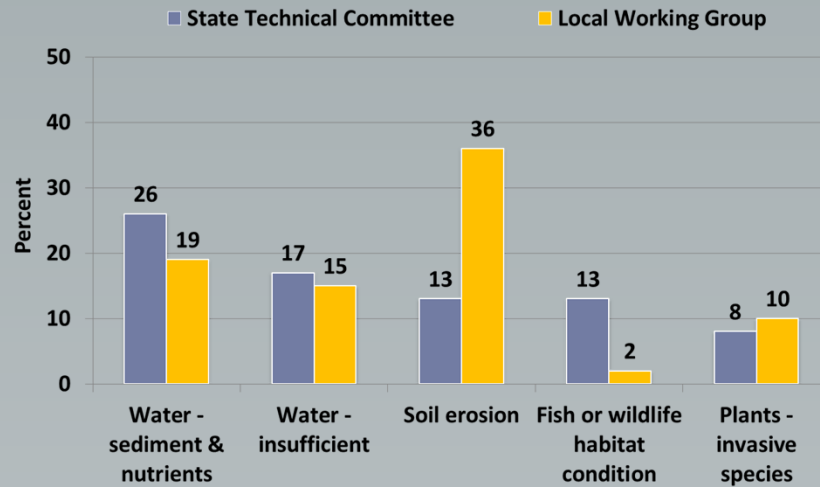
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Loss of Agricultural Land: 2007



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Highest Priority Resource Concerns



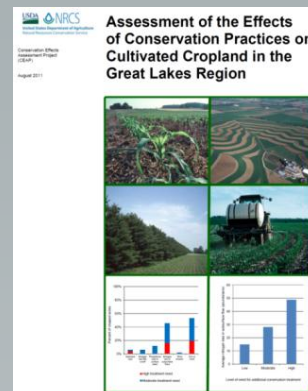
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CEAP: Regional Cropland Assessments

(Upper Mississippi, Chesapeake Bay, Great Lakes, Ohio/Tennessee)

Key Findings

- The voluntary, incentives-based conservation approach is achieving results.
- Opportunities exist to further reduce sediment and nutrient losses from cropland.
- Comprehensive conservation planning and implementation are essential.
- Targeting enhances effectiveness and efficiency.
- Full treatment of the most vulnerable acres will require a suite of conservation practices, because **no single practice is a universal solution.**



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Conservation Effects Assessment Project (CEAP)

Initiated in 2003 as a partnership effort.

- **Original goals:** Quantify and establish the scientific understanding of the effects of conservation practices at the watershed scale, and estimate conservation effects and benefits at regional and national scales.
- **Vision for the future:** Enhanced natural resources and healthier ecosystems through improved conservation effectiveness and better management of agricultural landscapes.



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CEAP: Cropland Regional Assessments

River Sub-Basin CEAP Reports

Published

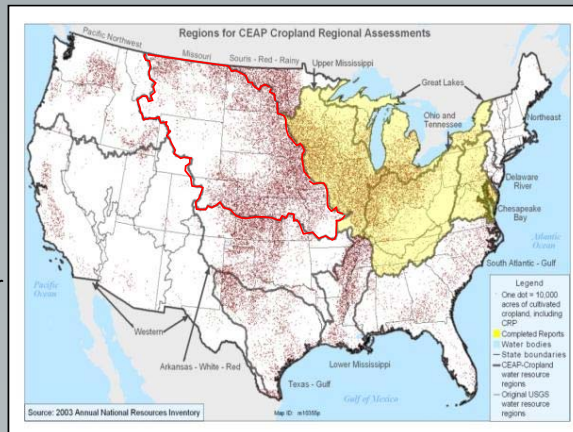
- Chesapeake Bay
- Upper Mississippi
- Great Lakes
- Ohio-Tennessee

Scheduled for release in 2012

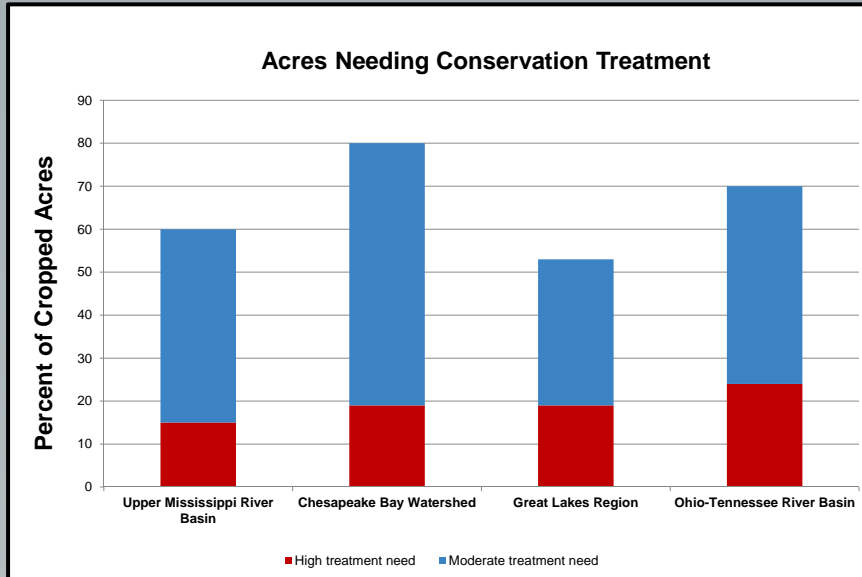
- **Missouri**
- Arkansas-White-Red
- Lower Mississippi
- Updated/final report for Upper Mississippi

Scheduled for release in 2013

- South Atlantic/Gulf
- Northeast
- Texas Gulf
- Pacific Northwest



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What CEAP Told Us About Phosphorus

Phosphorus application for <u>all</u> crops in rotation	Upper Mississippi R. Basin	Chesapeake Bay	Great Lakes Region	Ohio-Tennessee R. Basin
Appropriate rate	57%	37%	45%	43%
Appropriate timing	50%	58%	69%	61%
Appropriate method	57%	49%	61%	47%
Appropriate rate <u>and</u> timing <u>and</u> method	29%	19%	29%	21%
No phosphorus applied	1%	17%	1.5%	<1%

What CEAP Told Us About Nitrogen

Nitrogen application for <u>all</u> crops in rotation	Upper Mississippi R. Basin	Chesapeake Bay	Great Lakes Region	Ohio-Tennessee R. Basin
Appropriate rate	34%	35%	40%	39%
Appropriate timing	45%	54%	69%	64%
Appropriate method	56%	35%	50%	46%
Appropriate rate <u>and</u> timing <u>and</u> method	14%	13%	18%	17%
No nitrogen applied	2%	3%	5%	3%

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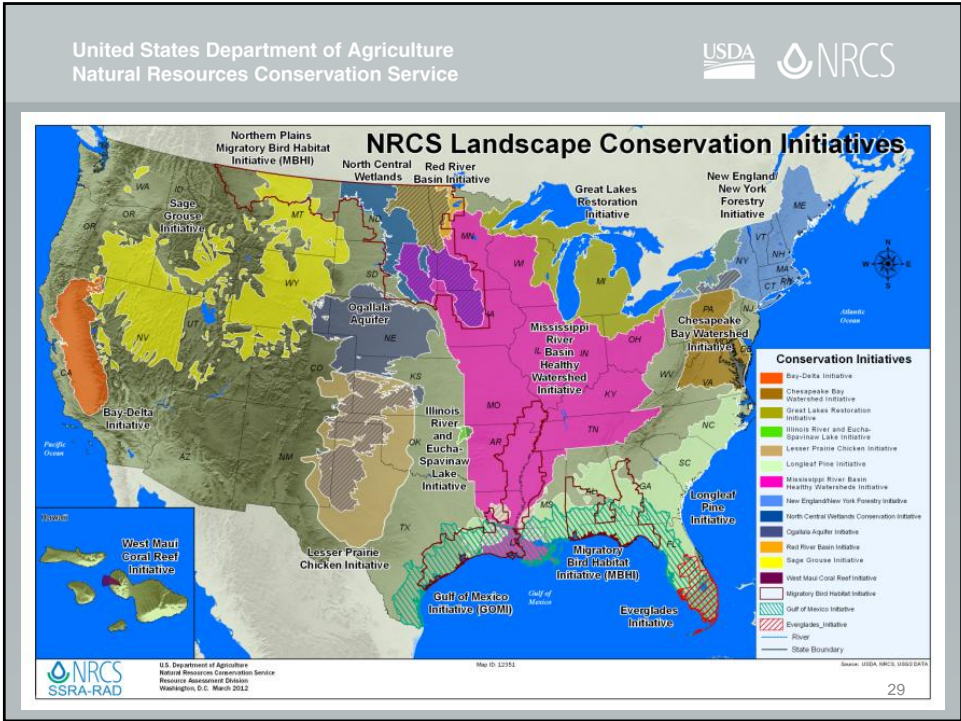
Landscape Conservation Initiatives

Initiatives have national significance and focus on critical resource concerns at the landscape level.

- Build on existing locally-led efforts and are partnership driven
- Dedicated funding to accelerate implementation
- Science-based
- Assessment of performance and environmental outcomes



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Key Features of NRCS' Approach to Implementation

- 1) Enhanced technical assistance capacity to conduct outreach and to facilitate quality conservation planning prior to entering into contracts and agreements for implementation of systems.
- 2) Dedicated funding in addition to base program levels, resulting in acceleration of conservation planning and implementation in priority watersheds.



Key Features of NRCS' Approach to Implementation

- 3) Greater effectiveness in obligation and disbursement of the dedicated funding through its use in priority watersheds, on priority resource concerns, and through a priority application ranking system for priority systems of conservation practices.
- 4) Combined use of conservation easement and working lands programs in priority watersheds to complement one another for greater natural resource protection.
- 5) A coordinated initial signup period across states to bring focus and generate greater producer interest in participating.

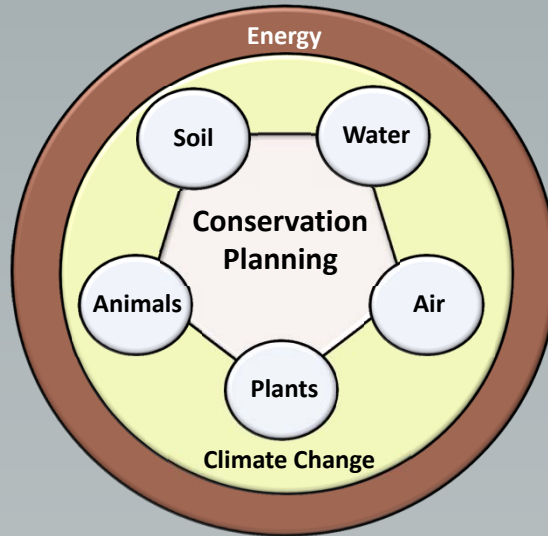
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Key Features of NRCS' Approach to Implementation

- 6) Significant partner involvement in outreach and follow-up with producers and other private landowners.
- 7) Greater consistency across state boundaries within a priority watershed for conservation practice lists and payment schedules.
- 8) Shorter term contracts to accelerate implementation, reduce implementation variables, and minimize technical assistance needs in the out-years of contracts and agreements.
- 9) Consistent performance expectations and goals across states to ensure greater transparency and agency accountability.

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The Conservation Planning Process



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Focus of Conservation Planning— Conservation Systems

- Right conservation systems
- Right position on landscape
- Right amount
- Right timing and sequencing of practice/system implementation (progressive implementation)



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The President's FY 2013 Budget: Enhances Interagency Efforts to Improve Water Quality



“ . . . The President's Budget builds upon the collaborative process already underway among Federal partners to demonstrate substantial improvements in water quality from conservation programs by coordinating efforts between U.S. Department of Agriculture (USDA) and EPA programs such as EPA's Nonpoint Source Grants and Water Pollution Control Grants and USDA's Farm Bill conservation programs. This coordination will allow for more effective, targeted investments at the Federal and State level during a time of constrained budgets, and will ensure continued improvements in water quality.”

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National Water Quality Initiative (NWQI)

Key Parameters

- Accelerate targeted funding in FY 2012
- Small watershed (12-digit HUC) emphasis
- Water quality that is impaired, threatened, has TMDL plan in place, or is critical
- Impairments that NRCS can help effectively address through voluntary action
 - Agricultural sources (nutrients/sediment)
- No less than one watershed and no more than three (exception requires Regional Conservationist approval)

GOAL: Remove streams and other water bodies from 303d list, from threatened status, from contributing to impairments, or adequately address a TMDL plan

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NWQI: Watershed Selection Criteria

Priority Pollutants

- Nutrients
 - Low Dissolved Oxygen
 - Ammonia
 - Algal Growth
- Sediment/Turbidity

Other Eligible Pollutants

- Pesticides
- Temperature
- Salinity
- Habitat Alteration
- Cause Unknown – Impaired Biota

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NWQI: Watershed Selection Process



State Water Quality Agency—Consultation
State Technical Committee—Consultation
State Conservationist—Decision
Regional Conservationist—Concurrence

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NWQI: Conservation Practices/Activity Plans

- Core and supporting practices
 - Core practices are those that have been selected that will directly impact the resource concern.
 - Supporting practices are those that make it possible for core practices to function properly.
- Conservation Activity Plans: Five types
 - Comprehensive Nutrient Management Plans (CNMP)
 - Nutrient Management Plan (NMP)
 - Integrated Pest Management (IPM)
 - Irrigation Water Management (IWM)
 - Drainage Water Management (DWM)

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NWQI: Screening and Ranking Criteria

Screen Applications

- High: All conservation practices will be implemented on land within NWQI watershed, AND core conservation practices are on more than 25 percent of the acres OR the application is a Conservation Activity Plan.
- Medium: One or more conservation practices will be implemented on land within NWQI watershed, AND application contains core conservation practices.
- Low: All others (these will not be ranked for FY-12 NWQI).

Rank Applications

- National program questions for consistency
- State questions for specific NWQI objectives
- Local questions in consultation with State Technical Committee

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NWQI: Payment Schedules

- Follow regional protocol for FY-12
 - 15 practices used most frequently had regionalized payment schedules
 - Remaining practices used state-based payment schedules
- On a very limited basis, add practices/scenarios as needed for this effort with RC's and Deputy Chief for Programs' concurrence

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NWQI: Schedule (all dates 2012)

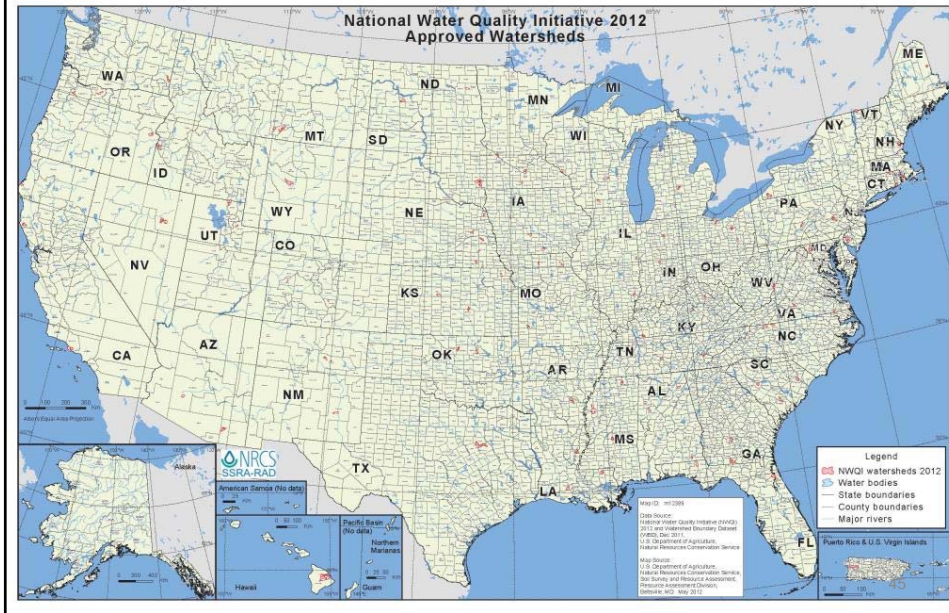
- February 23: EPA Coordination at National Level
- April 20: State WQ Agency/Tech Committee Input
- April 20: STC selection of watersheds
- April 24: Selected watersheds to RCs
- May 8: Initiative Announcement
- May 18: Application Period-1 Ends
- June 15: Application Period-2 Ends
- **July 2: Obligation Deadline**
- **July 30: Outcome Training Completed**

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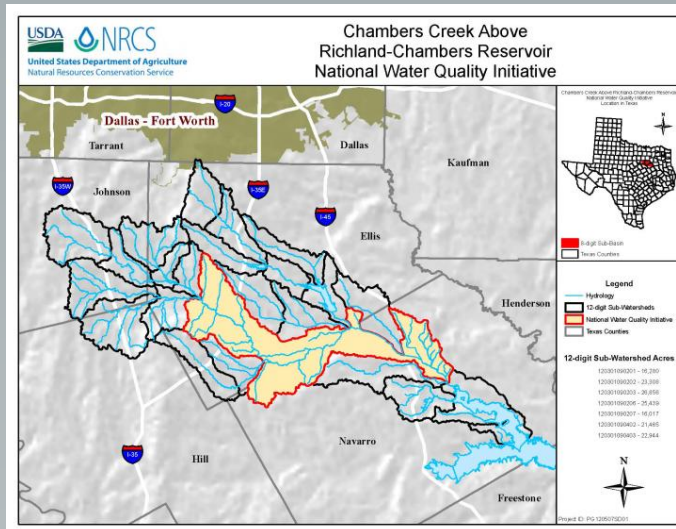
National Water Quality Initiative (NWQI) Informatics		HUC12 Total Acres	Agricultural Land (NLCD)		Water Quality (Nutrients, Low DO, Ammonia, Algal)		Soil Quality					
			Cropland, Hay, and Pasture Land		EPA 303d Impaired Waters		CEAP Vulnerable Soils				USGS	
State	HUC_12	HUC12_Name	NLCD based (U.S. Lower 48 States Only)	Acres Ag Land	Percent Ag Land	303d Impaired Waters Count	303d Impaired Waters w/ TMDL Count	High or Moderately High Potential: Leaching (Acres)	High or Moderately High Potential: Leaching (% of Ag Land)	High or Moderately High Potential: Runoff (Acres)	High or Moderately High Potential: Runoff (% of Ag Land)	Nitrogen (kg/km²)
ME	010100010603	Shields Branch Big Black River	11,074	0	0%	1	0	0	0%	0	0%	0%
ME	010100030304	Dickey Brook	16,743	5,865	35%	1	1	5,447	93%	4,461	76%	68%
ME	010100030305	Dalgie Brook	10,071	0	0%	2	2	2,222	91%	1,660	68%	48%
ME	010100030306	Cross Lake	12,953	0	0%	1	0	229	86%	128	48%	0%
ME	010100041002	West Branch Presque Isle Stream	15,623	0	0%	0	1	0	0%	0	0%	0%
ME	010100041005	Shields Brook-Upper Presque Isle Stream	18,925	0	0%	0	1	215	95%	105	46%	38%
ME	010100041008	Arnold Brook-Lower Presque Isle Stream	29,384	5,599	19%	1	1	5,279	94%	2,129	38%	35%
ME	010100041009	Pettingill Brook-Aroostook River	58,024	29,107	50%	0	1	27,549	95%	10,498	36%	69%
ME	010100041103	Madawaska Lake	22,227	0	0%	0	1	301	85%	243	69%	29%
ME	010100041110	Pattee Brook	18,238	7,479	41%	1	0	7,120	95%	2,922	39%	25%
ME	010100041112	Limestone Stream	30,043	11,313	38%	1	1	10,632	94%	3,249	29%	25%
ME	010100041113	Hockenhuill Brook-Aroostook River	37,669	20,677	55%	1	0	19,791	95%	7,452	36%	25%
ME	010100050101	Christina Reservoir-Prestile Stream	22,050	11,205	51%	2	0	10,329	92%	4,979	44%	11%
ME	010100050102	Rideout Brook-Prestile Stream	21,925	6,053	28%	1	0	5,614	93%	2,885	48%	6%
ME	010100050403	Nickerson Lake-Medunnekeag River	20,819	4,791	23%	0	1	4,249	90%	2,433	51%	4%
ME	010100050407	Smith Brook-Medunnekeag River	27,369	8,961	33%	0	1	7,830	87%	6,487	72%	6%
ME	010100050408	Mill Brook-Medunnekeag River	6,290	2,270	36%	0	1	2,037	90%	1,167	51%	3%
ME	010200040205	Meadow Brook-Piscataquis River	31,162	3,155	10%	1	0	1,814	57%	1,336	42%	3%
ME	010200050201	Seboribus Rapids-Penobscot River	26,308	1,321	5%	1	0	660	50%	947	72%	2%
ME	010200050205	Matanewcook Stream	20,933	416	2%	1	0	347	63%	224	54%	0%
ME	010200050208	Pollack Brook-Penobscot River	29,668	764	3%	2	0	435	57%	611	80%	0%
ME	010200050408	Penobscot River at Orson Island	28,395	153	1%	1	0	42	28%	59	38%	0%
ME	010200050703	Upper Kenduskeag Stream	25,494	3,498	14%	1	0	1,982	57%	2,386	68%	2%
ME	010200050804	Heron Pond-Middle Souadabscook Str	25,744	1,913	7%	2	0	949	50%	1,383	72%	0%

NWQI: Characteristics of Watersheds

- 162 watersheds submitted
 - Rejected 5 watersheds (either not a watershed or no sediment/nutrient problem)
- 157 watersheds approved in all 50 states plus Caribbean Area
 - Average: three watersheds per state
 - Ranges from one to seven (Texas)
 - 137 watersheds are 303d listed

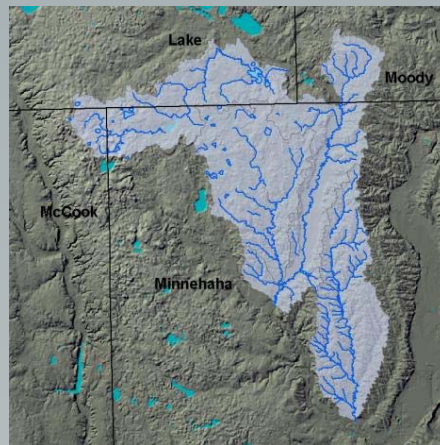


Texas



South Dakota

Portion of Skunk Creek Watershed



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NWQI: Characteristics of Watersheds *(continued)*

Of the 157 watersheds:

- 128 have water quality monitoring stations
- 82 have 319 projects
- 68 are within landscape conservation initiatives (MRBI, GLRI, Chesapeake Bay, etc.)
- 27 have water quality monitoring stations, are within an NRCS landscape initiative, AND have 319 funding

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NWQI Funding

- Minimum of \$33 million EQIP financial assistance (plus technical assistance)
 - Funding must be used in these watersheds
- State Conservationists may add additional FA greater than the original 5 percent
- Unused financial assistance will be returned to headquarters for reallocation to other states for NWQI

Anticipated Funding Needs By State	National Water Quality Initiative Allocation (%)
PROGRAM NAME: EQIP	IA
ALASKA	\$543,175
ALASKA	\$160,633
ARIZONA	\$702,430
ARKANSAS	\$206,912
CALIFORNIA	\$2,578,325
COLORADO	\$1,029,426
CONNECTICUT	\$182,078
DELAWARE	\$255,152
FLORIDA	\$741,131
GEORGIA	\$584,610
HAWAII	\$263,813
IDAHO	\$607,088
ILLINOIS	\$505,040
INDIANA	\$591,360
IOWA	\$754,111
KANSAS	\$557,453
KENTUCKY	\$581,906
LOUISIANA	\$993,992
MAINE	\$750,156
MARYLAND	\$314,972
MASSACHUSETTS	\$217,592
MICHIGAN	\$684,766
MINNESOTA	\$1,010,391
MISSISSIPPI	\$702,351
MISSOURI	\$751,787
MONTANA	\$538,636
N CAROLINA	\$850,764
N DAKOTA	\$799,610
NEBRASKA	\$564,731
NEVADA	\$287,774
NEW HAMPSHIRE	\$234,254
NEW JERSEY	\$215,832
NEW MEXICO	\$872,453
NEW YORK	\$309,618
OHIO	\$626,171
OKLAHOMA	\$1,374,108
OREGON	\$412,310
PENNSYLVANIA	\$691,863
Puerto Rico	\$202,834
RHODE ISLAND	\$127,304
S CAROLINA	\$381,890
S DAKOTA	\$716,763
TENNESSEE	\$705,758
TEXAS	\$1,859,597
UTAH	\$496,567
VERMONT	\$263,971
VIRGINIA	\$456,778
WASHINGTON	\$450,354
WEST VIRGINIA	\$189,688
WISCONSIN	\$891,684
WYOMING	\$433,075
Totals	\$43,482,190

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EPA 319 Funding

Almost \$19 million in 319 funding

- \$2.3 million for monitoring
- \$11 million for financial assistance
- \$5.6 million for technical assistance



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NWQI: Path to Outcomes

- Water Quality Index for Agricultural Fields (WQIag)
 - One pilot watershed per state
- APEX (Agricultural Policy/Environmental eXtender) at 12-digit HUC level
- Water quality monitoring
 - Edge of field
 - Instream
 - Pour point

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WQIag: Definition

- Qualitative, multivariate metric to characterize water quality exiting as surface runoff at the field scale
- Field need (evaluating conservation practices)
- Purpose/Benefits
 - Comparative assessment over time and space
 - No substitute for monitoring/measurement
 - Evaluates effect of conservation practices
 - Cost-effective and easy to use
 - Flexible/site-specific adjustments possible

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WQlag: Sub-components

- Field Physical/Sensitivity Factors (slope, K-factor, OM content, rainfall/vegetation interaction)
- Nutrient Management Factors
- Tillage Management Factors
- Pest Management Factors
- Irrigation Factors



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USDA United States Department of Agriculture
Natural Resources Conservation Service

Water Quality Index WQI

Runoff Water Quality Index

FACTORS	DESCRIPTION	WQI RANKING FACTOR	WEIGHTING	WEIGHT
Field Physical Sensitivity Factors				
Slope (%)	Get Slope Interaction (Select one)			
HS group	(Select one)	0.00	0.00	0.00
K-factor	(Select one)	0.00	0.00	0.00
OM content	(Select one)	0.00	0.00	0.00
Rainfall/Veg	Get Rain / Vegetation Interaction	0.00	0.00	0.00
Nutrient Management Factors				
Application rate	(Select one)	0.00	0.00	0.00
N source and timing	(Select one)	0.00	0.00	0.00
P source and timing	(Select one)	0.00	0.00	0.00
Soil condition application	(Select one)	0.00	0.00	0.00
Tillage Management Factors				
Description / STR	(Select one)	0.00	0.00	0.00
Pest Management Factors				
Description	(Select one)	0.00	0.00	0.00
Irrigation Management Factors				
Description	No irrigation (%)			
Runoff Water Quality Index (WQlag)				0.00
Conservation Practices				
Get Conservation Practice(s)			# Selected	0
Runoff Water Quality Index (WQlag) with additional Conservation Practices				0.00
Field name:	Acres:			
Project file:	(none)	Open		

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WQIag: Procedure

- Subjective ranking of different factors
- Integration of factors with a component
- Combining different components
- Weighting factor for site-specific preferences
- Overall WQIag and its interpretation

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APEX Modeling

- Modeling is needed to augment the three-tiered monitoring.
- APEX (Agricultural Policy/Environmental eXtender) is being used by DEAP in a national effort to assess the effectiveness of conservation practices.
- APEX simulates nutrient, pesticide, and sediment losses under conditions of agricultural practices based on farmer surveys at selected National Resource Inventory (NRI) sample points.
- NRCS is developing a method to use APEX to characterize 12-digit watersheds, including those in MRBI. This effort to assess the effects of MRBI implementation is meant to complement the monitoring approach being implemented within MRBI projects.

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Monitoring and Evaluation

- To assess the environmental outcomes of MRBI and facilitate producer use of adaptive management, the Initiative uses a three-tiered monitoring and evaluation approach:
 1. Edge-of-field
 2. In-stream
 3. Watershed level (Pour point)
- NRCS can cost-share with producers on edge-of-field monitoring but needs partners to assist producers with managing monitoring stations and covering the producers' share of the cost.
- NRCS also relies on partners to perform the in-stream and watershed-level monitoring and evaluation. There is a need for greater commitments from partners with expertise and experience to assist with monitoring and evaluation.

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NRCS Edge-of-Field Monitoring and Evaluation (Conservation Practice Standard 799)

Purposes of Practice (Activity)

1. Provide site-specific field data for input into models to predict practice/system performance and to validate the models
2. Sample and measure practice/system performance
3. Collect and evaluate data for adaptive management by producer



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Mississippi River Basin Healthy Watersheds Initiative: Targeted Small Watershed Strategy (12-digit HUC)

- Initiate meetings with local, state, and federal partners in targeted small watersheds to evaluate current three-tier monitoring activities.
- Identify key nutrient, sediment, land use/management, and conservation practices appropriate to assess existing datasets, conditions, and trends.
- Maintain a geospatial data system of nutrient inputs, land management actions, conservation practices, wetlands, agricultural drainage, and other data sets to be used to understand changes in nutrient transport and delivery.
- Identify appropriate partners and establish integrated, long-term, multi-scale water quality collaborative.

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Mississippi River Basin Healthy Watersheds Initiative: Targeted Small Watershed Strategy (12-digit HUC)

- Conduct and publish a gap analysis of existing sites and resources.
- Identify monitoring needs, priorities, and funding needed to develop a comprehensive water quality monitoring collaborative.
- Integrate findings with geospatial data on nutrient sources, land use, and conservation practices into local, regional, and basin-wide water quality models to track progress on nutrient reduction actions.
- Develop robust communication and reporting system that links monitoring, modeling, and science results to inform management decisions and form basis for HTF annual report.⁶⁰

What Can We Do Better in FY13?

- Need to ensure earlier and consistent coordination with state water quality agencies.
- NRCS and EPA sometimes use different names for the same HUC.
- May consider additional pollutants.
- Begin process earlier.

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NWQI: What's next?

- Year one of multi-year initiative (President's FY2013 Budget)
- Need to be strategic about where to add monitoring
- Focus on measuring outcomes for FY13
 - NRCS uses many tools (CEAP-APEX, SWAT, SPARROW, WQIag, etc.)
 - Use WQIag in selected watershed for FY12 (training required)
- Establish incremental measures of success—it may be many years before de-listing

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Opportunities to Improve Water Quality Efforts

- Increased commitment to a systems approach to conservation, with soil health as the foundation.
- Improved and expanded technical assistance to foster systems approach.
- Greater focus on the economics and sustainability of conservation systems.
- Greater commitment to adaptive management and the tools/technical assistance to support it.
- Approaches to foster and sustain conservation innovation with regards to both technologies and approaches.



Opportunities to Improve Water Quality Efforts

- Further refinement of targeting efforts—greater focus on high treatment need/vulnerable acres.
- Greater collaborative commitment to monitoring, modeling, and assessment of environmental outcomes on a long-term basis.
- Development and implementation of recognition and certainty “programs” by states or added incentives to support voluntary approaches.
- Continued development of environmental service economic opportunities.

The Years Ahead

- All this calls for stronger collaborative responses and a continuing and even stronger commitment to voluntary working lands conservation.
- Chief White refers to the **70/30 rule**: 70 percent of the contiguous United States is private lands. The success of conservation will depend on what happens in that 70 percent.
- The historical local, state, and federal partnership, complemented by the private sector (both nonprofit and profit), will remain at the core of facilitating voluntary actions by the nation's farmers and ranchers.

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Partnership Opportunity

Sustainable, environmentally friendly, safe food production

We'll need farming systems that are:

- Even more productive
- More environmentally friendly
- Capable of producing safe food from field to table





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National Water Quality Initiative: Iowa's Experience

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Impaired Waters in Iowa



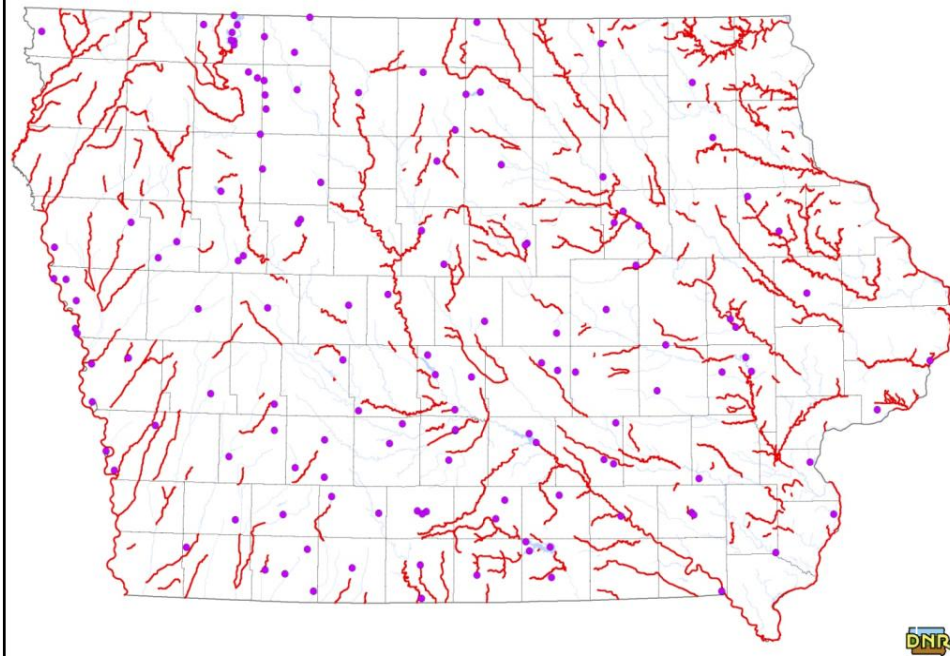
- 580 impaired waters
- Predominantly linked to ag runoff



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Impaired Waters, 2010



Impaired Lakes in Iowa

- 3 most common impairments for lakes:
 - algae
 - turbidity
 - bacteria



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Impaired Streams and Rivers in Iowa

- 3 most common impairments for rivers and streams:
 - bacteria
 - biological
 - fish kill



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Program Differences

NWQI Guidelines

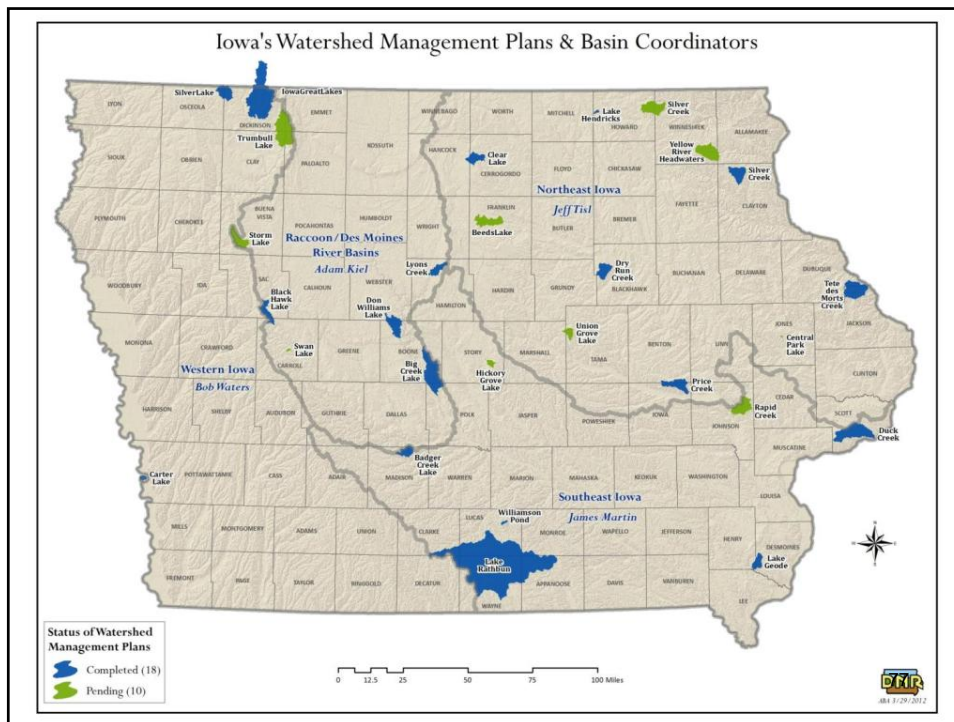
- 3-5 year projects
- Sediment and Nutrient reduction
- Remove sediment and nutrient impairments
- Impairments removed in 3-5 years

Iowa 319 Projects

- 10-30 year plans
- Sediment & Phosphorus reduction
- No nutrient standards except for drinking water sources
- Impairments removed after more than 10 years of project implementation

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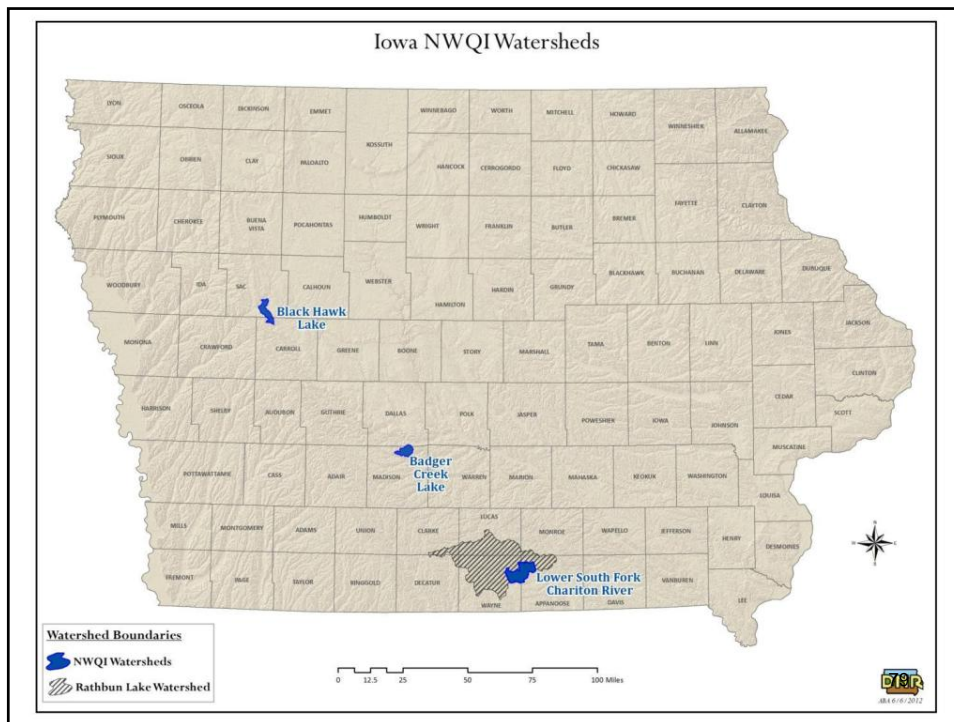




3 Watersheds Recommended

- Black Hawk Lake: 319 Project began in 2011
- Rathbun Lake, Lower Chariton Subwatershed: 319 Project began in 2004
- Badger Creek Lake: 2012 319 Project Applicant





Program Timeline

- January-March, 2012: Ongoing discussions between Iowa DNR, Iowa Department of Agriculture, and Iowa NRCS
- March 26, 2012: 3 Watersheds recommended by DNR, Iowa Department of Agriculture
- March 28, 2012: 3 Watersheds recommended by EQIP Subcommittee

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Watersheds Recommended by EQIP Sub-Committee

- **Black Hawk Lake** – Carroll/Sac Counties
- **Lower South Fork Chariton River (Lake Rathbun sub-watershed)** – Appanoose/Wayne Counties
- **Badger Creek Lake**—Madison/Warren/Dallas Counties

Reasons for Recommendations:

- NWQI priority on watersheds that can show improvement
- Have Watershed Management Plans and Project Coordinators in place – only place – 319 funds can be used
- Local NRCS Field Office ability to implement programs
- Water monitoring capabilities in watersheds

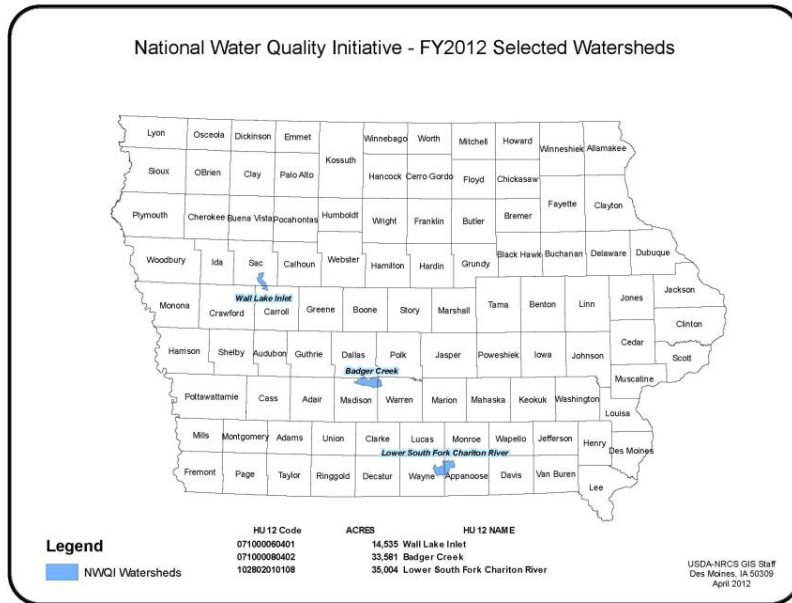


Program Timeline (cont.)

- April 2, 2012: 3 Watersheds recommended by NRCS State Technical Committee
- April 24, 2012: 3 Watersheds Approved by Iowa NRCS State Conservationist
- May 8, 2012: NWQI Program Announcement



Selected NWQI Watersheds for Iowa



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2012 Iowa NWQI

- \$750,000 in 5% EQIP funds available for NWQI in 2012
- \$250,000 per watershed
- Under utilized funds in one watershed can be reallocated to the other selected watersheds

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June 2012 NWQI Update

- **Black Hawk Lake**
 - 12 applications
 - \$265,000 in EQIP funds requested
- **Rathbun Lake (Lower Chariton Subwatershed)**
 - 25 applications
 - \$275,000 requested
- **Badger Creek Lake**
 - 41 applications
 - \$812,000 requested



Future Program Considerations

- Earlier (Winter) program guidance
- Ranking criteria targeted to watershed pollutant(s)
 - Points for BMPs in areas targeted by WMP
- Set incremental water quality goals
- Targeted water monitoring plan
- Longer term (realistic) impairment removal goals



Key Principles for Success in the NWQI Process for Iowa

- Teamwork among the partners before during and after the selection process
- Communication within the partnership
- Transparency and sharing of key data layers to streamline the selection process
- Focus on the opportunities rather than the limitations

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National Water Quality Initiative: Iowa's Experience

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Next Watershed Academy Webcast

Check back in September for the next webcast!

Information will be posted at
www.epa.gov/watershedwebcasts



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Participation Certificate

If you would like to obtain participation certificates for multiple attendees, click the link below:

http://water.epa.gov/learn/training/wacademy/upload/wawebcast_certificate_071012.pdf

You can type each of the attendees names in and print the certificates.

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