United States Department of Agriculture
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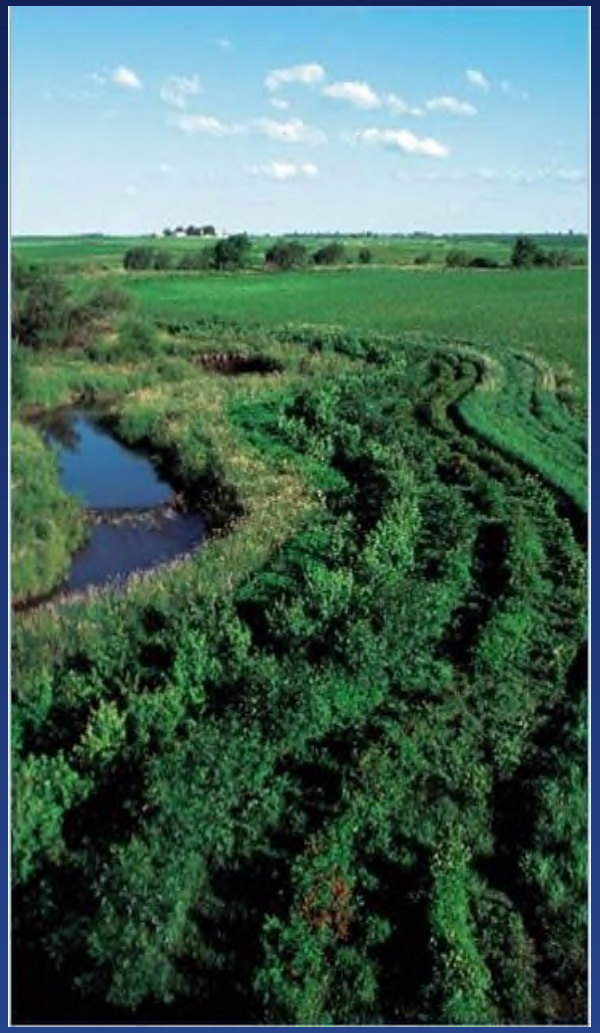

NRCS Edge-of-Field Water Quality Monitoring

May 1, 2014

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Water Quality Specialist &
Monitoring Data Steward

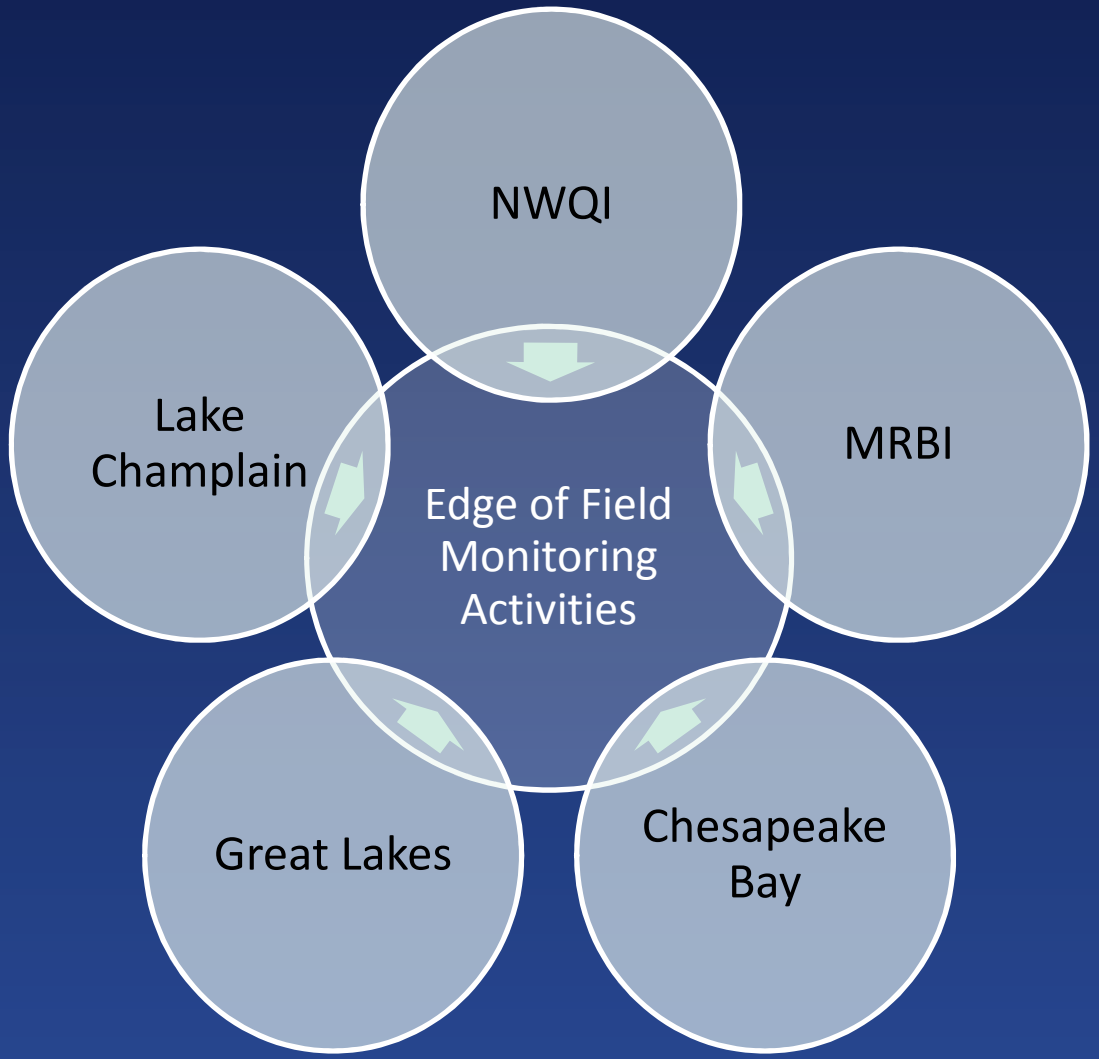
NRCS WNTSC

Objectives:

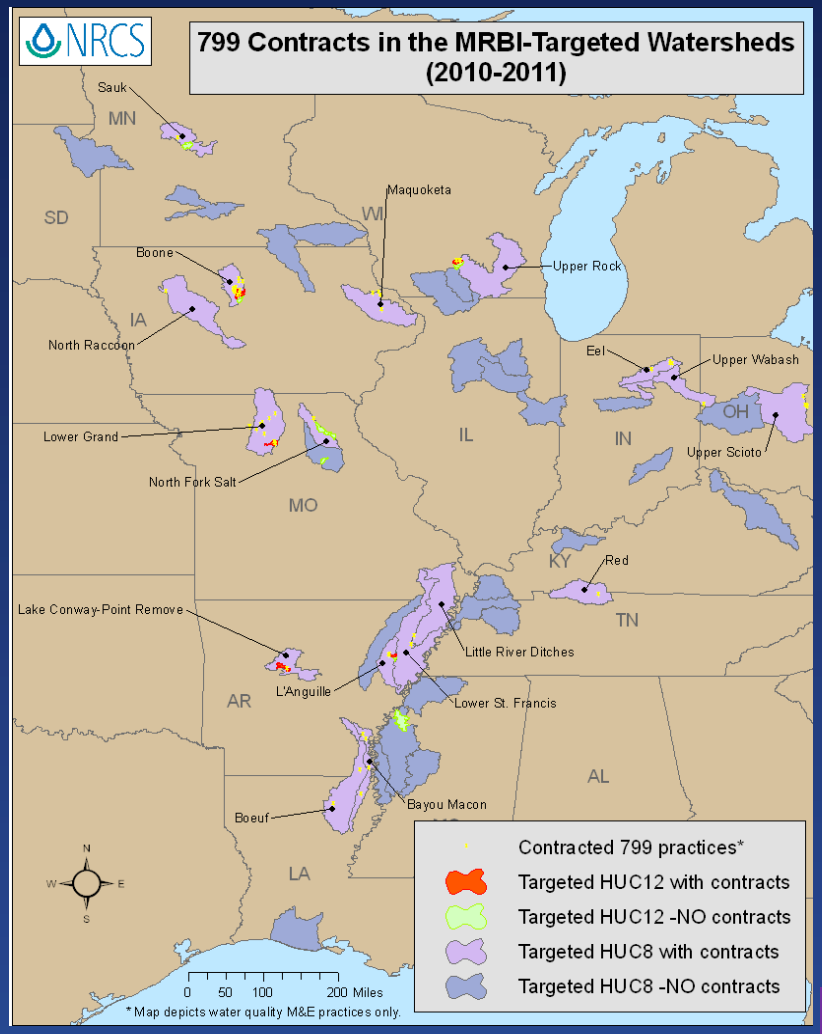
1) Evaluate conservation system performance;

2) Validate and calibrate NRCS models, and

3) Help the farmer make the best conservation investments possible.


NWQI
Lake Champlain
MRBI
Edge of Field Monitoring Activities
Great Lakes
Chesapeake Bay

Inception of NRCS Edge-of-Field Monitoring



- Began in 2010 as Interim CPS 799 in the MRBI – essentially a pilot
- Forty-nine contracts with the original Monitoring and Evaluation Interim Practice
- Over $1 million in payments to producers to date
- January 2011 Oversight and Evaluation Report
- 2011 – 2012 Moratorium

NRCS's New Water Quality Monitoring Activity Standards

Based on the report and input from other agencies and private consultants, NRCS developed Conservation Activity Standards:

- Edge-of-Field Water Quality Monitoring Data Collection and Evaluation (201)
- Edge-of-Field Water Quality Monitoring System Installation (202)

Activities 201 & 202

The new Activities ensure scientific integrity by requiring:

- Sound monitoring design
- Quality Assurance Project Plan
- Tightly specified equipment
- Stringent reporting requirements
- Oversight by an NRCS Water Quality Monitoring Team


Kevin King, USDA ARS

Data Collection and Evaluation (201)

- Monitoring Design and Monitoring Plan
- Quality Assurance Project Plan
- Reporting Requirements

System Installation (202)

- Defines equipment specifications to ensure:
  - Right data is collected
  - Adequate power source and shelter
  - Communications device (cell phone, radio)
- Defines reporting requirements to ensure that correct data is collected in the same way

Don Meals, Stone Environmental, Inc.

Where Activity Standards Apply

- When the pollutant is tied to agriculture
- The pollutant is a significant water quality concern of the receiving water body
- There is a need to evaluate Conservation Practices
- The Activities only apply to edge-of-field scenarios, not to in-stream monitoring
- Activities may be paired with other in-stream monitoring efforts, where appropriate

Required Constituents for Monitoring

Nitrogen, Phosphorus, Sediment

Each must be analyzed within allowable tolerances.

Potential Monitoring Projects

- Surface
- Irrigation surface
- Drain Tile Outlets
- Denitrifying Bioreactors
- Possibly Others
- NOT Groundwater
- Currently restricted to cropland

EQIP Edge-of-Field Monitoring Payments

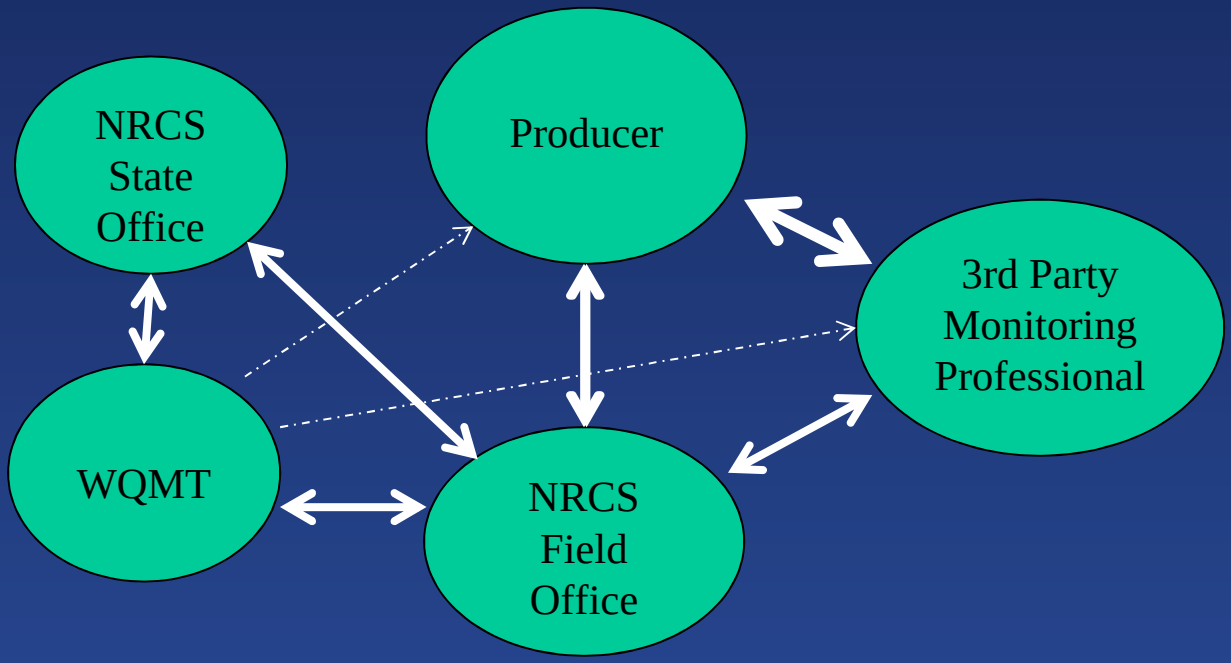
- 75% cost-share from NRCS
- Up to 9 payments can be made for:
  - Equipment
  - Monitoring Plans and Quality Assurance Plans
  - Annual monitoring
    - Includes weekly and event monitoring
  - Final year monitoring and final report
- NRCS WQMT will provide oversight of states' requests for funding.
    - States will show that they have monitoring professionals available to assist with monitoring.

Core Practices			
Practice Code	**Practice Name**	**Practice Payment Cap**	**Practice Notes**
201	Edge-of-Field Water Quality Monitoring – Data Collection and Evaluation	None	
202	Edge-of-Field Water Quality Monitoring – System Installation	None	
	Avoiding		
328	Conservation Crop Rotation	$2,500	a, e
340	Cover Crop	$2,500	e
590	Nutrient Management	$2,500	b, e
633	Waste Recycling	$2,500	c, e
	Controlling		
362	Diversion	$2,500	
554	Drainage Water Management	$2,500	d, e
410	Grade Stabilization Structure	$5,000	d
412	Grassed Waterway	$5,000	d
449	Irrigation Water Management	$2,500	d, e
329	Residue & Tillage Management, No-Till/Strip Till/Direct Seed	$2,500	e
345	Residue & Tillage Management, Mulch Till	$2,500	e
646	Shallow Water Development and Management for Wildlife	$2,500	e
	Trapping		
327	Conservation Cover	$2,500	
656	Constructed Wetland	$5,000	d
747	Denitrifying Bioreactor	$5,000	
393	Filter Strip	$2,500	
391	Riparian Forest Buffer	$2,500	
390	Riparian Herbaceous Cover	$2,500	
350	Sediment Basin	$5,000	d
601	Vegetative Barrier	$2,500	
635	Vegetated Treatment Area	$2,500	
638	Water and Sediment Control Basin systems	$5,000	d
658	Wetland Creation	$5,000	
659	Wetland Enhancement	$5,000	
657	Wetland Restoration	$5,000	

EOF Costs

- Highly variable, several practice scenarios
- Very generally:
  - Equipment ~ $20k
  - System Installation ~ $50k
  - Monitoring ~ $20k/yr
- 2013 contracts range from ~ 100k to 300k for 9 year contracts.

Because of the cost and technical complexity to meet the new conservation activities, **Monitoring Professionals** to assist producers and NRCS implement monitoring will be essential.



NRCS Water Quality Monitoring Team

Roles:

- Internal Capacity Building – training & support for NRCS staff
- EoF application, monitoring plan & QAPP review
- Technical development
- Programmatic Issues
- Data Management
- Outreach

EoF monitoring in FY13

- In the five areas, $7 million was made available in 2013
- Of those funds, nearly $3 million were awarded for Edge-of-Field water quality monitoring at 19 sites in 7 states.

2013 Challenges

- Producer concerns about:
  - 2008 Farm Bill payment limitations
  - Cost of practices
  - Data confidentiality
    - 1619 protected
    - Third party monitoring professional is not bound by 1619

Data Confidentiality

- Section 1619 of the Food, Conservation, and Energy Act of 2008, 7 U.S.C. § 8791, prohibits disclosure of any information provided to NRCS by an agricultural producer or owner of agricultural land concerning the agricultural operation, farming or conservation practices, or the land itself.

- NRCS will not share monitoring data unless it is aggregated to a level protective of PII.

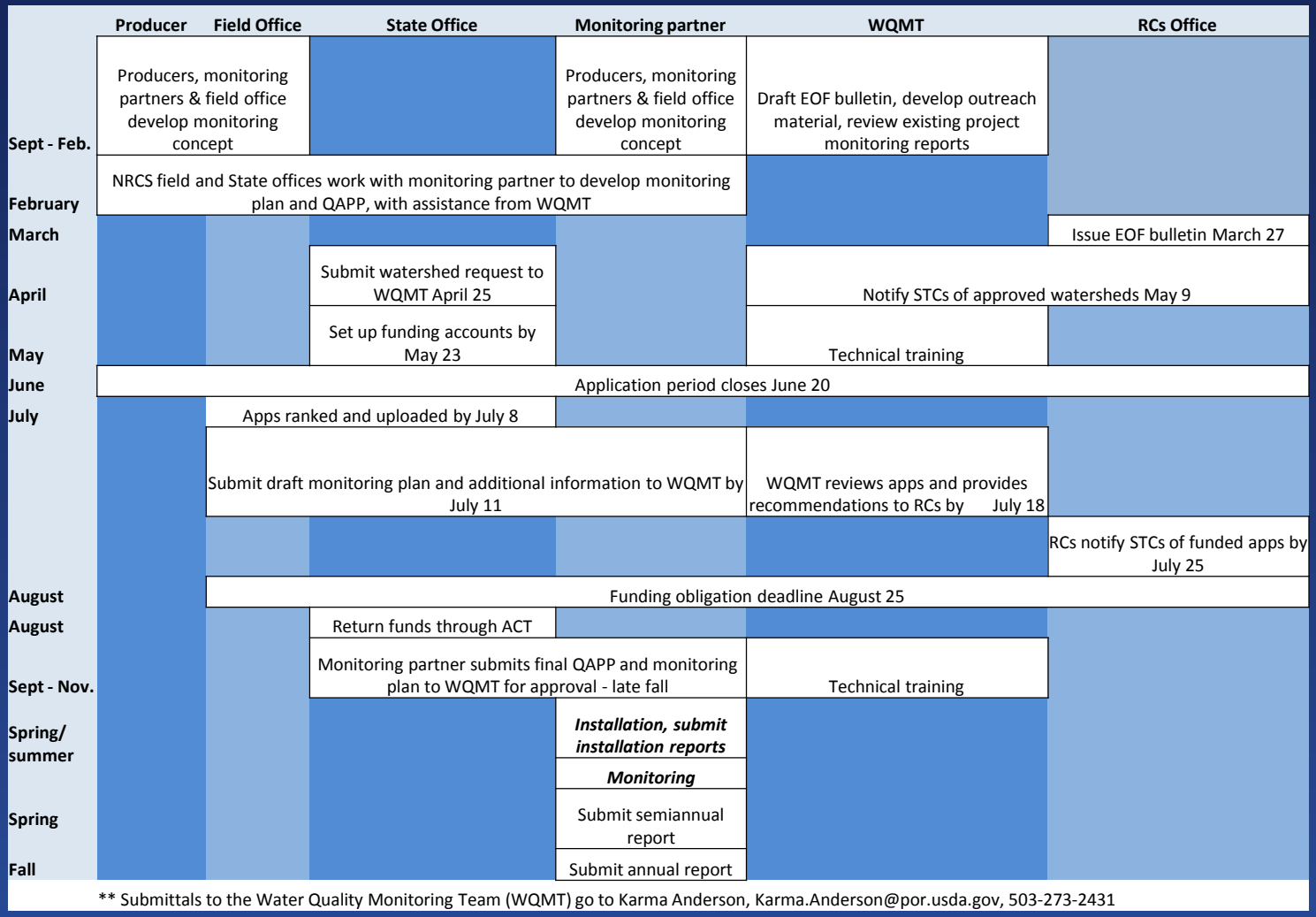
- In some cases, NRCS may share data with a cooperator if a data sharing agreement is in place and it specifies that the cooperator is bound by Section 1619 requirements. A cooperator under an agreement will not share your data.

- NRCS has no authority over monitoring partners, and they are not subject to the protections from disclosure that are provided by Section 1619. Because monitoring partners may want to use monitoring data, location, and other information to publish scientific reports or conduct field tours, a written agreement between the land owner and the monitoring partner can ensure that monitoring information is clearly identified and properly protected.

2014 Status

- Funding levels slightly reduced ~ $5M
- Similar monitoring scenarios
- Practice payment caps remain
- 367 Watershed requests, compared to 80 in FY 2013
- This does not translate into contracts, but does show much greater interest across the country in FY 2014

2014 Edge-of-Field Process



Additional Information

- Public EOF website:
  - http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/water/quality/tr/?cid=stelprdb1044783

- Karma Anderson, Karma.Anderson@por.usda.gov, 503-273-2431.

United States Department of Agriculture
Natural Resources Conservation Service

USDA NRCS