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Regulatory Impact Analysis (RIA) for the Environmental Quality Incentives Program (EQIP)

The Food Security Act of 1985
Title XII – Conservation
Subtitle D—Agricultural Resources Conservation Program
Chapter 4—Environmental Quality Incentives Program
As
Amended by the Agricultural Act of 2014

Natural Resources Conservation Service

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Regulatory Impact Analysis for the Environmental Quality Incentives Program (EQIP)

Executive Summary

Pursuant to Executive Order 12866, Regulatory Planning and Review, the Natural Resources Conservation Service (NRCS) has conducted a Regulatory Impact Analysis (RIA) of the Environmental Quality Incentives Program (EQIP) as pursuant to the changes of the 2014 Act.

In considering alternatives for implementing EQIP, the United States Department of Agriculture (USDA) followed the legislative intent to maximize beneficial conservation impacts, address natural resource concerns, establish an open participatory process, and provide flexible assistance to producers who apply appropriate conservation measures to comply with Federal, State, and Tribal environmental requirements. Because EQIP is a voluntary program, the program will not impose any obligation or burden upon agricultural producers who choose not to participate. The program has been authorized by the Congress at \$8 billion over the 5-year period beginning in fiscal years (FY) 2014 through 2018, with annual amounts of \$1.35 billion in FY 2014, \$1.60 billion in FY 2015, \$1.65 billion in FY 2016, \$1.65 billion in FY 2017, and \$1.75 billion in FY 2018. EQIP and WHIP had been previously authorized with annual amounts of \$1.32 billion for FY 2008, \$1.37 billion in FY 2009, \$1.55 billion in FY 2010, \$1.66 billion in FY 2011, and \$1.75 billion in FY 2012 through FY 2014. Despite this authorization, EQIP and WHIP received only \$7.75 billion in funding from FY2008-FY2013. Funds received annually over this period were \$1.09 billion in FY 2008, \$1.15 billion in FY 2009, \$1.27 billion in FY 2010, \$1.32 billion in FY 2011, \$1.45 billion in FY 2012 and \$ 1.47 billion in FY 2013.

The Food Security Act of 1985, as amended by the Agricultural Act of 2014, makes several changes to EQIP. The changes include consolidating elements of the former WHIP into EQIP, expanding participation among military veteran farmers or ranchers, requiring that funds provided in advance that are not expended during the 90-day period beginning on the date of receipt of funds be returned, establishing an overall payment limitation over FY 2014 through FY 2018 of \$450,000, providing that EQIP funding authorized by the 2014 Act remains available until expended and requiring that at least 5 percent of available EQIP funds to be targeted for wildlife conservation practices for each FY 2014 to FY 2018. This 5 percent for wildlife habitat practices is based upon the total EQIP funding allocated as FA available nationally for producer contracts. Based upon historical expenditures of wildlife –related practices in both WHIP and EQIP, and with emphasis to prioritize funding applications that address wildlife resource concerns, the agency anticipates that the actual funding associated with developing wildlife practices through EQIP will exceed the 5 percent national target. Seven percent of EQIP funds are available for eligible RCPP contracts. Additional explanation regarding funding pools and EQIP program priorities is provided in the “Background” section of the Preamble.

EQIP technical assistance (TA) and financial assistance (FA) facilitates the adoption of conservation practices that address natural resource concerns. Those practices improve on-site resource conditions and produce offsite environmental benefits for the public. Water erosion

conservation practices reduce the flow of pollutants off of fields, thus improving freshwater and marine water quality, including protecting fish habitat, enhancing aquatic recreation opportunities, and reducing sedimentation of reservoirs, streams, and drainage channels. More efficient irrigation practices conserve scarce water, making it available for other uses. Wind erosion control practices improve air quality, and some practices increase carbon in the soil profile. Wildlife habitat conservation practices increase wildlife habitat and enhance scenic value and provide opportunities for recreation. NRCS added and adopted a definition of *habitat development* to encompass the conservation practices that support the wildlife habitat activities authorized by section 1240B(g) by the Agricultural Act of 2014 (2014 Act). The term as originally defined in the WHIP regulation is added to EQIP at 1466.3, "Definitions." The definition, consistent with EQIP authority to assist with implementation of conservation practices that include the specific technical purpose of habitat development, provides for the conservation of wildlife species.

Other impacts of conservation practices may accrue to the producer. For example, the maintenance of the long-term productivity of the land, improved irrigation efficiency, improved grazing productivity, more efficient crop use of animal waste and fertilizer, and increased profits from energy conservation.

Most of this rule's impacts consist of transfer payments from the Federal Government to producers. While those transfers create incentives that very likely cause changes in the way society uses its resources, we lack data with which to quantify the resulting social costs or benefits. Given the existing limitation and lack of data, NRCS will investigate ways to quantify the incremental benefits obtained from this program. Despite the limitations on our ability to quantify and estimate the value of social costs or benefits from the implementation of conservation practices, EQIP as amended under the 2014 Act is expected to positively affect natural resources and mitigate environmental degradation. Results from the national Conservation Effects Assessment Project conducted by NRCS demonstrate that implementation of the types of conservation practices funded under EQIP reduce sediment and nutrient loss from agricultural fields and improve water quality nationwide. NRCS seeks public comment on how the agency should estimate the public value of conservation resulting from assistance provided through EQIP.

The 2014 Act increases EQIP funding over the amount provided by Congress for both EQIP and WHIP from FY 2008 - FY 2013 by 24 percent on an annualized basis to \$1.6 billion per year. From FY 2008 – FY 2013, the authorized level for EQIP and WHIP was a total of \$9.585 billion, but annual restrictions on EQIP and WHIP obligations enacted in the annual appropriations bills resulted in the actual authority being \$7.748 billion, for an annualized amount of \$1.291 billion. In contrast, the authorized level for EQIP for FY 2014 – FY 2018 is \$8 billion, for an annualized amount of \$1.6 billion (this assumes future funding caps are set at the authorized amounts). Additionally, the 2014 Act changed the period of availability for the EQIP funding from one-year to no-year funding, which means the funds remain available until expended. Thus, any unobligated balance at the end of a fiscal year could be available for obligation in the subsequent year. It is estimated that the conservation practices implemented with this funding will continue to contribute to reductions of water erosion and wind erosion on cropland, pasture and rangeland, reduce nutrient losses to streams, rivers, lakes and estuaries increase wildlife habitat, and provide

other private and public environmental benefits. It is also expected that continued implementation of practices which treat and manage animal waste through EQIP will directly contribute to improvements in water quality and associated improvements in air quality, for example, from reduction in emissions such as methane. NRCS estimates that the cost¹, from both public and private sources, of implementing the conservation practices with EQIP funding will be \$11,896 million dollars (FY 2014 – FY 2018). Cost estimates are presented in Table 1 below.

Table 1. Projected Technical Assistance and Transfer Payments as authorized, FY 2014 - FY 2018

	NRCS Technical Assistance	Transfer Payment	Public Costs	Private Costs	Total Costs
	<i>million \$</i>	<i>million \$</i>	<i>million \$</i>	<i>million \$</i>	<i>million \$</i>
FY 2014	\$364.5	\$985.5	\$1,350.0	\$657.4	\$2,007.4
FY 2015	\$432.0	\$1,168.0	\$1,600.0	\$779.2	\$2,379.2
FY 2016	\$445.5	\$1,204.5	\$1,650.0	\$803.6	\$2,453.6
FY 2017	\$445.5	\$1,204.5	\$1,650.0	\$803.6	\$2,453.6
FY 2018	\$472.5	\$1,277.5	\$1,750.0	\$852.2	\$2,602.2
Total	\$2,160.0	\$5,840.0	\$8,000.0	\$3,896.0	\$11,896.0

¹Based on a historical average participant cost of 40 percent and a historical average TA share of 27 percent.

Conclusions

Program features of EQIP, except for the increase in wildlife, focus remains essentially unchanged from the 2008 Farm Bill. The increased funding over the period of FY 2014 to FY 2018 will increase the amount of conservation applied by agricultural producers, support continued improvement in the natural resource base—soil, water, air, and wildlife; and mitigate agriculture’s potentially adverse effects on the environment. The statutory requirement that at least 5 percent of available EQIP funding be targeted to practices that address wildlife habitat will be met by focusing a portion of the funding on applications that address wildlife resource concerns. .

¹ Public costs include total TA andFA funds outlined in the Congressional Budget Office’s (CBO) scoring of the 2014 Act. Private costs are out-of-pocket costs paid voluntarily by participants.

Regulatory Impact Analysis for the Environmental Quality Incentives Program (EQIP)

Background

Legislative Authority and Need for the Regulation

NRCS is promulgating an interim rule to amend the Environmental Quality Incentives Program (EQIP) regulations at 7 CFR part 1466. EQIP is authorized by 16 USC 3839aa et seq. EQIP was first authorized by the Federal Agriculture Improvement and Reform Act of 1996, P.L. 104-127, April 4, 1996 (“the 1996 Act”), and was amended by the Farm Security and Rural Investment Act of 2002, P.L. 107-171, May 13, 2002 (“the 2002 Act”), the Food, Conservation, and Energy Act of 2008, P.L. 110-246 June 18, 2008 (“the 2008 Act”), and the Agriculture Act of 2014, P.L. 113-79 February 7, 2014 (“the 2014 Act”). The Secretary of Agriculture acting through the Chief of the Natural Resources Conservation Service (NRCS) administers the program. The 2014 Act resulted in minor changes to the basic program features of EQIP that are discussed in this document.

Rationale for Government Intervention

Based on past program experience, environmental benefits generated from conservation practices may be thought of as originating from two different natural resource and environmental situations that can lead to market failures:

- The first type involves negative externalities or spillover effects where agricultural production generates environmental damages and the costs of these damages are borne by third parties who did not agree to the actions causing the damages.
- The second type involves positive externalities or spillover effects where agricultural production creates environmental benefits consumed by third parties at no cost to them.

EQIP practices, such as nutrient management plans, may help landowners reduce the potential for negative externalities, such as sediment runoff, thereby improving surrounding rivers, streams, and lakes for the public. Similarly, conservation buffers planted through EQIP contracts or wetland restoration efforts can provide positive environmental benefits such as improved wildlife habitat for hunting or fishing.

In addition, while other regulatory provisions may have addressed some of these potential market failures in the past, conservation programs may enable agricultural producers to meet regulatory requirements while continuing production. This is especially important for some specialized crops and in some areas where established livestock farmers are under regulatory pressures due to increasing animal concentrations.

In general, data are not available to fully distinguish the conservation practices and subsequent effects that are additional to other regulatory obligations. Data are not available that can

monetize conservation effects, making a full cost and benefit accounting difficult at this time. Most of this rule's impacts consist of transfer payments from the Federal Government to producers. While those transfers create incentives that very likely cause changes in the way society uses its resources, we lack data with which to quantify the resulting social costs or benefits. Given the existing limitation and lack of data, NRCS will investigate ways to quantify the incremental benefits obtained from this program.

Program Description and Features

Program Objectives

EQIP is a voluntary program providing both technical and FA to agricultural producers across the nation and territories. The purposes of EQIP, as amended by the 2014 Act, are to jointly promote agricultural production, forest management, and environmental quality as compatible goals and to maximize environmental benefits. NRCS supports these objectives by:

1. Assisting producers so that they can comply with local, State and national regulatory requirements in a cost-effective and environmentally beneficial manner.
2. Assisting producers implement conservation practices and activities which protect soil, water, air quality, wildlife habitat, surface and groundwater conservation, energy conservation and related natural resource concerns.

Program Overview

The fundamental purposes of EQIP, assisting agricultural producers to implement conservation practices to provide environmental benefits, have not changed from the 2008 Act. Revisions to EQIP in the 2014 Act include consolidating elements of the former Wildlife Habitat Incentives Program (WHIP) into EQIP, expanding participation among military veteran farmers or ranchers, requiring the return of funds that were advanced to historically underserved producers but were not expended during a 90-day period beginning on the date of receipt of funds, replacing the rolling 6-year payment limitation with a fixed payment limitation period from FY 2014 through FY 2018, and removing the minimum contract length of 1 year after all practices have been implemented.

The following is an overview of the few changes that were made to the program:

- The categories for forgone income that are eligible for special significance for determining compensation rates were changed by the 2014 Act to include soil health and water quality and quantity improvement. NRCS has historically emphasized many of these conservation practices. Given the broad range of resource concerns across the United States and the use of the locally led process, this analysis assumes that this provision will have a negligible effect.
- The payment limitation provision has been changed from a rolling six-year average to a payment limitation of \$450,000 for all contracts during FY 2014 through FY 2018. This provision is expected to have a minimal effect.

- NRCS is directed to provide payments for conservation practices related to organic production and the transition to organic production. The 2014 Act retained the organic contract annual payment limitation of \$20,000 and the total payment limitation of \$80,000 during a rolling six-year period.
- The 2014 Act incorporated certain components of the former WHIP. For each of FY 2014 through FY 2018, at least 5 percent of the funds made available for payments under EQIP will be targeted at practices with the primary purpose of benefitting wildlife habitat. Payments will be made for conservation practices that support the restoration, development, and improvement of wildlife habitat on eligible land including: (1) upland wildlife habitat, (2) wetland wildlife habitat, (3) habitat for threatened and endangered species, (4) fish habitat, (5) habitat on pivot corners and other irregular areas of a field, and (6) other types of wildlife habitat, as determined by the Secretary.
- The 2014 Act also identifies EQIP as a covered program under the new RCPP authorized by subtitle I of title XII of the Food Security Act of 1985.
- NRCS will now include military veteran farmers and ranchers under its definition of historically underserved producers. Since the enactment of the 2008 Act, NRCS has been providing an increased payment rate to historically underserved producers defined as limited resource, beginning, socially disadvantaged farmers or ranchers, and Indian Tribes. The 2014 Act adds military veterans who are also beginning farmers and ranchers to this category. Providing service to new producers may increase the need for TA. With the increase in overall EQIP funding, the higher payment rate for the veteran farmers and ranchers is not expected to decrease funding available for other targeted producers.
- A new provision in the 2014 Act allows NRCS to provide advance payments of up to 50 percent of anticipated costs of materials or services to historically underserved producers. Initial investment costs for certain conservation practices can be prohibitive to many historically underserved producers. This provision provides advance funds at the beginning of a contract for practices to be applied instead of payment upon completion, NRCS's traditional payment method. This assistance has shown to stimulate participation by historically underserved producers. NRCS may be exposed to some additional risk and increased administrative costs if producers do not implement practices according to the agreed-to contract schedule. A new provision added in 2014 is that if funds provided in advance are not expended during the 90-day period beginning on the date of receipt of the funds, the funds shall be returned within a reasonable time frame, as determined by the State Conservationist.

Application Prioritization

In evaluating applications for FA through EQIP, NRCS must develop criteria for evaluating applications based on the statutory requirements to promote agricultural production, forest

management, and environmental quality as compatible goals; optimize conservation benefits; and ensure national, State, and local conservation priorities are effectively addressed. Conservation benefits are defined as the improved condition of a natural resource concern resulting from the implementation of a conservation practice.

Differences may be expressed by narrative, quantitative, visual, or other means. Estimated or projected impacts are used as a basis for making informed conservation decisions by applicants and NRCS to help determine which projects to approve for EQIP assistance. Given the existing limitation and lack of data, NRCS will investigate ways to quantify the incremental benefits obtained from this program.

The statute provides that NRCS shall prioritize applications using the following criteria:

- Cost effectiveness to ensure that the conservation practices and approaches proposed are the most efficient means of achieving the anticipated environmental benefits.
- Effectiveness and comprehensiveness of the application in addressing designated resource concerns.
- Fulfillment of EQIP's purposes.
- Improvement of conservation practices or systems in place on the operation at the time the contract offer is accepted or practices that will complete a conservation system.

The EQIP statute requires the agency to the greatest extent practicable to group applications of similar crop or livestock operations for evaluation purposes or otherwise evaluate applications relative to other applications for similar farming operations. NRCS utilizes funding pools to meet this requirement and to target EQIP funding to priority resource concerns such as for the development of wildlife habitat or for water quality issues associated with animal feeding operations. Annually, NRCS uses a competitive application and ranking process which measures the relative effectiveness of the application to enhance natural resources, as well as the cost-effectiveness of the proposed practices. The ranking process involves assigning a numerical score to the proposed practice based on anticipated conservation benefits through practice implementation then applications are selected for funding based on their ranking score as long as funding remains available.

A component of the ranking score is a value that reflects the cost-effectiveness of each proposed conservation practice. The cost-effectiveness score is derived from a formula that evaluates the typical cost of practice implementation; an NRCS assigned value of the expected effect the practice will have to improve or enhance the identified resource concern, and the period of time the practices is anticipated to provide the conservation benefit. The application process provides assurance that applications are equitably evaluated and benefits optimized by selection and approval of the applications that will achieve the greatest conservation benefit for the requested program financial investment. Additional information regarding the ranking process is included in the "Background" section of the preamble.

The application ranking process is just one of multiple ways that NRCS ensures that the most cost-effective treatment is funded under the program. NRCS defines cost-effectiveness as the

least costly option for achieving a given set of conservation objectives and meets this goal through various processes, actions and assistance provided to producers who may apply for financial assistance. For example, NRCS implements EQIP to address least-cost during the planning process by providing data to the producer regarding the environmental needs and benefits of practices, as well as estimates for the potential costs associated with implementing a practice. Providing producers with this information helps the producer make wise decisions and what alternative may provide the least-cost.

The process to establish appropriate program payment rates requires limiting selection of practice components to those that provide the least-cost to address the typical application of the practice required to meet the practice standard. For example, NRCS technical experts determine that the least-cost of an irrigation pipeline typically needed for a pasture irrigation system would be an aluminum material; therefore the practice payment rate would reflect the cost of this kind of product. A more expensive cast iron or steel pipe could also be used to justify a higher payment rate, but is not needed to meet the typical application of this practice; therefore the final payment rate reflects the lower cost of an aluminum pipe.

NRCS also requires application of least-cost during program contract development and the selection of an appropriate payment rate for the approved practice and treatment needed. This requirement does not limit the types of practices available to the producer that work best within their operation to address the resource concern. Rather the intent is to limit the contract to the least-cost treatment option within a practice to address the resource concern. For example, a producer and planner identify the need for a stream crossing to address a resource concern. Options within the practice that may be applicable include a low-water crossing or a bridge. It is determined that either option will adequately address the resource concern; however, the low-water crossing is the least-cost option to the Government. Although the producer may prefer to install the bridge crossing, the NRCS planner shall select the payment rate associated with the low-water crossing in the contract. This does not preclude the participant from choosing to install the higher cost bridge for this project; however, any additional costs are borne by the participant.

The EQIP statute requires the agency to the greatest extent practicable to group applications of similar crop or livestock operations for evaluation purposes or otherwise evaluates applications relative to other applications for similar farming operations. NRCS utilizes funding pools to meet this requirement and to target EQIP funding to priority resource concerns such as for the development of wildlife habitat or for water quality issues associated with animal feeding operations. Based upon priorities established by national initiative, recommendations by State Technical Committees, priorities from reports of at-risk wildlife species and designations of threatened or endangered species, State Conservationists allocate available funds to a funding pool where applications from eligible producers compete. Each application submitted for consideration in a given funding pool is ranked using evaluation criteria which provide a relative score that reflects the expected environmental benefit of the proposed project. Legislatively created funding levels such as the livestock 60 percent and wildlife 5 percent requirements are met as national goals through funding pool opportunities established by State Conservationists.

Funding

The initial 1996 Act authorized EQIP funding of \$130 million in FY 1996 and \$200 million annually from FY 1997 through FY 2002. The 2002 Act authorized EQIP funding at \$5.8 billion through FY 2007. However, the annual appropriation bills capped program obligations at roughly \$1 billion annually instead of growing to the \$1.3 billion in FY 2007 as originally set in the 2002 Act (these capped amounts are referred to as the “obligational cap” amount below). The 2008 Act, when extended into FY 2013, authorized funding for EQIP at \$9.075 billion, with annual funding reaching \$1.75 billion per year. However, the annual obligational caps imposed in the annual appropriations bills reduced the available funding to \$7.285 billion (\$1.214 billion on average per year). From program inception through FY 2013, NRCS entered into 559,275 contracts to provide over \$9.8 billion in FA to help agricultural producers apply conservation practices on approximately 232 million acres. The 2014 Act authorizes EQIP funding at \$8.0 billion through FY 2018 with annual appropriations reaching \$1.75 billion in FY 2018.

The 2008 Act also authorized funding for WHIP at \$85 million annually for total funding over the life of the 2008 Act of \$510 million (that amount was reduced to \$463 million by obligational caps imposed in FY 2012 and FY 2013). The 2014 Act repealed WHIP and provided authority within EQIP for conservation practices that support the same purposes as WHIP.

When total authorized funding for EQIP and WHIP are combined, the total authorized funding was \$9.585 billion over the 6 years (\$1.5975 billion on an annualized basis). However, as noted above, the annual appropriations bills imposed an obligational cap on the EQIP and WHIP funding that reduced the available funding to a total of \$7.748 billion. In comparison, the 2014 Act authorizes total funding of \$8 billion over 5 years (\$1.6 billion on an annualized basis), or a difference of \$2.5 million per year (the annualized amounts are used to compare the funding authorized because the 2008 Act covered 6 years while the 2014 Act covers only 5 years so a direct comparison would be skewed). Over the 5-year life of the 2014 Act, an annual increase of \$2.5 million would result in a total increase of \$12.5 million.

Table 2. Nominal Funding of EQIP and WHIP

	2008 Act (Million \$)	2014 Act (Million \$)	2008 Act Annualized (Million \$)	2014 Act Annualized (Million \$)
Authorized Funds	9,585.0	8,000.0	1,597.5	1,600.0
Obligational Cap	7,748.0		1,291.3	

Although the annual obligational caps under the 2014 Act, if any, will be determined by future appropriations acts, we can provide some possible scenarios. Fiscal constraints within a given fiscal year may require the funding of programs at a level below the authorized level. For EQIP and WHIP, the annual obligations under the 2008 Act were capped at a level that was 80.83

percent of the authorized level (\$7.748 billion of \$9.585 billion). If this trend were to continue for the funding levels authorized for the 2014 Act, the FA funding (transfer) for the EQIP program from FY 2014 through FY 2018 would be \$4.909 billion (\$981.9 million on an annualized basis). This scenario is listed as the low estimate in Table 3. Alternatively, if the current annual obligational cap of \$1.35 billion is maintained throughout the period from FY 2014 through FY 2018, then the FA funding provided would be \$4.928 billion (\$985.5million on an annualized basis). This scenario is listed as the primary estimate in Table 3. Finally, a third scenario would be funding consistent with authorized levels. This scenario is listed as the high estimate in Table 3.

Real values of the payments are calculated using the Gross Domestic Product (GDP) deflator projections in the table for each year and presented in the far right of the table. Using discount rates of 7 percent and 3 percent, the primary estimate results in present values of \$3.8888 billion and \$4.3367 billion, respectively. The corresponding annualized monetary values are \$948.4 million and \$946.9 million, respectively.

Table 3. Federal Transfer Payments, Nominal and Discounted 2014 Present Value: EQIP

Category	Primary Estimate	Low Estimate	High Estimate	Year Dollars	Disc	Period Covered
Federal Transfers (Fiscal 2014 Dollars)						
Annualized	948.4	943.0	1,113.4	2014	7%	FY 2014-2018
Monetized (\$millions/year)	946.9	942.3	1,116.2	2014	3%	FY 2014-2018

Number of years		Years					Present Values (See note below)		
		2014	2015	2016	2017	2018	3%	7%	
Transfers --Federal	- - Million Dollars per Year - -							Million Dollars Fiscal 2014	
Primary	Nominal	985.5	985.5	985.5	985.5	985.5			
	Real	985.5	965.2	945.4	925.9	906.9	4,336.7	3,888.8	
Low	Nominal	985.5	944.1	973.6	973.6	1,032.6			
	Real	985.5	924.7	934.0	914.8	950.2	4,315.5	3,866.4	
High	Nominal	985.5	1,168.0	1,204.5	1,204.5	1,277.5			
	Real	985.5	1,144.0	1,155.5	1,131.7	1,175.6	5,112.1	4,565.0	
	GDP deflator	1.00000	1.02100	1.04244	1.06433	1.08668			

Inputs

GDP Deflator:	Yrs 1 - 5	2.10% (OMB)						
	Yrs 6 - 12	1.90% (Average Growth since 1993)						
							<i>Total</i>	<i>Annualized</i>
Primary	Nominal	985.5	985.5	985.5	985.5	985.5	4,927.5	\$985.5
	Real	985.5	965.2	945.4	925.9	906.9	4,728.9	
	PV @ 3%	956.8	909.8	865.2	822.7	782.3	4,336.7	\$946.9
	PV @ 7%	921.0	843.1	771.7	706.4	646.6	3,888.8	\$948.4
Low	Nominal	985.5	944.1	973.6	973.6	1,032.6	4,909.4	\$981.9
	Real	985.5	924.7	934.0	914.8	950.2	4,709.1	
	PV @ 3%	956.8	871.6	854.7	812.7	819.7	4,315.5	\$942.3
	PV @ 7%	921.0	807.6	762.4	697.9	677.5	3,866.4	\$943.0
High	Nominal	985.5	1,168.0	1,204.5	1,204.5	1,277.5	5,840.0	\$1,168.0
	Real	985.5	1,144.0	1,155.5	1,131.7	1,175.6	5,592.2	
	PV @ 3%	956.8	1,078.3	1,057.4	1,005.5	1,014.1	5,112.1	\$1,116.2
	PV @ 7%	921.0	999.2	943.2	863.4	838.2	4,565.0	\$1,113.4

Participant Requirements

To achieve the purposes of EQIP, NRCS provides technical and FA to agricultural producers who agree to implement one or more conservation practices. Participants in EQIP must also agree to maintain all conservation practices receiving FA through EQIP for the life of the conservation practice. Agricultural producers and owners of non-industrial private forestland and Tribes are eligible to apply for EQIP. Eligible land includes cropland, rangeland, pastureland, non-industrial private forestland and other farm or ranch lands.

All eligible applicants must control or own eligible land, comply with adjusted gross income limitation provisions, be in compliance with the highly erodible land and wetland conservation requirements, and develop an NRCS EQIP plan of operations.

By statute, the EQIP program is limited to agricultural producers. Consequently, the consolidation of WHIP into EQIP will prevent current WHIP participants that do not qualify as agricultural producers from applying for FA through EQIP. Since most WHIP participants met these criteria, NRCS expects minor impacts on eligibility and that this restriction will not prevent EQIP from effectively improving wildlife habitat.

Description of Baseline Conditions

Current Land Use and Resource Concern Trends

The Nation's non-Federal lands constitute a tremendous resource. Those privately owned lands produce food and fiber for the world, bolster rural economies, and provide recreational activities for land owners and the public (Table 2).

Despite improvements in those lands from previous conservation activities, many lands currently have resource problems and limitations that impair their productive use, cause on-site and off-site (or external) damages, and reduce agricultural efficiency. The following cases illustrate the nature of the resource concerns that EQIP attempts to address:

Table 4. Major agricultural uses of land in the United States.

<u>Land Use</u>	<u>Acres (millions)</u>
Cropland	361
Pastureland	120
Rangeland	409
Forestland ¹	409
Other lands ²	78

¹Forestlands include State and County land.

²Includes 26.6 million acres in the Conservation Reserve Program (CRP) that were not cropped and were under vegetative cover.

Note: National Resources Inventory (NRI) data on land use for Alaska, Hawaii, and the U.S. territories are unavailable. For 2007, the USDA Census of Agriculture reported approximately 309,000 acres of cropland, 2.1 million acres of grazing lands, and 121,000 acres of non-Federal forest land in Alaska and Hawaii.

Source: U.S. Department of Agriculture. 2013. *Summary Report: 2010 National Resources Inventory*, Natural Resources Conservation Service, Washington, DC, and Center for Survey Statistics and Methodology, Iowa State University, Ames, Iowa.

http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb1167354.pdf

- The 2010 Annual NRI (USDA, 2013) indicated that a total of 62.7 million acres or 16 percent of total cropland, pastureland, and CRP land had annual rates of soil erosion that exceeded “T”, the soil loss tolerance rate at which the productivity of a soil can be maintained indefinitely.
- In its ATTAINS water quality reporting database, (US EPA, 2014), EPA documented one or more water quality impairments in 51 percent of assessed river and stream miles, 67 percent of assessed lake areas, and 72 percent of assessed estuaries. Agriculture was named a top source of impairment, especially for its nonpoint source pollutant contributions.
- State assessments of contaminant threats to public water systems identify agriculture as one of the top potential contaminating activities in many States. In a survey summarized in “The State of the Industry 2014,” member utilities of the American Water Works Association identified source water quality and quantity as in their top near-term and future concerns.
- Consolidation and geographical shifts in animal production are occurring in the sector, particularly for hog and turkey operations. Animal manures have become significant sources for nitrogen inputs to watersheds where consolidation of the sector has occurred (GAO 1995).

The growing global demand for food stock and biofuels will affect the natural resource base underlying agricultural production. Increased agricultural production will lead to growing demands on the Nation’s natural resources. Those changes support the continuation and intensification of natural resource conservation efforts.

Farm/Ranch Demographics:

The 2012 Census of Agriculture identified 3.1 million agricultural operators and 2.1 million farms in the United States. It also identified that three percent of farm operators were minority agricultural producers. Under EQIP, NRCS serviced in FY 2009 – FY 2013 about 8 percent of farms. In FY 2013, 7 percent of EQIP contracts went to minority agricultural producers.

The 2014 Act adds “veterans” to the group, “historically underserved”, joining “socially disadvantaged farmer or rancher,” “beginning farmers and ranchers,” and “limited resource farmers and ranchers.” Since veterans were already eligible under the “beginning farmers and ranchers this change is not likely to appreciably change the funding going towards historically underserved farmers or ranchers.

Table 5. Projected TA and Transfer Payments as authorized, FY 2014 - FY 2018¹

	NRCS Technical Assistance	Transfer Payment	Public Costs	Private Costs	Total Costs
	<i>million \$</i>	<i>million \$</i>	<i>million \$</i>	<i>million \$</i>	<i>million \$</i>
FY 2014	\$364.5	\$985.5	\$1,350.0	\$657.4	\$2,007.4
FY 2015	\$432.0	\$1,168.0	\$1,600.0	\$779.2	\$2,379.2
FY 2016	\$445.5	\$1,204.5	\$1,650.0	\$803.6	\$2,453.6
FY 2017	\$445.5	\$1,204.5	\$1,650.0	\$803.6	\$2,453.6
FY 2018	\$472.5	\$1,277.5	\$1,750.0	\$852.2	\$2,602.2
Total	\$2,160.0	\$5,840.0	\$8,000.0	\$3,896.0	\$11,896.0

¹Based on average participant cost share of 40 percent and TA share of 27 percent.

Analysis

Estimated public and private costs

The estimated annual and total cost of EQIP under the 2014 Act by category is shown in Table 3. The historical proportion of EQIP funding devoted for TA, 27 percent, is assumed to apply for FY 2014 – FY2018. The remaining 73 percent is available for FA to producers. Producer cost share is assumed to be 40 percent of FA.

Based on these assumptions, NRCS estimates that the total direct cost, both public and private, of the conservation practices applied with EQIP funding in nominal terms will be \$11.9 billion.

Table 6. Estimated Public Costs of EQIP Transfer Payments, FY 2014-2018

	Nominal- dollar Farm-Bill Authorization	Real-dollar Authorization 2.1 percent GDP Deflator	Present Value of Real-dollar Authorization Discounted at 3 percent	Present Value of Real-dollar Authorization Discounted at 7 percent
	<i>billion \$</i>	<i>billion \$</i>	<i>billion \$</i>	<i>billion \$</i>
FY 2014	\$1.35	\$1.35	\$1.31	\$1.26
FY 2015	\$1.60	\$1.57	\$1.48	\$1.37
FY 2016	\$1.65	\$1.58	\$1.45	\$1.29
FY 2017	\$1.65	\$1.55	\$1.38	\$1.18
FY 2018	\$1.75	\$1.61	\$1.39	\$1.15
Total	\$8.00	\$7.66	\$7.00	\$6.25
Average	\$1.60	\$1.53	--	--
Annualized	--	--	\$1.53	\$1.53

The present value of EQIP costs are shown in Table 4. The present value of the total EQIP authorization under the 2014 Act discounted by 3 percent is \$7.0 billion, and the present value of the total EQIP authorization discounted by 7 percent is \$6.25 billion. The annualized present value of the EQIP program in real terms is \$1.53 billion.

Producer Participation

EQIP has historically received a sufficient number of applications to obligate all available funds (Table 5). Given this information, it is assumed that funding allocations for EQIP will be fully utilized every year through FY 2018.

Table 7. Historical participation in EQIP

Fiscal Year	Applications Received	Applications with Funds Obligated	Contracted Percent
2004	104,385	46,413	55%
2005	99,212	49,406	62%
2006	90,966	41,190	57%
2007	103,720	41,700	58%
2008	92,243	48,116	54%
2009	110,077	31,960	41%
2010	98,030	36,499	48%
2011	103,186	38,352	51%
2012	128,896	44,778	35%
2013	98,144	44,825	46%
Total	1,028,859	423,239	41%

Source: NRCS, REAP Strategic Information Team Databases, 2014.

Conservation Effects

EQIP provides funding for a wide range of conservation practices on agricultural lands and animal feeding operations, treating a variety of resource concerns. Individual effects of conservation actions; however, on each resource concern cannot easily be linked to measurable changes in environmental attributes such as nearby water bodies (Ribaud and Hellerstein, 1992) because pollutant emissions from the land and corresponding changes in environmental attributes are complex, cumulative, and variable over both time and location.

Given the difficulties and uncertainties inherent in attributing, quantifying, and then monetizing the environmental benefits of conservation practices, this analysis makes no attempt to quantify the potential benefits of EQIP transfer payments, but rather provides a qualitative assessment of the potential conservation effects of the EQIP program on natural resources and the environment.

Conservation practices historically funded by EQIP are categorized according to the type of ecological services and environmental impacts they are expected to produce. The conservation effects discussed in this analysis represent a portion of the total potential benefits expected to accrue from the types of conservation practices implemented through EQIP funding.

Sheet and rill water erosion

Soil erosion is a major natural resource concern affected by climatic factors, soil characteristics, landscape features, and cropping practices. The National Resources Inventory (NRI) estimates that between 1982 and 2010 conservation practices and programs reduced soil erosion on United States cropland by 41 percent. Although the average annual erosion rate remained constant between 2007 and 2010, average cropland acreage increased by 2 million acres during that interim (USDA, 2013). Soil erosion is comprised of water erosion and wind erosion. Sheet and rill water erosion on cropland declined from 1.67 billion tons in 1982 to 982 million tons in 2010; soil losses to wind erosion decreased from 1.38 billion tons in 1982 to 740 million tons in 2010.

We expect further reductions in sheet and rill erosion resulting from increased EQIP funding. There are many conservation practices available in EQIP for reducing sheet and rill water erosion on cropland. The 2010 NRI data indicate that annual sheet and rill erosion rates on cropland in 2010 averaged 2.7 tons per acre. Modeling results from the Conservation Effects Assessment Project (CEAP) reported in the 2011 Resource Conservation Act Appraisal estimate that the potential for reducing sediment from the nation's 49 million acres of high treatment need cropland averages 2.2 tons per acre per year, and the potential for reducing sediment from the 97.4 million acres of moderate treatment need cropland averages 0.8 tons per acre per year. Conservation practices supported by EQIP funds could contribute to achievement of these potential gains.

For the purpose of this analysis, the two main categories of impacts from reduced sheet and rill water erosion are the reduction of nutrient losses from fields and improved water quality.

Reduction of Fertilizer Nutrient Loss

On average, a ton of topsoil consists of 40 pounds of organic matter of which 23.2 pounds are carbon. With an average carbon-nitrogen ratio of 10 to 1, each ton of soil contains 2.32 pounds of nitrogen. The soil also contains 0.05 percent phosphorus, or one pound per ton of soil. Thus the reduction in nitrogen, phosphorous and potassium loss associated with reducing soil erosion improves soil productivity and reduces fertilizer input needs to meet current yield goals. While the economic benefit of reduced fertilizer input needs associated with reducing sheet and rill erosion is primarily enjoyed by the producer, the entire agro-ecosystem benefits from associated improvements in soil health, which provides a long-term public good.

Improved water quality due to reduced erosion and nutrient loading

Reductions in sheet and rill erosion losses reduce agriculture's impacts on water quality. This major component of sheet and rill water erosion impact is environmental in nature and produces a public benefit.

The seven CEAP major water basin studies (USDA NRCS CEAP, 2011-2014) completed to date indicate that the adoption of the types of structural and management conservation practices funded through EQIP lead to reductions in sediment, nitrogen, and phosphorous loads delivered from cropland to the Nation's rivers and streams (Table 6). Consequently, conservation practices funded under EQIP contribute to improvement of national water quality. The CEAP survey and modeling exercises estimated that reductions in sediment loss due to adoption of conservation practices in place in 2003-2006 ranged from 35 to 76 percent, while reductions in nitrogen loads ranged from 21 to 59 percent and reductions in phosphorous loads ranged from 32 to 60-percent.

Table 8. Estimated reductions in loading of sediment and nutrients delivered to rivers and streams due to adoption of conservation practices in place in 2003-2006 relative to simulated conditions of no conservation practices in place

Region/Sub-Basin	Sediment	Nitrogen	Phosphorous
	----- percent -----		
Upper Mississippi River	65	26	41
Ohio-Tennessee River	55	26	32
Missouri River	76	54	60
Arkansas-White-Red River	64	59	59
Lower Mississippi River	35	21	52
Great Lakes	50	37	36
Chesapeake Bay	57	36	39

Source: USDA NRCS CEAP, 2011-2013

CEAP simulations date also suggested considerable potential for further reductions in sediment and nutrient loads in rivers and streams through the adoption of additional conservation practices on cropland acres (Table 7).

Table 9. Estimated potential for further reductions in loadings of sediment and nutrients to rivers and streams from 2003-2006 loss levels with comprehensive conservation practice adoption on all high and moderate treatment need cropland acres

Region/Sub-Basin	Sediment	Nitrogen	Phosphorous
	----- percent -----		
Upper Mississippi River	74	49	41
Ohio-Tennessee River	81	41	58
Missouri River	28	13	12
Arkansas-White-Red River	25	21	13
Lower Mississippi River	80	43	57
Great Lakes	58	37	33
Chesapeake Bay	84	52	51

Source: USDA NRCS CEAP, 2011-2013

Animal waste management

The increase in funding for the EQIP program will likely improve animal waste management with potential benefits to the environment. A number of conservation practices are available to producers for mitigating damages caused by animal waste. Farmers and ranchers, for example, may install concrete or metal structures to store animal waste until conditions are suitable for proper applications to crops and pasture, plant vegetative filter strips to treat wastewater runoff, and use manure application techniques to minimize impacts to the environment. Those practices involve management, construction, and cropping activities implemented in a comprehensive manner to ensure that the environmental impact is minimized while not compromising the economic viability of the farm. Comprehensive Nutrient Management Plans (CNMP), required by EQIP to be developed and implemented on Animal Feeding Operations (AFO), provide a blueprint for producers on how to address animal waste management. Producers may also install anaerobic digesters and place covers on waste water lagoons and storage ponds to reduce the amount of methane emitted during the handling of animal waste.

A benefit-cost analysis of the Concentrated AFO (CAFO) regulation done by EPA² estimated the benefits from CAFOs complying with animal waste handling regulations. The EPA study included estimated national benefits in the following categories for which data and methodology were available:

- Improvements in water quality and suitability for recreational activities (\$5 million to \$145 million);
- Reduced incidence of fish kills (up to just over \$1 million);
- Improved commercial shell fishing (\$2 million to \$3 million); and
- Reduced contamination of private wells (\$70 million to \$77 million).

Note that in addition to potential water quality benefits from animal waste management there is a likely increase in the productivity of existing inputs available to the producer through application of animal waste to cropland. This is mainly due to lower production costs. In the aggregate, output would be expected to increase, resulting in lower prices. The use by producers of conservation practices to reduce the impacts of nutrients on water quality will likely have no net impact on methane emissions from animal waste.

Grazing land productivity

As with other conservation practices, grazing practices provide both private and public benefits for several different resource concerns. Namken and Flanagan (2000) report that these practices resulted in an average productivity increase of 1.3 animal unit months (AUMs) per acre.

²Based on work underlying the EPA Environmental and Economic Benefit Analysis of Final Revisions to the National Pollutant Discharge Elimination System Regulation and the Effluent Guidelines for Concentrated Animal Feeding Operations 2002 available at: <http://cfpub.epa.gov/npdes/afo/cafodocs.cfm>

Practices that increase forage production can also improve wildlife habitat and water quality. Existing studies do not allow for a quantification of these impacts at this time.³ Given the existing limitation and lack of data, NRCS will investigate ways to quantify the incremental benefits obtained from this program

Irrigation water use

EQIP funds are used in certain areas to implement irrigation system improvements, as well as irrigation water management plans that prescribe measures to use irrigation water more efficiently. It is assumed that farmers could achieve a net reduction in irrigation water applied by any or all of the following three methods: convert from irrigation to dryland production, convert to a crop or land use requiring smaller applications of water, and improve irrigation efficiency for the current crop.

Reductions in the total water applied, depending on the hydrologic conditions, could be available for other agricultural activities, municipality water, power generation, fish habitat, or leased or sold locally via local water markets. A value that could be assigned is the price that competing uses would be willing to offer. Since local water price information is not available, the reduced water quality was valued conservatively at the average price that farmers have paid to obtain the water. Given the existing limitation and lack of data, NRCS will investigate ways to quantify the incremental benefits obtained from this program

Air quality

Data on the impact of EQIP funded conservation practices to air quality are limited. This analysis attributes improvements in air quality to reductions in wind erosion, particulate matter and nitrous oxides. It should be noted that there are several practices funded through EQIP outside of wind erosion control that also improve air quality. Conservation effects may include reduced chemical drift associated with crop production, improved dust and odor control in animal feeding operations, and reductions in the emissions of nitrous oxide materials (NO_x), organic compounds, and ozone precursors and depleters through improved animal feeding practices and crop nutrient management. Given the existing limitation and lack of data, NRCS will investigate ways to quantify the incremental benefits obtained from this program

Wildlife habitat

EQIP provides TA and FA to develop, improve, and manage wildlife habitat. The 2014 Act requires that at least 5 percent of available EQIP funding be targeted to practices which address wildlife habitat. This 5 percent for wildlife habitat practices is based upon the total EQIP funding allocated as FA available nationally for producer contracts. Based upon historical expenditures of wildlife –related practices in both WHIP and EQIP, and with emphasis to prioritize funding applications that address wildlife resource concerns, the agency anticipates that the actual funding associated with developing wildlife practices through EQIP will exceed the five percent national target.

³ CEAP assessments of the effects of conservation practices on grazing lands will enable more complete estimates of benefits in future analyses.

The impacts of habitat improvement practices are hard to quantify and vary species by species. NRCS has identified sixteen conservation practices with the primary purpose of benefitting wildlife populations (these practices are currently the basis of the NRCS wildlife habitat performance measure). In addition, other practices are used in certain situations to accomplish specific wildlife objectives. Reducing sedimentation often improves aquatic habitat. Pasture and hay land planting, fencing, and ponds can provide recreational benefits (Smith, 1996). The NRCS Prescribed Grazing (528) conservation practice standard is essential in facilitating the development and maintenance of habitat to benefit the lesser prairie-chicken, listed as threatened under the Endangered Species Act (ESA), and the greater sage grouse, that has been proposed as threatened under ESA. Every plan developed by NRCS under either the Lesser Prairie Chicken Initiative or the Sage Grouse Initiative, where grazing will occur, requires the use of Prescribed Grazing. To accommodate situations such as this, the Chief may also evaluate additional conservation practices related to NRCS landscape wildlife initiatives in determining whether 5 percent of EQIP funding was used to benefit wildlife. Given the existing limitation and lack of data, NRCS will investigate ways to quantify the incremental benefits obtained from this program

A large literature exists on the values of wildlife conservation (Gibilisco and Filipek, Washington Department of Fish and Wildlife). The National Survey of Fishing, Hunting, and Wildlife-Associated Recreation⁴ conducted by the U.S. Fish and Wildlife Service, contains extensive data on consumer expenditures relating to wildlife-based activities. However, few studies exist quantifying the benefits from specific practices when associated with agricultural production.

Improved habitat also can benefit listed and endangered species. The ESA of 1973 addresses the problem that various species of fish, wildlife, and plants in the United States are threatened with extinction. As such, the United States conserves to the extent practicable the various wildlife species facing extinction. Therefore, to the extent that improved wildlife habitat results from EQIP conservation activities, the program will help contribute to the public benefit of protecting those species of wildlife.

Energy use

No-till and mulch-till, often referred to as reduced tillage or conservation tillage, are practices that reduce the number of passes over cropland with farm equipment. This results in fuel savings as well as time savings for the producer. Using CEAP estimates of the gallons of diesel fuel saved by implementing no-till and mulch tillage practices results in an estimated savings of 2.99 gallons per acre.

Although higher energy use efficiency would appear to fall mainly into the private economic benefit category (as did the increased efficiency in fertilizer and animal waste nutrient use), the secondary environmental and economic impacts of lower energy use are perhaps more obvious than those previously addressed. Lower energy use translates into less possible environmental

⁴2011 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation available at:
<http://www.census.gov/prod/2012pubs/fhw11-nat.pdf>

spillover effects in energy production and use. Determining the most appropriate category for EQIP’s impact on energy use illustrates the difficulty in categorizing the nature of many of these conservation effects into definitive public/private and economic/environmental categories. Given the existing limitation and lack of data, NRCS will investigate ways to quantify the incremental benefits obtained from this program

Carbon sequestration

Numerous conservation practices promoted by NRCS provide secondary benefits that increase carbon sequestration (see Appendix A). Conservation cover, wildlife habitat, and range improvement practices increase carbon sequestration. Residue and tillage practices associated with erosion control reduce oxidation of carbon from cultivated cropland, and can increase carbon sequestration on those lands as well. Practices funded through EQIP to address forest health and watershed protection on non-industrial private forest land will also sequester carbon.

EQIP and the Regional Conservation Partnership Program

As part of the 2014 Act, Congress authorized the establishment of RCPP to further conservation and restoration on a regional or watershed scale. RCPP promotes coordination between NRCS and its partners to join in efforts with producers and landowners to increase the restoration and sustainable use of soil, water, wildlife, and related natural resources on regional or watershed scales.

RCPP combines the authorities of four former conservation programs – the Agricultural Water Enhancement Program (AWEP), the Chesapeake Bay Watershed Program (CBWP), the Cooperative Conservation Partnership Initiative (CPPI), and the Great Lakes Basin Program. RCPP contracts and easement agreements are implemented through EQIP, the Agricultural Conservation Easement Program (ACEP), the Conservation Stewardship Program (CSP) or the Healthy Forests Reserve Program (HFRP). NRCS may also utilize the authorities under the Watershed and Flood Prevention Program, other than the Watershed Rehabilitation Program, in the designated critical conservation areas.

Table 10. Estimated EQIP Transfer Payment Costs facilitated by the RCPP, FY 2014-2018

	Nominal-dollar Farm-Bill Authorization <i>million \$</i>	Real-dollar Authorization 2.1 percent GDP Deflator <i>million \$</i>	Present Value of Real Dollar Authorization Discounted at 3% <i>million \$</i>	Present Value of Real Dollar Authorization Discounted at 7% <i>million \$</i>
FY 2014	\$95	\$95	\$92	\$88
FY 2015	\$112	\$110	\$103	\$96
FY 2016	\$116	\$111	\$101	\$90
FY 2017	\$116	\$109	\$96	\$83
FY 2018	\$123	\$113	\$97	\$80
Total	\$560	\$536	\$490	\$438
Average	\$112	\$107	--	--

Annualized

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\$107

\$107

A portion of EQIP's funding – as much as seven percent – will be transferred to facilitate implementation of RCPP. Table 8 shows the maximum total government program obligations devoted to RCPP through EQIP under the 2014 Act. (Note that the potential payments through RCPP in Table 8 will reduce the potential EQIP transfers in Table 4 by a like amount.)

RCPP is similar to the Cooperative Conservation Partnership Initiative (CCPI) and the Mississippi River Basin Initiative (MRBI) that were funded under the 2008 Act. With these initiatives, NRCS enters partnership agreements with eligible entities, and these entities work with farmers, ranchers, and non-industrial private forestland (NIPF) owners to focus conservation efforts within specified project areas. Typically, watersheds or areas with high additional conservation treatment needs are the focus of these partner initiatives. EQIP is designed and administered to treat a range of resource concerns on lands needing conservation practices to prevent resource degradation and promote sustainable production. From 2010-2013, every MRBI-CCPI project included EQIP contracts and we expect EQIP will be the primary funding source for most RCPP proposals as well. Any unobligated EQIP-RCPP funds will be reallocated to fund other EQIP applications.

As part of the overall effort to quantify the effects of conservation investments across the landscape, through the Conservation Effects Assessment Project (CEAP), NRCS developed estimates of cropland conservation practice impacts on water, sediment, nitrogen, and phosphorus dynamics. The APEX and SWAT models used in CEAP analyses are practice-based, and therefore could be applied to simulate EQIP impacts (CEAP currently does not model CSP enhancements, however). Currently CEAP estimates conservation practice impacts regardless of how conservation practices were funded. Practice data include federally funded practices, practices applied through State or local programs, and practices implemented directly by landowners. However, preliminary analysis comparing estimated impacts of MRBI-CCPI contracts to regular EQIP contracts illuminate the potential gains from targeting investments through MRBI. Preliminary estimates are that the intensified conservation planning and concentration of practices in MRBI-CCPI project areas resulted in a 71 percent reduction in edge-of-field sediment losses, a 28 percent reduction in edge-of-field nitrogen losses, and a 38 percent reduction in edge-of-field phosphorus losses. While these estimates pertain only to cropland and are derived from limited set of practices, they do provide encouraging evidence that RCPP will be an effective tool for increasing conservation impacts in high treatment need areas.

Conclusions

This RIA for the interim final rule assumes that the basic program features of the 2008 EQIP remain the same for the 2014 Act, except for the wildlife focus and increased funding. The increased funding for EQIP will result in improvements in natural resource base and the environment. The conservation effects resulting from transferring \$5.8 billion to producers and providing \$2.2 billion in TA will be reflected in nine primary resource categories and lead to

improvements in cropland and grazing land productivity, water quality, air quality, water use efficiency, energy use efficiency, carbon sequestration and wildlife habitat.

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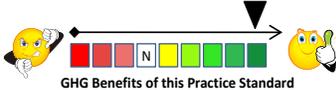
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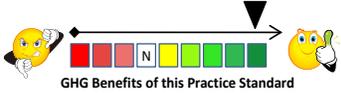
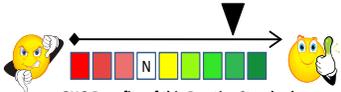
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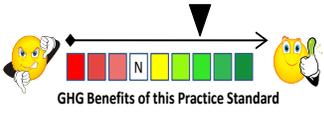
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Appendix A: NRCS Practice Standards for Greenhouse Gas Emission Reduction and Carbon Sequestration

Qualitative Ranking N=Neutral	Practice Code	Practice Standard and Associated Information Sheet	Beneficial Attributes
 <p>GHG Benefits of this Practice Standard</p>	327	Conservation Cover (Information Sheet)	Establishing perennial vegetation on land retired from agriculture production increases soil carbon and increases biomass carbon stocks.
	329	Residue and Tillage Management, No Till/Strip Till/Direct Seed (Information Sheet)	Limiting soil-disturbing activities improves soil carbon retention and minimizes carbon emissions from soils.
	366	Anaerobic Digester (Information Sheet)	Biogas capture reduces CH ₄ emissions to the atmosphere and provides a viable gas stream that is used for electricity generation or as a natural gas energy stream.
	367	Roofs and Covers	Capture of biogas from waste management facilities reduces CH ₄ emissions to the atmosphere and captures biogas for energy production. CH ₄ management reduces direct greenhouse gas emissions.
	372	Combustion System Improvement	Energy efficiency improvements reduce on-farm fossil fuel consumption and directly reduce CO ₂ emissions.
	379	Multi-Story Cropping	Establishing trees and shrubs that are managed as an overstory to crops increases net carbon storage in woody biomass and soils. Harvested biomass can serve as a renewable fuel and feedstock.
	380	Windbreak/Shelterbelt Establishment (Information Sheet)	Establishing linear plantings of woody plants increases biomass carbon stocks and enhances soil carbon.
	381	Silvopasture Establishment	Establishment of trees, shrubs, and compatible forages on the same acreage increases biomass carbon stocks and enhances soil carbon.

<p>Continuation...</p>  <p>GHG Benefits of this Practice Standard</p>	512	(Information Sheet)	Deep-rooted perennial biomass sequesters carbon and may have slight soil carbon benefits. Harvested biomass can serve as a renewable fuel and feedstock.
	590	Nutrient Management (Information Sheet)	Precisely managing the amount, source, timing, placement, and form of nutrient and soil amendments to ensure ample nitrogen availability and avoid excess nitrogen application reduces N ₂ O emissions to the atmosphere.
	592	Feed Management	Diets and feed management strategies can be prescribed to minimize enteric CH ₄ emissions from ruminants.
	612	Tree/Shrub Establishment (Information Sheet)	Establishing trees and shrubs on a site where trees/shrubs were not previously established increases biomass carbon and increases soil carbon. Mature biomass can serve as a renewable fuel and feedstock.
	666	Forest Stand Improvement (Information Sheet)	Proper forest stand management (density, size class, understory species, etc.) improves forest health and increases carbon sequestration potential of the forest stand. Managed forests sequester carbon above and below ground. Harvested biomass can serve as a renewable fuel and feedstock.
Qualitative Ranking N=Neutral	Practice Code	Practice Standard and Associated Information Sheet	Beneficial Attributes
 <p>GHG Benefits of this Practice Standard</p>	332	Contour Buffer Strips (Information Sheet)	Permanent herbaceous vegetative cover increases biomass carbon sequestration and increases soil carbon stocks.
	391	Riparian Forest Buffer (Information Sheet)	Planting trees and shrubs for riparian benefits also increases biomass carbon sequestration and increases soil carbon stocks.
	601	Vegetative Barrier	Permanent strips of dense vegetation increase biomass carbon sequestration and soil carbon.

	650	Windbreak/Shelterbelt Renovation (Information Sheet)	Restoring trees and shrubs to reduce plant competition and optimize planting density increases carbon sequestration.
Qualitative Ranking N=Neutral	Practice Code	Practice Standard and Associated Information Sheet	Beneficial Attributes
 <p>GHG Benefits of this Practice Standard</p>	311	Alley Cropping	Trees and/or shrubs are planted in combination with crops and forages. Increasing biomass density increases carbon sequestration and enhances soil carbon stocks.
	390	Riparian Herbaceous Cover	Perennial herbaceous riparian cover increases biomass carbon and soil carbon stocks.
	550	Range Planting (Information Sheet)	Establishing deep-rooted perennial and self-sustaining vegetation such as grasses, forbs, legumes, shrubs and trees improves biomass carbon sequestration and enhances soil carbon.
	603	Herbaceous Wind Barriers (Information Sheet)	Perennial herbaceous vegetation increases biomass carbon sequestration and soil carbon.