SEIZING A WATERSHED MOMENT

Making EQIP Work for Water Quality in 10 Mississippi River Border States

ENVIRONMENTAL WORKING GROUP

ABOUT EWG

EWG is a nonprofit research organization headquartered in Washington, DC, with offices in Ames, IA and Oakland, CA. EWG uses the power of information to educate the public and decision-makers about a wide range of environmental issues, especially those affecting public health.

The Environmental Working Group prepared this report for the Mississippi River Collaborative, with support from the McKnight Foundation. EWG would like to thank the Environmental Quality Incentives Program (EQIP) staff at the US Department of Agriculture's Natural Resources Conservation Service (NRCS) and the NRCS staff in the 10 states that border the Mississippi River for their assistance with this project. The opinions expressed in this report are those of the Environmental Working Group and do not necessarily reflect the views of the supporters listed above. EWG is responsible for any errors of fact or interpretation contained in this report.

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ABOUT THE MISSISSIPPI RIVER COLLABORATIVE

The Collaborative is comprised of environmental organizations from states bordering the Mississippi River as well as regional and national groups that work on Mississippi River issues. The purpose of the Collaborative is to harness the resources and expertise of diverse organizations to reduce all types of pollution entering the river. Mississippi River Collaborative members who are jointly releasing this report include:

Environmental Law & Policy Center
Chicago, Illinois

Environmental Working Group
Washington, D.C.

Iowa Environmental Council
Des Moines, Iowa

Gulf Restoration Network
New Orleans, Louisiana

Kentucky Waterways Alliance, Inc.
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EXECUTIVE SUMMARY

The Mississippi River flows more than 2,000 miles from Minnesota to the Gulf of Mexico and is the world's third-largest river basin. Millions of residents get their drinking water from the Mississippi and the River supports a vast array of economic, commercial, and recreational activities.

But runoff from farm fields pollutes lakes and streams in the 10 states[1] that border the Mississippi River.[2] And farm sediment, fertilizer runoff and livestock waste are the source of over 70 percent of the pollution causing the Dead Zone in the Mississippi River-Gulf of Mexico.[3]

The Obama Administration faces many challenges, but also an unparalleled opportunity to save the Mississippi and remedy these problems for future generations.

The Administration's most promising tool is the Environmental Quality Incentives Program (EQIP), a U.S. Department of Agriculture (USDA) program, which offers substantial financial inducements and technical assistance to farmers and ranchers who pledge to reduce their runoff, improve water and air quality and preserve wildlife habitat. The USDA's Natural Resources Conservation Service (NRCS) implements EQIP through its national, state, and local offices.

Congress authorized more than $8 billion in EQIP technical and financial assistance across the United States since the program's inception in 1997.[4] The 10 states that border the Mississippi together received $949 million over the last 5-year Farm Bill from 2003 to 2007 or an average of $190 million a year.[5]

We undertook this study, with funding from the McKnight Foundation, to identify opportunities to improve the effectiveness of EQIP in reducing sediment and nutrient pollution (nitrogen and phosphorus from fertilizers and livestock waste) in the 10 Mississippi River border states.

We found that, up to now, EQIP has not been deployed as effectively as it could be in these 10 states. The methods used to decide how to spend EQIP dollars within a state and which farmers will get those dollars are more likely to result in diffuse and fragmented efforts to reduce pollution from farms rather than the focused and coordinated effort needed to clean up the Mississippi River and its tributaries.

Our analysis reveals that to quickly ramp up the effectiveness of EQIP, NRCS should:

1. Set clear and specific goals for how much pollution needs to be reduced, which lakes, streams or tributaries are priorities for improvement, and a timetable to achieve those goals.

2. Use 60 percent of EQIP dollars by 2012 to fund watershed-based water quality clean-up projects that encourage multiple farmers within selected watersheds to reduce pollution to specific lakes, streams, or tributaries to the Mississippi River.

3. Use 40 percent of EQIP funds by 2012 in state-level funding pools to target the highest priority natural resource and environmental problems in each state.

4. Select farmers to participate in EQIP who can do the most to contribute to watershed-based clean-up projects or solve high priority problems.

Despite its past shortcomings, EQIP is an important program that can and must be a critical part of the solution to agricultural pollution in the Mississippi River and its tributaries.

The opportunities to improve EQIP are compelling and well within our grasp. Indeed, some of the 10 state EQIP programs we reviewed have already taken steps in the right direction.

There is still a long way to go, but with concerted action and attention from NRCS leadership, EQIP could emerge as the single most effective federal program aimed at reducing pollution from farms in the United States.

If Congress funds EQIP at the levels promised in the 2008 Farm Bill and the Obama Administration's NRCS takes quick action to make the program work better for water quality, then we will seize an important opportunity to protect the Mississippi River and its tributaries.

However, if EQIP is not much more effectively targeted and if Congress and the Administration fail to fully fund the program, there is no hope for improving either local water quality or the Dead Zone in the Gulf of Mexico. The track record on targeting is poor and EQIP funding has fallen short of what was promised in the farm bill every year since 2002. President Obama's 2010 budget continues the string of bad news, proposing funding for EQIP that is $250 million lower than was provided in the 2008 farm bill.

Given this history, it is becoming clear that voluntary programs alone will not clean up local streams, rivers, and lakes or heal the Gulf of Mexico. New approaches including strengthening and expanding the Conservation Compliance provisions of the farm bill, and regulatory action at the state or federal level will be needed to make real progress on these long-standing pollution problems.

INTRODUCTION

The efficient and effective use of Environmental Quality Incentive Program (EQIP) funds is critically important to tackling the large-scale water quality problems associated with agricultural production. The Environmental Protection Agency (EPA) has long-identified agriculture as a leading source of sediment, nitrogen and phosphorus pollution in the nation's waterways.[6]

In 2008, the U.S. Geological Survey identified fertilizers and livestock waste from crop fields and pasture and range lands in seven of the 9 states that border the Mississippi River as the source of over 70 percent of the nitrogen and phosphorus pollution causing the 8,000 square mile Dead Zone in the Northern Gulf of Mexico.[7]

EQIP is the single largest federal voluntary program that helps reduce water pollution from agricultural operations by providing money and technical help to farmers. EQIP also is used to conserve water, reduce air pollution, and protect wildlife habitat. The US Department of Agriculture's Natural Resources Conservation Service (NRCS) implements EQIP. Nationally, in 2007 alone, EQIP provided over $1 billion nationwide in technical and financial assistance and about $200 million to the 10 states that border the Mississippi River.[8]

We undertook this study, with funding from the McKnight Foundation, to identify opportunities to improve the effectiveness of EQIP in reducing pollution from farm fields in the 10 Mississippi River border states. We analyzed the way NRCS sets priorities, allocates funds, and selects which farmers will receive help in the 10 border states.

Our goal is to understand how these decisions influence the effectiveness of EQIP and to recommend changes in how these decisions are made that would make EQIP work better for water quality. We reviewed information about EQIP available on the 10 states' EQIP program websites and we followed up our investigation by interviewing state and national EQIP program managers.

We encountered several obstacles in completing our assessment. Some of those obstacles arise from gaps in information and variation among states. The availability and quality of information on public websites and provided by state and national program managers upon request was substantially different making comparison across states very difficult. In addition, many funding and participation decisions in most of the 10 states are made by local jurisdictions limiting both our ability and that of the state program managers to know how well those decisions are addressing sediment and nutrient pollution reduction. Finally, the 10 states vary significantly in the way they allocate funds and in the number and kinds of ranking systems they use to evaluate and select participants. These information gaps and variation among states make state-

to-state comparisons difficult and also increases the uncertainty about how well states are using EQIP to solve pressing nutrient and sediment pollution problems.

The available information indicates that the methods used to set priorities, allocate funds and select participants for EQIP in the 10 states are not fully optimized to focus EQIP technical and financial resources to solve agricultural water quality problems. There are clear and important opportunities to improve the way NRCS allocates funds and selects farmers to participate that would lead to more effective efforts to reduce sediment and nutrient pollution, achieve water quality clean-up in agriculturally-impaired watersheds, and better communicate what NRCS and farmers are accomplishing to the public.

This report outlines the opportunities for improvement we identified based on our review of the EQIP programs in the 10 states that border the Mississippi River. Details about each state program are found in the Appendix.

SET CLEAR AND SPECIFIC CLEAN-UP PRIORITIES

EWG suggests that the 10 Mississippi border states set clear and specific goals for how much pollution from agriculture needs to be reduced to clean-up impaired waterbodies, which lakes, streams or tributaries are priorities for improvement, and a timetable to achieve those goals.

EWG encountered a pervasive lack of specificity for what EQIP is intending to accomplish in each state. This lack of specificity in problem definition takes two forms:

1. Lack of clean-up goals for a discrete number of identified impaired waterbodies
2. Lack of timelines or evaluation mechanisms to ensure achievement of those goals

With a few, limited exceptions, the state EQIP programs we reviewed do not establish goals to clean-up specific waterbodies that are suffering from agricultural sources of pollution or degradation of aquatic habitat. In addition, there appear to be no timelines established for improving water quality in a specific waterbody or watershed and no obvious mechanisms to track progress toward such goals.

If statewide priorities for using EQIP funds are established, they are generally defined in terms of very broad categories called "resource concerns" and each state defines resource concerns differently. In some cases, the resource concerns that are considered a priority are simply a land use, such as grazing land. Other times, states define a resource concern as a particular conservation practice, such as a comprehensive

nutrient management plan. This lack of specificity in setting priorities and objectives extends to the criteria and questions used in ranking systems that choose which producers will participate in the program.

In contrast, the national EQIP program identifies 8 major resource concerns that can be addressed by the EQIP program: air quality, domestic animals, fish and wildlife, plant condition, soil condition, soil erosion, water quality, and water quantity. Under each major category, there are several sub-categories including, for example, "water quality: excessive nutrients and organics in surface water" and "water quality: excessive suspended sediment and turbidity in surface water." These sub-categories are better descriptions of specific environmental and natural resource problems that should be used when identifying statewide priorities for EQIP.

All 10 Mississippi River border states are required by NRCS to set and track what they call "performance goals." This includes counting the numbers and kinds of conservation practices and activities EQIP funds every year. These data are essential for understanding what EQIP is accomplishing, but what appears to be missing are explicit quantitative or qualitative goals for improving a specific environmental problem in a lake, stream, river, or habitat complex that is either already impaired or at risk of being impaired by agricultural activities. Absent specific goals, it is very difficult to determine the extent to which the funded practices and activities are solving—or preventing—significant resource and environmental problems.

Because of the more limited scope of our investigation, we do not know if such specific goals do not exist or if they are simply not reported. The preponderance of evidence, however, suggests such specific objectives do not play a leading role in determining how EQIP is implemented in a state. The picture that emerges is one of generally diffuse implementation of EQIP driven largely by decisions at county or other sub-state regions.

Establishing such objectives and the means to monitor progress toward meeting those objectives would be, in and of itself, a major step toward improving the effectiveness of EQIP and increasing the understanding among stakeholders about what EQIP is accomplishing. States should also improve the transparency of their fund allocation and ranking processes. In order to explain to policymakers, taxpayers, and stakeholders what EQIP is accomplishing, the 10 states need to do a better job of communicating what they're doing, where they're doing it, how they're doing it, and what successes they're achieving.

Recommendation:

EWG recommends that the 10 states that border the Mississippi River set clear and specific goals for cleaning up agricultural sources of pollution; identify which lakes, streams or tributaries are priorities for improvement, set a timetable to achieve those goals, and establish means to track progress toward the goals. EWG also recommends

that the 10 states that border the Mississippi River develop systems to track, evaluate, and report on the environmental performance of EQIP.

USE 60 PERCENT OF EQIP FUNDS IN WATERSHED-BASED CLEAN-UP PROJECTS

Professional experience and many studies[9] [10] [11] have shown that the best way to improve water quality is to fund well-designed projects that encourage multiple farmers within a watershed to reduce pollution to a specific lake, stream, or tributary to the Mississippi River. The problem-solving advantages of this approach are well understood. They include focusing resources in specific locations to solve well-defined problems using a strategy that directs funding to those farmers within the watershed who can do the most to reduce or prevent pollution.

Ideally, such water quality improvement projects should include monitoring and evaluation systems to adjust the strategy and resource allocations based on the results that are being realized. Ramping up the emphasis in EQIP on such watershed-based clean-up projects would dramatically increase the effectiveness of the program.

We found that only two states (Iowa and Illinois) have used their EQIP funds to support efforts that approach watershed-based clean-up projects. Unfortunately, these states channeled less than 7 percent of their average annual EQIP funds to these projects. Both projects are considered successes but no similar watershed-based projects with EQIP funds have been initiated.

Iowa EQIP has implemented a ”Supershed Projects” initiative for the last five years that leverages funding from multiple state and federal sources to clean up designated lakes and rivers. Iowa spent between 0.3 percent and 1.8 percent of its annual EQIP funds from 2006 to 2008 on a project to improve water quality in Lake Rathbun. Over the course of three years, Iowa used only 1.1 percent of its EQIP funds on the Lake Rathbun Supershed Project ($762,500 out of $72 million). About 2.3 percent of Iowa’s EQIP’s 2006 funds went to a one-year Whitebreast Creek Supershed Project ($474,200 out of $20.3 million). The Lake Rathbun project is continuing and pursuing additional funds from other Farm Bill conservation programs.

Illinois EQIP conducted a “special project” in FY 2006 and 2007 dedicating an average of 7 percent of it’s financial assistance in these two years. The Spoon River had been identified as one of the highest contributors of sediment in the Illinois River Watershed and streambank erosion was identified as a major resource concern. Therefore, EQIP, in partnership with state and federal agricultural and environmental agencies and non-government organizations, developed a special project to increase adoption of

streambank stabilization practices. In FY 2006, Illinois EQIP spent about 10 percent of its financial assistance funds ($1.4 million out of $14 million) and in FY 2007, Illinois EQIP dedicated about 3.5 percent ($483,000 out of $13.8 million) to this project. The project was considered a success and the state and federal environmental protection agencies are continuing water quality monitoring.

Recommendation:

EWG recommends that the 10 Mississippi border states immediately begin allocating more EQIP funds to implement well-designed projects that encourage multiple farmers within a watershed or other specific locations to solve pressing natural resource and environmental problems. By the time the current farm bill expires in 2012, 60 percent of EQIP funds should be dedicated to implementing such projects and the majority of those projects should focus on improving water quality in specific waterbodies and watersheds in those states. By focusing EQIP funding on implementing such watershed-based clean-up projects, NRCS will dramatically improve the contribution EQIP makes to solve local and downstream water quality problems.

USE STATE-LEVEL FUNDING POOLS TO SOLVE SPECIFIC PROBLEMS

EWG found two shortcomings in the way EQIP funds are spent in the 10 border states that impair its effectiveness in cleaning up agricultural pollution. Instead of reserving their EQIP funds to solve water quality problems in well-designed, watershed-based clean-up projects, most states allocate the majority of their EQIP funds directly to counties or other local entities. In addition, to decide how much EQIP funds each locality receives, the state programs use funding allocation formulas that, in most cases, are only marginally related to the extent and severity of natural resource and environmental problems in each local jurisdiction.

A better approach to allocate those EQIP funds that are not used to implement watershed-based clean-up projects is to allocate funds to address specific natural resource and environmental problems that are the highest priorities for a state. By creating state-level funding pools that address the states' most pressing agricultural natural resource and environmental problems, program managers can then select the best applications from across the state based on how much they can contribute to solving the identified problems. Funds can then be allocated to local jurisdictions based on the extent to which local jurisdictions will contribute to solving the identified problems.

EWG found that some states do hold back a portion of their EQIP funds at the state level to target funding to statewide priorities. These states create EQIP "funding pools" that allocate EQIP funds to address designated statewide priorities. Each designated priority is allocated a specific "pool" of funds that are used to enroll farmers into EQIP based on their ability to take actions that will address the designated priority.

Tennessee, for example, holds back the 50 percent of its EQIP funds for state-level competition in 7 funding pools to address particular priorities. In FY 2008, those priorities were: (1) Animal Feeding Operations and Concentrated Animal Feeding Operations Water and Air Quality, (2) Cropland Erosion / Sedimentation, (3) Aquatic At-Risk Species, (4) Limited Resource Farmer and Small Scale Farmer, (5) Grassland At-Risk Species, (6) Forest Habitat Improvement, and (7) Invasive Species-Kudzu. The remaining 50 percent of EQIP funds is allocated to Tennessee's 95 counties.

Wisconsin held back up to one-third of its EQIP funds in FY 2008 for a Waste Storage/Alternative Waste Solutions funding pool. In FY 2008, Arkansas reserved 30 percent of its EQIP funds for statewide competition in 8 priority resource concerns; five of which are water quality-related concerns. The remaining EQIP funds in both states are allocated to the 72 counties in Wisconsin and the 75 counties in Arkansas for county-level competition.

Illinois is the only border state that allocated all of its EQIP funds into state-level funding pools in FY 2008. The funding pools directed EQIP funding to the following categories: (1) General EQIP, (2) Confined Livestock Operations, (3) Comprehensive Nutrient Management Plans, (4) Forest Management Plans, (5) Forest Management Implementation, and (6) Grazing Land Operations.

The way these states are using funding pools to focus EQIP funding on statewide priorities is a step in the right direction. The effectiveness of funding pools would be much greater if the statewide priorities were defined more specifically to address pressing natural resource or environmental problems, as discussed above.

EWG recommends that after allocating 60 percent of EQIP funds to watershed-based clean-up projects by 2012, states allocate the remaining 40 percent of funds by 2012 to funding pools that target high priority natural resource and environmental problems. State-level funding pools create important opportunities to focus EQIP funding on the most pressing environmental problems and to select the best applications from all the applications proposing to address the same environmental or natural resource problem. Used appropriately, such funding pools will multiply the benefits of dedicating most of EQIP funds to watershed-based clean-up projects.

If states continue to allocate funding directly to local jurisdictions – a less preferred alternative to effective use of funding pools – they must use formulas that ensure EQIP funds go to those counties with the most pressing problems. Currently, eight states (AR, IA, KY, LA, MN, MS, TN, and WI) allocate 50 percent or more of their EQIP funds

to local jurisdictions (e.g. county- or parish-based soil and water conservation districts or, in the case of Kentucky, to 14 regions, each composed of multiple counties). These states use various funding formulas to determine how much each locality receives.

The formulas include generic factors such as number of farms or number of livestock as well as resource impairment or risk factors such as acres of highly erodible land (HEL) or the presence of impaired waters. In most cases, the generic factors are more numerous and/or more important than the resource concern or environmental factors. Using such generic factors will fail to direct EQIP funding to those opportunities to solve the most pressing natural resource and environmental problems.

Iowa is an example of how a state can allocate funds to local jurisdictions based primarily on the extent and magnitude of natural resource and environmental problems. Iowa allocates 90 percent of Its EQIP funds to its 100 county districts based on four factors:

- Percent of agricultural land with impaired waters due to agricultural concerns - factor weight 40%;
- Number of livestock in the county - factor weight 30%;
- Number of acres with a land capability class limitations of IIe or greater[1] - factor weight 20%; and
- Number of acres needing wildlife habitat conservation systems - factor weight 10%.

In contrast, Mississippi allocates 92 percent of its EQIP funds to its 82 county districts using four unweighted factors – only one of which focuses on resource and environmental concerns: (1) county request, (2) previous funding demands and performance, (3) priority resource concerns, and (4) other related factors, e.g. workload.

Recommendation:

EWG recommends that if funds are allocated directly to local jurisdictions, states should use allocation formulas based primarily on natural resource and environmental factors

[1] NRCS defines a Land Capability Class rating of II as "soils (that) have moderate limitations that reduce the choice of plants or require moderate conservation practices while Subclass e "is made up of soils for which the susceptibility to erosion is the dominant problem or hazard affecting their use. Erosion susceptibility and past erosion damage are the major soil factors that affect soils in this subclass." Thus, Class ratings of greater than IIe have greater limitations and greater susceptibility to erosion and other environmental hazards.

to channel more funding to localities with significant yet solvable environmental problems associated with agriculture.

SELECT FARMERS WHO CAN DO THE MOST TO SOLVE THE IDENTIFIED PROBLEMS

Normally, there are many more farmers who apply to participate in EQIP than are selected to participate because of limited funding. The criteria NRCS uses to pick which farmers get to participate, then, has an important effect on the results EQIP ultimately produces.

The 10 Mississippi River border states use a variety of factors and approaches in their ranking systems to select participants in EQIP from among pools of applicants. Despite this variety, there are important elements in each application ranking system that can be used to give priority to applications that do the most to reduce agricultural pollution. In particular, these ranking systems could and should be designed to select participants who can reduce sediment and nutrient pollution, the two most important pollutants in streams, lakes, or reservoirs in the 10 border states and the tributaries to the Mississippi River.

In most cases, the 10 states use ranking systems that suffer from the same lack of specificity we noted earlier in regard to goals and priorities for EQIP. Points are awarded to applications that address generic factors such as water quality from point sources or nonpoint sources. The particular pollutant causing the water quality problem, the source of that pollutant, and the waterbody threatened are frequently not specified. (See Box 1 for more on the challenges due to lack of specificity in the ranking criteria.)

All 10 states include at least one factor related to the location of the operation the farmer is proposing to enroll in EQIP. Examples of the type of geographic factors states use in their ranking systems include: (1) whether the application is located in a watershed of a 303(d) listed stream or other waterbody of concern to the state or (2) whether the application is located in proximity to receiving waters, such as within 300 feet of a stream or 1,000 feet of a lake.

The use of such location factors can be an important way to focus EQIP geographically to more effectively solve problems. Unfortunately, it appears that the emphasis given to such location factors is limited. To get a sense of how much emphasis state EQIP programs placed on geographic priorities, we looked more closely at the "general" ranking criteria documents in 5 states (Illinois, Iowa, Kentucky, Louisiana, and Minnesota).

We selected these states for review because we had information about the points they allocated to factors in their ranking systems. The results of this rough estimate of raw, unweighted points reveals that these 5 states' ranking documents appear to give very little emphasis to applications in geographic priority areas. Iowa and Minnesota's ranking criteria documents appear to give the largest percentage of their total unweighted points (16 percent) to addressing environmental problems in geographically important locations while Illinois' ranking sheet gave the smallest percentage of points (6 percent).

Box 1. The Lack of Specificity in Ranking Criteria

The ranking criteria in all 10 Mississippi River border states lacked sufficient specificity for us to determine with real certainty the emphasis each state was giving in its ranking sheets to the reduction of sediment and nutrient pollution and to areas of geographic importance.

For example, many ranking factors do not specify the particular source of natural resource or environmental problems, such as sediment or nutrient loss from cropland. Instead the ranking factors refer to more generic sources of problems, such as nonpoint source pollution.

In those cases where more specific types of pollutants like sediments or nutrients were cited, they were usually included in a longer list of pollutants, such as pathogens, pesticides, or excess salinity, making determination of the priorities implicit in the ranking criteria difficult. A similar lack of specificity hampered our ability to determine the emphasis placed on location of an application within a priority watershed or other geographic unit.

Despite these difficulties, it is clear that the factors used in ranking criteria and the priority assigned those factors through point allocations and multipliers are critical determinants of the effectiveness of EQIP in reducing sediment and nutrient pollution.

Recommendation:

Despite the variability among states, lack of specificity, and information gaps we encountered during our review of state EQIP ranking documents, our analysis makes it clear that revising the ranking systems could be a powerful tool for focusing EQIP more effectively to reduce sediment and nutrient pollution. EWG recommends that the 10 Mississippi border states immediately revise their ranking systems to increase the priority given to applications that reduce sediment and nutrient pollution in priority locations.

CONCLUSION

We find that EQIP has not been deployed as effectively as it could be in the 10 states that border the Mississippi River. The methods used to decide how to spend EQIP dollars within the state and which farmers will get those dollars are more likely to result in diffuse and fragmented efforts to reduce pollution from farms rather than the focused and coordinated effort needed to solve both local and regional water pollution problems.

Watershed-based water quality clean-up projects are the best use of federal taxpayer resources and offer the greatest hope for cleaning up the unintended environmental damage from agriculture. These projects entail setting goals to clean up specific bodies of water that are deemed the highest priorities, determining how many of the most cost effective practices are needed, and persuading key farmers to participate in the project.

To quickly ramp up the effectiveness of EQIP, NRCS should:

1. Set clear and specific goals for how much pollution needs to be reduced, which lakes, streams or tributaries are priorities for improvement, and a timetable to achieve those goals.

2. Use 60 percent of EQIP dollars by 2012 to fund watershed-based water quality clean-up projects that encourage multiple farmers within selected watersheds to reduce pollution to specific lakes, streams, or tributaries to the Mississippi River.

3. Use 40 percent of EQIP funds by 2012 in state-level funding pools to target the highest priority natural resource and environmental problems in each state.

4. Select farmers to participate in EQIP who can do the most to contribute to watershed-based clean-up projects or solve high priority problems.

[1] The 10 states that border the Mississippi River are: Arkansas, Iowa, Illinois, Kentucky, Tennessee, Minnesota, Mississippi, Missouri, Tennessee, and Wisconsin.
[2] Environmental Protection Agency. The National Water Quality Inventory: Report to Congress for the 2004 Reporting Cycle. http://www.epa.gov/owow/305b/2004report/
[3] US Geological Survey. 2008. Alexander et al. Differences in Phosphorus and Nitrogen Delivery to the Gulf of Mexico from the Mississippi River Basin. http://water.usgs.gov/nawqa/sparrow/gulf_findings/
[4] This figure was calculated by summing the funds authorized by Congress for EQIP in the 1996, 2002, and 2008 farm bills.
[5] EWG estimated these dollar amounts from the following USDA NRCS EQIP tables "Allocation" and "Contract" tables found on the USDA NRCS website: http://www.nrcs.usda.gov/programs/EQIP/.
[6] Environmental Protection Agency. 2004. Ibid.
[7] US Geological Survey. 2008. Alexander et al. Ibid.
[8] EWG estimated these dollar amounts from the following USDA NRCS EQIP tables "Allocation" and "Contract" tables found on the USDA NRCS website: http://www.nrcs.usda.gov/programs/EQIP/.
[9] National Research Council. 2008. Mississippi River Water Quality and the Clean Water Act; Progress, Challenges, and Opportunities. The National Academies Press. Washington, DC.
[10] National Research Council. 2008. Nutrient Control Actions for Improving Water Quality in the Mississippi River Basin and Northern Gulf of Mexico. Committee on the Mississippi River and the Clean Water Act: Scientific, Modeling, and Technical Aspects of Nutrient Pollutant Load Allocation and Implementation.
[11] National Research Council. 1993. Soil And Water Quality; An Agenda for Agriculture. Committee on Long-Range Soil and Water Conservation. Board on Agriculture. National Academy Press. Washington, D.C. 1993