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Good morning Chairwoman Stabenow, Ranking Member Cochran, and members of the Committee. Thank you for the opportunity to be here today to discuss the importance of voluntary conservation for protecting and improving our nation's land and water resources and in particular, the role of Natural Resources Conservation Service (NRCS) programs in improving water quality in our lakes and rivers through voluntary conservation practices.

Introduction

For almost 80 years, NRCS has been a pioneer in voluntary conservation, working with agricultural producers; forest managers; local, state, and federal agencies; Tribes; local communities; and innumerable partners to maintain healthy and productive working landscapes.

Our nation's agricultural producers are leaders in developing and implementing new technologies in crop production systems. This innovation has allowed United States agriculture to feed our growing population here at home and around the world. In addition to adopting new technologies for crop production, our farmers and ranchers have also developed and implemented conservation strategies that will protect the valuable soil on the farm as well as the

water and related resources off the farm. NRCS, in conjunction with our partners, has been supporting these locally led efforts through the technical and financial assistance made available through Farm Bill and other long-standing conservation authorities. While much has been accomplished, more remains to be done and continued efforts are required to meet our nation's need for clean water.

Water Quality and Agriculture

Excess nutrients, streambed sediment, and disturbance of vegetative cover along streams and rivers are among the greatest stressors on our nation's rivers. Two nutrients, phosphorus and nitrogen, are by far the most widespread stressors, with 40 percent of the nation's river and stream length having high levels of phosphorus and 28 percent having high levels of nitrogen. In order to ensure healthier waters for future generations the need exists to address the many sources— including runoff from urban areas, wastewater, and agricultural practices.

Providing the Solutions

NRCS is helping meet the challenge of improving water quality in the nation's rivers and streams. With 70 percent of our nation's lands privately owned and nearly 90 percent of all surface water occurring on private land, the quality of our environment depends on millions of individual decisions private landowners make every day. NRCS works with landowners through voluntary conservation planning and assistance designed to benefit soil, water, air, plants, and animals that result in productive lands and healthy ecosystems.

To assist producers and landowners with conservation, NRCS uses a well-defined conservation planning process. Conservation planning helps identify and address resource concerns, such as water quality. To be most effective, conservation practices should not be

implemented randomly, but as part of a system of practices designed to address specific natural resource concerns.

For water quality concerns such as sediment or nutrients, a cornerstone of this approach is encouraging producers to implement a system of practices that Avoid, Control, or Trap these materials, A-C-T for short. Avoidance generally involves using practices that optimize nutrient recovery by the crop, thereby reducing nutrient losses. The principal conservation practice to avoid nutrient losses is Nutrient Management, where we assist operators in implementing the 4-R concept of applying the Right amount of nutrients from the Right source, in the Right place, and at the Right time. Controlling soil and nutrient losses on the farm means keeping them from being mobilized by wind or water and moving off the field. Example practices include residue management, crop rotation, cover crops, terraces, and contouring. The last line of defense is to trap or treat sediment and nutrients before they can enter downstream water bodies. Such practices include filter strips, riparian buffers, constructed wetlands, drainage water management, and use of bioreactors.

Scope of our Investments

Beginning with the 2008 Farm Bill and continuing through 2014, NRCS technical and financial assistance utilized $3.4 billion dollars to enable the application of over 86 million acres of conservation practices that specifically provide water quality benefits, and help make our nation's waters cleaner. The most commonly applied NRCS conservation practices for improving water quality are Prescribed Grazing, Nutrient Management and Integrated Pest Management.

Prescribed grazing, implemented on over 29 million acres, is used to manage vegetation with grazing or browsing animals. It not only improves the vigor of plant communities and the

quantity and quality of forage for animals but also helps to maintain and improve water quality. Nutrient management was implemented on over 14 million acres between fiscal years 2008 and 2014, helping to keep nutrients in place for plant uptake and minimize potential losses to water or air.

Conservation Effects

The voluntary, incentives-based approach is achieving conservation goals across the nation. The Conservation Effects Assessment Project (CEAP) has demonstrated that employing conservation systems using this approach has significantly reduced nutrient and sediment losses from agricultural lands. CEAP uses a two pronged approach, beginning with statistically valid data collection. From 2003-2006, approximately 30,000 data points associated with cultivated cropland were sampled. That data is then used to inform two process-based models, which provide estimates of conservation and land use impacts. These studies estimate that from 2003-2006:

- Practices in place reduced sediment loss by 53%, resulting in a reduction of 278.1 million tons of sediment per year from agricultural lands.
- Practices in place reduced surface nitrogen loss by 41%, resulting in a reduction of 1.7 billion pounds per year from agricultural lands.
- Practices in place reduced subsurface nitrogen loss by 31%, resulting in a reduction of 2.1 billion pounds of nitrogen per year from agricultural lands.
- Practices in place reduced phosphorus loss by 44%, resulting in a reduction of 584.1 million pounds of phosphorus per year from agricultural lands.

Improving Effectiveness through Targeting

Agricultural conservation measures have the most significant impact on water quality when systems of practices are applied to the most vulnerable acres and are most apparent when focused on small priority watersheds. The CEAP cropland studies have consistently found that it is critical to assess and plan conservation practice implementation at the watershed scale for more effective water quality outcomes. NRCS has designed and delivered a number of initiatives to catalyze partnerships and accelerate focused conservation for improving water quality in small priority watersheds across the nation. Three examples of these initiatives are summarized in the following testimony. The Mississippi River Basin Healthy Watersheds Initiative (MRBI) focuses on the main stem of the Mississippi River. The Great Lakes Restoration Initiative (GLRI) accelerates efforts to protect and restore the largest system of fresh surface water in the world — the Great Lakes. The nationwide National Water Quality Initiative (NWQI) targets financial and technical assistance for conservation in high-priority, small watersheds in all 50 states.

Mississippi River Basin Initiative (MRBI)

MRBI has a strong partnership component, with more than 600 active partners throughout the initiative area. These partners include diverse stakeholders including Conservation Districts, Industry and Commodity Groups, State Agencies, Universities, and others. Together, partners have contributed more 500 staff years of assistance to the projects and approximately $20 million in financial assistance and in-kind services to advance MRBI projects. Targeted investments in MRBI have more than doubled the adoption of critical water quality conservation practices, such as cover crops and nutrient management, in the majority of MRBI project areas. Over its first five years, MRBI invested almost $400 million in technical and financial assistance across 123 projects. The effectiveness of MRBI's small watershed

targeting and conservation systems approach was modeled under CEAP in April 2013. For conservation systems under contract with farmers through MRBI between FYs 2010 and 2012, when fully applied it is projected that the per acre benefits of these systems will be 1.7 times greater for sediment reduction, 1.4 times greater for phosphorus reduction, and 1.3 times greater for nitrogen reduction compared to a non-targeted approach.

Great Lakes Restoration Initiative (GLRI)

Since 2010, NRCS has entered into approximately 1,580 GLRI funded contracts to address resource concerns on over 300,000 acres in priority watersheds draining into the Great Lakes. Using funding from the U.S. Environmental Protection Agency (EPA) —$23.2 million in 2014 and approximately $122 million since 2010— and authorities of the Farm Bill, NRCS assists producers in the Great Lakes to implement proven, science-based conservation systems on their lands. Through these systems of practices, farmers are able to conserve water, plant, air, and wildlife resources while maintaining agricultural production and profitability.

Since 2012, NRCS has been working with partners to target assistance where phosphorus inputs have been related to the occurrence of Harmful Algal Blooms in the Great Lakes. The targeted sub-watersheds are located within the Maumee River, Saginaw River, and Lower Fox River Watersheds. These priority small watersheds were selected based on their potential for high impact phosphorus reduction practices, the presence of watershed management plans, the percentage of agricultural land, and local interest.

In addition to direct contracts with farmers, NRCS is investing GLRI funds in innovative efforts to further conservation in the Great Lakes. In the Lower Fox River Watershed of Wisconsin, NRCS is providing financial assistance and technical advice to support the development of a pilot phosphorus trading market to increase private sector funding for

voluntary conservation on private lands. This project is being conducted through a contribution agreement with the Great Lakes Commission. GLRI funding is also being used to develop networks of demonstration farms that will showcase conservation systems that reduce phosphorus and sediment delivery. These demonstration farms can help increase the adoption of innovative conservation practices by showing them in practice on real world farms and harnessing the power of farmer-to-farmer information sharing.

National Water Quality Initiative (NWQI)

In 2012, NRCS launched the NWQI, in collaboration with the EPA and state water quality agencies, to reduce nonpoint sources of nutrients, sediment, and pathogens related to agriculture in small high-priority watersheds in each state. These priority watersheds have been selected by NRCS State Conservationists in consultation with state water quality agencies and NRCS State Technical Committees.

NWQI provides a means to accelerate voluntary, private lands conservation investments to improve water quality with dedicated financial assistance through NRCS's Environmental Quality Incentives Program (EQIP), and to focus water quality monitoring and assessment funds where they are most needed. A key part of the NWQI targeting effort includes the implementation of conservation systems that avoid, trap, and control run-off in these high-priority watersheds.

Since 2012, NRCS has obligated more than $88 million in funding for water quality–related conservation systems in high-priority watersheds throughout the country—this is funding above and beyond general NRCS EQIP program funding. In FY 2014 alone, NRCS has worked with more than 600 farmers and ranchers and planned or implemented conservation on more than 95,000 acres.

In FY 2013, NWQI provided the necessary funding to complete projects in seven high-priority watersheds. These watersheds, located in Maine, Tennessee, Nebraska, and Oregon, have had a long-standing NRCS and partner commitment to addressing impairments from agricultural sources. While work in the watersheds will continue, the need for accelerated financial assistance has been met, and these funds will be moved to other areas that need it.

NRCS state offices worked closely with state water quality agencies in FY 2013 to identify watersheds where monitoring is most needed. In FY 2013, EPA issued guidance to states requiring them to implement in-stream water quality monitoring in at least one NWQI watershed per state. Long-term monitoring is an essential part of ensuring that NRCS, partners, and producers are implementing conservation systems that will have the greatest impact on improving water quality.

Success Stories

Voluntary, incentive-based conservation efforts are making a real difference in many watersheds around the county. Impaired streams listed on state and EPA 303(d) lists are being cleaned up and removed from the list. The following are two examples of such successes.

Oklahoma is one of the leading states in reducing nutrient and sediment losses to water and has been able to use funding provided by the Farm Bill Conservation Title, EPA 319 Federal Clean Water Act, and state sources to partner with landowners to deal with some of Oklahoma's most difficult water quality problems. In 2014, Oklahoma was recognized by EPA for its work in removing nine of Oklahoma's streams from the 303(d) list of impaired streams and was reportedly second among all states for its work in improving stream water quality. These nine streams are located in Bryan, Choctaw, Coal, Garfield, Grant, Kay, Logan, McIntosh, Osage, and Pontotoc Counties.

This is just part of the story in Oklahoma. Going back to 2012, Oklahoma's Non-Point Source Program led the nation in reducing phosphorus losses using voluntary conservation practices. Shanon Phillips, Oklahoma Conservation Commission Water Quality Division Director said, "Water quality monitoring data for these EPA success stories shows improvements which can be attributed to voluntary conservation practices. We have the strong partnership between landowners, conservation districts, USDA Natural Resources Conservation Service (NRCS), Oklahoma Conservation Commission (OCC), and the Oklahoma Association of Conservation Districts (OACD)." This work is continuing in Oklahoma.

In Arkansas, water quality in the St. Francis River has been impacted by soil erosion from agricultural fields resulting in high turbidity levels, leading the Arkansas Department of Environmental Quality to identify two river segments as impaired and placed on the state's 2006 Clean Water Act 303(d) list.

Watershed stakeholders and conservation partners—including agricultural producers, local conservation districts, The Nature Conservancy, Arkansas Natural Resource Commission, Arkansas Department of Environmental Quality, EPA, and NRCS made a concerted effort to implement practices for improving water quality in the river. NRCS's contribution included five Mississippi River Basin Healthy Watershed Initiative projects in which local partners began participation in 2010. Working through conservation partners, NRCS invested $14.2 million in those five projects, working with 479 landowners who provided $3.5 million of their own finances to help implement conservation practices on over 80,000 acres.

As a result of these efforts by agricultural producers, with the support of numerous partners in the watershed, the turbidity levels have decreased. The 2014 state water quality

assessment showed turbidity decreased to levels that allowed Arkansas to remove two reaches of the river from Arkansas' 2014 section 303(d) list for turbidity impairment.

The Future of Conservation Efforts

While much has been accomplished, much remains to be done. NRCS and our conservation partners will utilize the tools, programs and authorities provided through The Agricultural Act of 2014 to continue to support US agricultural producers in implementing practices to protect and restore our nation's waters as well as optimize other benefits and services we receive from well-managed agricultural lands, such as enhanced carbon storage and sequestration in soils and forests. One of the most important lessons learned over the past decades of conservation activity is the need for, and benefit of, targeting our resources and utilizing the strengths of our partners. The new Regional Conservation Partnership Program (RCPP) will allow us to fully capitalize on these two important strategies. The first sign-up for RCPP was held in July of 2014 and interest was overwhelming. Over 600 pre-proposal submissions were received covering all 50 states and requesting $2.8 billion in program funding. This demonstrates the level of interest from our agriculture and conservation community for expanding participation in voluntary, incentive-based programs. Utilizing the strength of such partnerships and targeting our conservation efforts will greatly increase our ability to achieve measureable and meaningful improvements in water quality, as well as other resource benefits.

Conclusion

Chairwoman Stabenow, let me conclude by saying that our nation's farmers and ranchers have a tremendous track record of success in conserving our nation's soil and water resources. Through the work of your committee in providing the programs of the 2014 Farm Bill, NRCS has the tools in place to continue to provide them the assistance they need to improve on that

record. Their level of interest, and the interest of our partners, can be seen in the overwhelming response to these new programs. Voluntary conservation is working, and with our continued collective efforts we can be successful in protecting and improving our nation's valuable water resources. Thank you for the opportunity to be here today and update the Committee on our agency's efforts on this important topic.