

OUR WATER OUR FUTURE

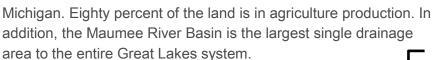


Farm Bill Conservation Programs

Forum Focused on the Western Lake Erie Basin Summary of Recommendations—2013

Western Lake Erie Basin:

The Western Lake Erie Basin (WLEB) is one of America's most important collections of inland rivers and streams. The WLEB covers over 4 million acres and it encompasses most of northeast Ohio, as well as portions of northeast Indiana and southwest



The Western Lake Erie Basin is part of a significant industrious and agricultural area of Indiana, Michigan, and Ohio. Its agricultural business generates positive economic effect for these states. Unfortunately, due to the high percentage of cultivated cropland, the tri-state watershed is a large contributor of suspended sediments to the Great Lakes system. Thirty percent of all yearly dredging operations on the Great Lakes system happen at the mouth on the Maumee River. Soil loss, erosion, and phosphorus loading are among the greatest challenges for the Western Lake Erie Basin.

culture production. In

"Lake Erie algae blooms are negatively impacting water quality and the tourism industry."





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Farm Bill Conservation:

Farm Bill Conservations programs are primarily targeted at equipping agricultural producers with the necessary tools to protect and enhance our soil and water resources while realizing economic gain. The expected outcome of these efforts is reduced farm land run-off and improved water quality while not negatively affecting the bottom line for an individual farmer. Not only has this expected outcome become a reality in many situations, but some farmers are seeing input costs decrease while yields remain stable or increase, all while incrementally improving the health of receiving streams and rivers.

In recent decades, federal agricultural program funding has become increasingly unpredictable as decision-makers deal with high unemployment and record federal deficits. This situation necessitates the need to improve the effectiveness of every Farm Bill dollar spent.

The David & Lucile Packard Foundation have sponsored forums throughout the United States to garner input from leading agricultural producers to identify priorities and solicit recommendations for improvement of Farm Bill programs. At the forums, active producer voices and collective feedback provided innovative, ground-truth solutions and approaches to increase farm conservation program effectiveness. Participant's collective, honest input has shed light on the effective programs, programs

that need a little adjustment to keep pace with new technology, and new suggestions on how best to meet the new challenges of the 21st century farmer.

This report is a result of the Western Lake Erie Basin Forum. The substantive focus for this engagement is agriculture's impact on the water quality of Lake Erie and its tributaries, and the effectiveness of USDA's conservation programs addressing the impact.



Farm Bill Forums

The Lake Erie Stewardship
Engagement Initiative
hosted three Farm Bill
Conservation Program
forums focused on the
Western Lake Erie Basin.
The first one was held
August 29-30, 2012, and the
second was held January 31
through February 1, 2013,
and the third was held
August 28, 2013.

The purpose of the forums was to bring together a select group of leading agricultural producers and conservation partners to identify priorities and solicit recommendations for improvement of USDA Farm Bill conservation programs. The substantive focus for this engagement is agriculture's impact on water quality in Lake Erie and its tributaries, and the effectiveness of USDA's conservation programs addressing the impact.

In addition to Farm Bill recommendations, other proactive solutions that pertain to agricultural production in general, which benefit agriculture and protect our natural resources for future generations, were



Put-In-Bay Forum:

The first forum was held in Put-In-Bay, Ohio at Ohio State University's Stone Laboratory. Participants boarded research vessels and accompanied by laboratory staff into the waters of Great Lake Erie to study the connection between agriculture throughout the watershed, and the significance of water quality on the economic viability of the region.

Speakers included Terry Cosby, Ohio Natural Resources Conservation Service (NRCS) State Conservationist; Kristin Stanford, Ohio State University Stone Laboratory Manager; Jeff Reutter, Director, Ohio Sea Grant Program; Bill Richards, Ohio Farmer and former NRCS Chief; Jonathan Lehman, Grand View Group Consulting; and Jane Ruvolo, Aide to Congresswoman Marcy Kaptur, Ohio 9th District.





Pokagon State Park Forum:

The second forum was held at Pokagon State Park in Angola, Indiana. Speakers included Carrie Volmer-Sanders, Western Lake Erie Basin Project Director, The Nature Conservancy; Tyson Franks a Steuben County, Indiana farmer; Dr. Pete Richards, Senior Research Scientist, Heidelberg College; John Nidlinger, Adams County Farmer and former Agricultural Liaison to former Indiana Senator Richard Lugar; Kevin King, Agricultural Engineer, USDA Agricultural Research Service (ARS); Mark Scarpitti, Ohio State Agronomist, NRCS; Mike Werling, Adams County, Indiana Farmer; and Doug Busdecker, Area General Manager, The Andersons Company.

The speakers covered a wide range of topics including nutrient/sediment related issues and contributing sources, the benefits of improving soil health, the 4R Nutrient Stewardship program, and the importance of local expertise and input into Farm Bill conservation program guidelines.

Forum insight:
Participants agreed
that the most
important USDA
programs show
producers the
economic and
environmental
benefits of
conservation farming.

Forum Participants

Thirty-nine participants attended the forums, including 26 leading agricultural producers. Participants were selected based on their knowledge of USDA Farm Bill conservation programs, their leadership capabilities and their progressive farming techniques. This select group of leaders represented a broad crosssection of the agricultural community in the Western Lake Erie Basin.

Thirteen representatives from agency and non-governmental organizations were also present to support producers with technical expertise. (See participant list on pages 18 & 19)

Working together, they were able to identify priorities for improving the Farm Bill Conservation Programs that effect agriculture and protect our natural resources for future generations.



Farm Bill Forum Objectives:

- 1. Identify major challenges that agricultural producers in the Western Lake Erie Basin face.
- 2. Understand Farm Bill conservation program legislation, rule-making, administration and funding.
- 3. Transfer program participants' experience with implementing conservation on the land to enhancing the effectiveness and adoption of Farm Bill conservation programs.
- 4. Identify key Farm Bill conservation programs that are working and others that could be enhanced to improve adoption and performance.
- 5. Discuss potential for special initiatives for delivering Farm Bill Conservation Programs.



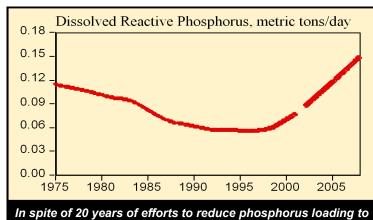
- 6. Discuss strategies to improve Farm Bill conservation program delivery through partnering agencies and improved coordination with local watershed priorities.
- 7. Strengthen producer's engagement in improving Farm Bill conservation programs.

The Western Lake Erie Basin Dilemma:

During the 1970's and 1980's, water quality in the western Lake Erie basin was impaired by algae blooms. Some beaches were closed and lake fishing was deteriorating. Particulate phosphorus attached to soil particles was considered the main cause for the impaired conditions. Phosphorus loading was primarily attributed to soil loss on agricultural land. Through farmer implementation of no -till and conservation tillage, phosphorus loads were greatly reduced.

However, since the mid-1990's, algal blooms have been on the rise. Now, dissolved reactive phosphorus (DRP) (soluble phosphorus), is considered to be the main problem. This form of phosphorus is a ready food source for algae and contributes to rapid algae growth resulting in algae blooms.

Historically, commercial agricultural fertilizer containing phosphorus was considered to be immobile even when it was applied to the soil surface. However,



In spite of 20 years of efforts to reduce phosphorus loading to Lake Erie, bioavailable phosphorus coming from agricultural tributaries is now at record high levels.

new data suggests fertilizer phosphorus left on the surface, when followed by heavy rainfall, can be a major source of phosphorus loading in surface water.

Phosphorus entering
Lake Erie occurs in two
basic forms: dissolved
reactive phosphorus
(also known as
bioavailable
phosphorus) that
passes through a 0.45
micron filter; and
particle phosphorus
that gets trapped on a
0.45 micron filter.

Research suggests current agricultural practices within the Western Lake Erie Basin contribute to the growing algal crisis, with more than 50 percent of the phosphorus load potentially attributed to agriculture. (Sited from The Fertilizer Institute, 2011)

Annually, tourism in and around Lake Erie, including the sport fishing industry, is a \$10 billion industry. The algal blooms, which significantly reduce oxygen levels and threaten fish and other aquatic life, have caused tourists to cancel outings and/or not rebook for upcoming seasons. The toxic blue-green algae called microcystis has become more common and has been linked to numerous reports of illness and death in dogs, and health related problems in humans. Public water suppliers are incurring increased costs (City of Toledo, \$3,000-\$4,000 per day) when there is an algal bloom.

Forum Major Insights, Concerns, & Comments

At both forums, participants were asked to identify obstacles and concerns that expose why farmers limit their involvement with, or avoid Farm Bill programs altogether. All participants have a high level of experience and their observations provide important insight about how Farm Bill programs can support landowners through the challenges they face. The following list is a summary of the comments generated at both forums:

- ⇒ Current Nutrient Management Plans are too complicated and require too much paperwork.
- ⇒ Program implementation gets slowed or stopped because federal program construction guidelines are too costly and are not in line with local construction regulations.
- ⇒ A small percentage of farmers break Farm Bill Program rules and will continue to do so. As more stringent guidelines are adopted to close loopholes on them, the poor performers will continue to wiggle through leaving the rest of the farmers to carry the burden of increased regulation.



Lake Erie algae blooms are negatively impacting water quality and the tourism industry. When microcystiis, a toxin producing algae is present, contact with the water may cause illness and in some cases, death.

Major Insights continued...

- ⇒ If farmers agree to increased regulations now, where/when will it end? Will it become a run away process?
- ⇒ A "cookie cutter" approach does not always work. In some cases, a required five-year program commitment is too far out to predict land use or control of the land.
- ⇒ Points based ranking is too complicated and creates problems. Farmers are penalized for good conservation efforts.
- ⇒ Multi-state coordination needs flexibility and improvement. There are too many differences in how program rules are interpreted and applied between states.
- ⇒ Current program guidelines are telling the farmer what to do instead of offering ways to help. Farmers are beginning to feel a loss of control.
- ⇒ Programs are too restrictive and require too many farm operation/management changes at one time.
- \Rightarrow If farmers could grow their own cover crop seed, they would use more cover crops.
- ⇒ There needs to be a better way to transfer data between agencies and across programs.
- \Rightarrow More testing and science is needed to verify contributors and solutions to nutrient problems.
- ⇒ Solutions to soil compaction problems should be included in Conservation Plans.
- ⇒ What can be done beyond the Farm Bill?
- ⇒ The Western Lake Erie Basin's biggest issue is algae blooms from dissolved reactive phosphorous however, many farmers are still in denial about agriculture's contribution to the phosphorus problems in Lake Erie.

Recommendations for the Farm Bill:

Educational and Technical Assistance — Recommendation 1

Farm Bill Conservation Programs should incentivize and support the agricultural industry-led 4R Nutrient Stewardship Certification Program.

The WLEB agricultural community recognizes it has a role to play in reducing the amount of phosphorous reaching Lake Erie. Excess nutrient loading of the waterways draining into Lake Erie has been linked to the spikes in algal blooms in recent years. Participants of the WLEB Producer Focus Group see an opportunity to address this problem through a fertilizer certification program. Producers see a parallel between the current requirement to be certified in herbicide and insecticide application and the growing need to carefully monitor the application of fertilizer to reduce off-site nutrient deposition.

Increased research, technical assistance, and education are needed in this endeavor.
Collaborative efforts between agricultural retailers, non-governmental agencies, research institutions, and agency personnel are currently developing guidelines for the 4Rs program (Right source, Right rate, Right time, and Right place).

"Right fertilizer source at the Right rate, at the Right time, in the Right place".

Producers encourage federal decision-makers to direct future investments to voluntary programs, like the 4R's in contrast to regulatory-based programs. With multiple organizations working together on this program, adoption is favorable.

Stakeholders to be positively affected by adopting this approach include: producers, agricultural retailers, municipal water treatment plants, the Great Lakes fishing industry, Great Lakes tourism, and cities and towns along the waterways of the WLEB working to capture the "quality of life" opportunities local streams, rivers, and lakes offer residents.



Educational and Technical Assistance — Recommendation 2

Require that all NRCS, State agency, and Soil and Water Conservation District technical staff receive and maintain training/certification on nutrient management, the 4R's program, and sustainable cropping systems.

Conservation Partnership employees (County Extension, Conservation Districts, State and Federal agencies) need to be trained on the economic and environmental sustainability of best management practices and cropping systems, (including cover crops, subsurface and surface drainage options, and the 4Rs), and the agencies need to succinctly and widely communicate that information to growers and agricultural industry suppliers.



Federal funding to support educational outreach activities should be increased in priority watersheds that are having the greatest negative impact on water quality.

Producers in the WLEB welcome and value agency staff visits to their farming operations to engage in one-on-one conversations about conservation practices that would be most appropriate and offer the best value to their specific operation. Over the years, producers feel agency staff have been too office bound to effectively engage with them in conservation planning.

Strengthening on-farm direct technical assistance between the local NRCS, state and district technical staff and growers is crucial to increased adoption of BMP's. As research and science continue to offer new opportunities for increased production and conservation, producers need assistance in understanding the new approaches to determine what is best for their operation.

Recognizing the potential increased workload on staff, it makes sense to use more Certified Crop



Advisors (CCAs) to help fill technical assistance needs and help address the additional work load created by this recommendation.

In the future, NRCS should only accept the CCAs that have completed the 4R Training offered by American Society of Agronomy as third party vendors for assisting growers with nutrient management. Expanding training opportunities will provide the opportunity for more qualified individuals to assist producers with the implementation of best management practices that can have a profound effect on reducing the amount of off-site nutrient loss.

Educational and Technical Assistance — Recommendation 3

Provide Farm Bill and state funding to organize and maintain conservation cropping system farmer networks and field demonstration sites.

Federal and state agencies, as well as industry, should look for ways to implement (organize and fund) on-farm network programs pertaining to best management practices (BMP), field demonstration plots, and field days, to utilize the expertise of early adopters and innovative consultants in educating farmers in the watershed. Increased use of BMPs such as cover crops and conservation tillage is yielding positive results for adopting producers. Although the concept is simplistic, the selection of tillage practice or cover crop type, varies by operation. As producers transition into using cover crops and cropping systems, there are many variables that need to be addressed. Having experienced

producers offering input to new adoptees increases the rate of success.

The Indiana On-Farm Network Program is an example of a successful network program. Modeled after a proven program in Iowa, the Indiana On-Farm Network Program is managed by the Indiana State Department of Agriculture in partnership with the Iowa Soybean Association. The program is primarily funded through a USDA NRCS grant with matching dollars from the Indiana Corn Marketing Council.

"Forum participants agree that fertilizer training and certification programs for producers and commercial applicators are essential."

The focus of the program is on field-tested ways to improve nitrogen management in corn production through adaptive management, peer-to-peer learning and nutrient management.



Conservation Programs Linked to Decreasing Sediment Levels

In a study entitled "Improved Water Quality in Ohio Tributaries to Lake Erie: A Consequence of Conservation Practices." the National Center for Water Quality Research at Heidelberg College in Tiffin, Ohio reported significant water quality improvements in two major US tributaries to Lake Erie, the Maumee and Sandusky Rivers. Researchers report that during the years 1975-2004, both rivers showed continual decreases in suspended sediment and particulate phosphorus concentrations and loads. Analysis of concentration-flow relationships indicates that changes are not due to weather but reflect the successful use of agricultural practices to reduce erosion and prevent sediment loss on fields.

While some farmers may have implemented management changes on their own, the greater share of changes can be attributed to farmer participation in conservation programs. USDA, state and local conservation programs have made it possible for farmers to implement best management practices throughout the watershed.

Educational and Technical Assistance — Recommendation 4

Increase Farm Bill and state funding for conservation cropping systems outreach.

Federal funding to support education, outreach, and technical assistance through USDA, EPA and other federal agencies should at a minimum be maintained at current levels throughout the Western Lake Basin; and increase funding in priority watersheds that are determined to be providing the greatest negative impact on water quality.

The importance of increasing conservation practices in both agricultural and urban setting is ever increasing. Research, past and present, is providing valuable insights into how conservation practices can be improved to protect and preserve our water and soil resources. A big challenge is getting this knowledge to all stakeholders.

Even as the percentage of citizens involved in agriculture is decreasing, the interconnectedness of urbanized and agricultural areas is increasing.

"The solution to phosphorus runoff is to control it at the source."

Sharing new information across multiple disciplines will be necessary to improve

adoption of sustainable land use practices. No longer is simply addressing the practices that producers "should" adopt for environmental health for everyone sufficient. Urban land users have much to learn from their agriculture counterparts. Many beneficial land stewardship practices currently employed by agriculture go unnoticed by the urban population. Providing new opportunities for communicating these good practices can have the beneficial results of greater adoption of these practices as well as providing positive reinforcement for those using the practices.

As interest and attention grows in the WLEB it is critical that information on every facet of good watershed stewardship be widely distributed. Consistent messaging through multiple outlets will aid landowners when making land management decisions that affect even the smallest sub watersheds that will ultimately affect the health of Lake Erie. Maintaining the current outreach efforts is a bare minimum for the Farm Bill. Increasing funding to inform non-traditional participants will generate a larger informed public and provide for greater adoption of BMP's across a broader spectrum of land owners and users.

Farm Bill Conservation Programs that have contributed to this success story include: Environmental Quality Incentive Program (EQIP); Conservation Reserve Program (CRP); Conservation Reserve Enhancement Program (CREP). These programs offer technical assistance and cost-share dollars for practices such as cover crops, reduced tillage, filter strips, equipment modifications, nutrient management plans, and more focused attention on soil health.



Research and Monitoring — Recommendation 5

Increase long-term financial resources to accelerate and support coordinated research on conservation cropping systems.

Better research collaboration among universities governmental agencies, growers and industry is needed, including but not limited to crop nutrient needs, tillage, tile drainage options, and application technologies under various crop management systems.

Financial support for the needed research, including field demonstrations, should become a high priority for Federal, State, non-governmental, and agricultural industry decision makers.

Currently multiple learning and research institutions within and outside the Western Lake Erie Basin are involved in cutting edge science to improve our understanding of soil health, how to achieve it, and the long term impacts of soil health on water quality. Although many of these institutions share findings in their respective disciplines, a coordinated approach has the potential of resulting in better understanding of the information gathered and quicker dissemination of this research to end users. Broader utilization of this data beyond specific, narrow parameters can be a natural outcome. For example: Researching cropping systems rather than single practices is preferred.

By broadening the spectrum of research and objectives, long term sustainable practices will be integrated into a coordinated approach involving multiple land use operations and practices.

WLEB producers are searching for accurate information and ways to best integrate it into their operation. Recent BMP's have proven to be beneficial to the producer's bottom line in terms of cost inputs when compared to yield obtained.

Providing the necessary resources to obtain this collaborative and innovative approach is long overdue.

Research and Monitoring — Recommendation 6

Increase long-term financial resources to support edge-of-field and tile monitoring.

Edge of field monitoring of both surface and subsurface drainage is needed to better understand when and how nutrients, particularly dissolved reactive phosphorus, move from the field to surface water. Growers need information from the edge of field monitoring results to help determine which management systems, if implemented, will be the most economically and environmentally sustainable.

Supporting funding for long-term research to improve our understanding of nutrient uptake and potential nutrient loss under various farming practices, is essential for the health of all water bodies throughout the country.



Conservation Programs should utilize the expertise of the early adopters and innovative consultants to educate farmers throughout the watershed.

Multiple approaches are being employed by producers in a unified effort to reduce excess fertilizer from entering the waterways and creating undesirable effects in Lake Erie. Having high quality quantifiable data to understand the effects of these different approaches is needed to reinforce impactful practices and vise-versa to abandon ineffective practices. The approach seems simple – measure what leaves the field. However, how best to accomplish this task has been elusive. Soil conditions, terrain, and climate make the capturing of data technically challenging when faced with the various combinations of edge-of-field conditions.

How this information is gathered (voluntary vs. mandatory), how it will be used and the implications for the landowner are critical issues that need attention. Resolving these concerns and moving forward with edge-of-field monitoring will provide the credible data needed for agriculture to improve and adopt effective nutrient management systems.

"I feel strongly about optimum agricultural production with respect to the environment. We produce the most abundant, safe and economical source of food in the world, and farmers must be an integral part of any plan concerning that food supply. They are innovators and are able to provide solutions to many complex issues."

Joe Nester, Nester Ag, LLC and forum participant



Technology — Recommendation 7

Support the development and use of new technologies that improve our effectiveness in addressing nutrient loss and off-site deposition of Dissolved Reactive Phosphorus (DRP).

The agricultural industry and conservation professionals need to share technologies with one another, and work together to ensure that technologies created can interface with each other and be widely shared with growers.

Accelerated efforts are needed with the combined forces of industry, agencies, and growers to develop and adopt new technology for nutrient management decisions including "cloud-based" decision-making assistance software.

Addressing nutrient loss has become a very detailed science. Increased demand for crop production has put increasing pressure on producers to improve yield per acre leading to wider application of fertilizers. New technologies are continuously being developed to aid producers in maximizing their yield and minimizing input costs. With the proliferation of these technologies come the complexities of coordinating the tools available for maximum benefit to the producer and ultimately the end user in. This makes it possible to have adequate supply at a reasonable cost.

Being able to effectively use and blend new technologies will continue to increase the science behind agriculture and help pinpoint inefficiencies.

Providing and encouraging this platform where the efforts of technology and growing experts collaborate will result in technology tools being readily available to many more producers. Providing the smaller operators with efficient tools has the potential of further reducing off-site nutrient deposition by using technology to implement best management practices.

This blending of technology has the potential to open doors to manufacturing new types of equipment, and advancements in ways to modify existing equipment. Bringing new fertilizer application equipment technology to growers, with large bulk capacity and efficiency for incorporating phosphorus with minimal soil surface disturbance, will lead to reductions in DRP.



Incentives/Industry/Government — Recommendation 8

Increase adoption of conservation cropping systems and new technologies.

Federal and state agencies should provide increased incentives to producers and landowners based



on adoption of conservation cropping systems rather than individual practices. The interdependency of the many practices required in modern agriculture is becoming increasingly apparent. Adjusting a single input component to an agricultural program, as has been done in the past, has the potential to positively affect conservation efforts. Adjusting multiple components of a farming program has the opportunity to reap bigger benefits. By taking a broader view of the various incentive programs currently available, with an eye for where combining incentive programs increases the benefits of each individual program, a

producer can substantially increase beneficial conservation results and yield. Proactive farmers are looking for ways to combine appropriate programs as a positive step in better management of soil and water resources. The synergy that can be created by combining multiple incentive programs is known by many producers in the WLEB.

Producers who have committed to existing conservation programs resulting in improved soil and water health are looking for the next level of conservation stewardship. Needed now are new approaches aimed at effective DRP reduction. Much research is being done on how excess water is leaving the field. More precisely, on what the excess water is carrying with it! Conservation practices such as surface and subsurface drainage (e.g., blind inlets, tile drainage management, end of tile filters and alternative ditch design) should be eligible for cost-share to increase adoption. Initial trials are showing that these practices have the potential to make significant reductions in the flow of DRP from farm fields, thereby increasing the water quality of contributing streams and rivers flowing to Lake Erie. Providing new incentive programs for adopters looking to further reduce storm water runoff will enhance the overall conservation efforts of reducing nutrient flow in the receiving bodies of water.

Federal and state agencies should work with agricultural product manufacturers (i.e. equipment, chemical, and seed) and retailers to make new technology more readily available to give growers the opportunity to try new technology.

Adoption of new equipment, technology, or cropping systems is always risky to the individual grower. Incentive programs (e.g., cost share, land retirement payments, rebates, tax abatements, load buy downs, etc.) play an important role to encourage growers and land owners to make changes and take risks.

As new practices are researched and implemented on a trial basis, often existing agriculture equipment requires on site modifications. When the adapted equipment demonstrates the success of the concept this can lead the way for the manufacture of new farm equipment that enhances conservation efforts. Finding ways to foster these partnerships will benefit the environment, growers, and business.

Program Policies — Recommendation 9

Implement improved Farm Bill and state program delivery and implementation policies.

The USDA and other agencies should address policy and budgeting drawbacks which would allow delivery of program dollars early in the fiscal year, have longer signup periods, and conduct signup at times when farmers are not busy with planting and harvesting. Agencies should also provide more flexibility for growers to fit programs and practices into their operation. Examples include group projects that involve multiple land tracts for conservation practices such as wetlands and ditch design. Across the country, the "regional" view on everything from health care to economic development to environmental stewardship is growing. Moving away from segmented programs into combined efficiencies can provide better overall benefits. More and more individuals, organizations, and programs are realizing that compartmentalized program thinking no longer makes sense in many situations. In fact, at times this simplistic thinking can make unintended obstacles to efficient implementation of well-intended programs and initiatives.

As agricultural practices evolve, so should the USDA programs designed to assist producers to become better conservation stewards of the land and water. Wider adoption of conservation programs can be realized by implementation of farmer-suggested improvements. One such suggestion is that program guidelines established for the initial roll-out of various programs need to be adjusted to fit todays farming cycles. The USDA and other agencies should address policy and budgeting drawbacks, which, if adjusted, would allow delivery of program dollars early in the fiscal year, have longer signup periods, and conduct signup at times when farmers are not busy with planting and harvesting. In addition, agencies should strive for improved coordination and consistency in federal and state legislation, program incentives and rules within the WLEB tri-state watershed.

Agencies should implement measures that would enable producers to sign up for programs at their farms or with their "trained" CCA. Farmers are asking for more one-on-one learning as the science of agriculture grows. Working with local CCA's provides this "customer service" that assures an individual farmer that they are making good decisions for the environment and their business.

There is a need to continually improve programs to gain wider participation and insure they align with actual on-the ground benefits. With the increased focus of the WLEB and the effect agriculture has on Lake Erie, agencies should test a new incentive method that rewards growers for implementing conservation practices based on the estimated soil savings and/or the nutrient loss reduction that research indicates will be obtained. This would facilitate payments that are based on amount of

public benefit. This approach also provides the farmer with the visual results they need to continue employing conservation practices.

"Farmers need to have an impact on Farm Bill Conservation Program policies to make them more effective. This forum has provided us the opportunity to connect with our legislators to tell them what works and what does not work. Connecting farmers with legislators is the best outcome of this process."

Mike Werling, Allen County Indiana Farmer and forum participant



The Western Lake Erie Basin Forum Summary of Recommendations

- 1. Farm Bill Conservation Programs should incentivize and support the agricultural industry-led 4R Stewardship Certification Program.
- 2. Require that all NRCS, State agency, and Soil and Water Conservation District technical staff receive and maintain training/certification on nutrient management, the 4Rs program and sustainable cropping systems.
- 3. Provide Farm Bill and state funding to organize and maintain conservation cropping system farmer networks and field demonstration sites.
- 4. Increase Farm Bill and state funding for conservation cropping systems outreach.
- 5. Increase long-term financial resources to accelerate and support coordinated research on conservation cropping systems.
- 6. Increase long-term financial resources to support edge-of-field and tile monitoring.
- 7. Support the development and use of new technologies that improve our effectiveness in addressing nutrient loss and off-site deposition of dissolved reactive phosphorus.
- 8. Increase adoption of conservation cropping systems and new technologies.
- 9. Implement improved Farm Bill and state program delivery and implementation policies.

Appendix A

Summary of WLEB Producer Focus Group Other (non-Farm Bill) Recommendations

In addition to recommendations the WLEB Producer Focus Group made to strengthen the Farm Bill Conservation Programs, several non-Farm Bill related ideas emerged at the forums. They are excellent ideas that provide inspiration for programs that will enhance soil and water conservation objectives regionally. These recommendations focus directly on fertilizer application, a major source of degradation of Lake Erie water quality.

Education and Technical Assistance

Develop and implement a basin-wide fertilizer (4R's) training/certification program for producers. This program can be similar to and run concurrently with the current program requiring producers to receive training and maintain certification for pesticide application.

Design and implement a fertilizer management/application certification for all commercial fertilizer applicators. Agricultural service providers and growers who apply nutrients from any source (inorganic fertilizer, manure, etc.) need to be educated on the 4R Nutrient Stewardship Principles, which are: (1) Right Source, (2) Right Rate, (3) Right Time, and (4) Right Place. This could be accomplished by implementing a program for nutrients similar to the current Pesticide Applicators Training Program that agricultural service providers and growers in all three states must complete with if they apply restricted use pesticides.

4R nutrient management education/training needs to include information on sustainability (i.e., economic, environmental and social) benefits of nutrient management, as well as the risks involved if agriculture is not proactive in implementing the 4R Nutrient Stewardship principles voluntarily.

Require that all CCA's and technical service providers offering nutrient management assistance receive and maintain training based on the 4Rs program.

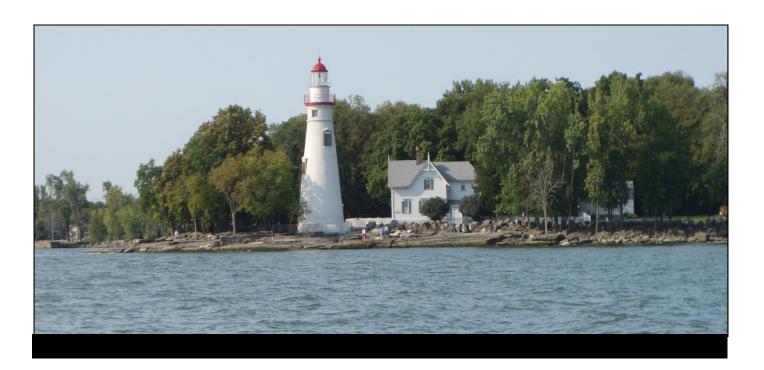
Research and Monitoring

Update tri-state fertilizer recommendations with on-going research. Universities should update the current tri-state fertilizer recommendations to take into consideration the impact of long term conservation cropping systems. For example, as a part of the review and update, consideration should be given to proper rates based on: soil organic matter, field history, tillage systems and cover crops.

Updates to the tri-state fertilizer recommendations should be reviewed and updated periodically as new information and research becomes available. These recommendations need to be succinctly and widely communicated to the agricultural industry, conservation groups and agencies.

Program Policies

Develop and implement a watershed-based fertilizer check-off program to fund research and education/outreach. Federal and state agencies should support a watershed-based fertilizer check-off for research and education. Such a fund should be designated for the research needs identified above, and 4Rs nutrient management education and/or industry certification programs.



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Tri-State Watershed Alliance

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