

# Proposed Rules

This section of the **FEDERAL REGISTER** contains notices to the public of the proposed issuance of rules and regulations. The purpose of these notices is to give interested persons an opportunity to participate in the rule making prior to the adoption of the final rules.

## DEPARTMENT OF AGRICULTURE

### Commodity Credit Corporation

#### 7 CFR Part 1450

#### Biomass Crop Assistance Program

**AGENCY:** Commodity Credit Corporation and Farm Service Agency, USDA.

**ACTION:** Record of Decision.

**SUMMARY:** This document presents the Record of Decision (ROD) regarding FSA implementation of the Biomass Crop Assistance Program (BCAP) as provided for in the Food, Conservation, and Energy Act of 2008 (the 2008 Farm Bill). The U.S. Department of Agriculture (USDA), Farm Service Agency (FSA) prepared a Final Programmatic Environmental Impact Statement (PEIS) for BCAP. A Notice of Availability (NOA) of that PEIS was published in the **Federal Register** on June 25, 2010. This decision record summarizes the reasons FSA has selected the Proposed Action Alternatives taking into account the program's expected environmental and socioeconomic impacts and benefits as documented in the PEIS, all of which were considered in this decision.

#### SUPPLEMENTARY INFORMATION:

##### The Decision

Having undertaken a thorough evaluation of the resource areas affected by BCAP, a detailed analysis of the alternatives, a comprehensive review of public comments on the Draft PEIS, comments received on the Notice of Fund Availability (NOFA) to the Matching Payment component of BCAP, experience from administering the Matching Payments component of BCAP, and public comments received on the proposed rule, FSA has decided to implement Alternative 2, the Selected Alternative, identified for BCAP. This decision was made after comparing overall environmental impacts and other relevant information with regard to the reasonable alternatives considered in the BCAP PEIS and through the additional public input on

the BCAP following the guidance of the Administrative Procedures Act (Pub. L. 79-404) and agency rules, opinions, orders, records, and proceedings. Alternative 2 was selected as the alternative that was most consistent with the intent and language of the 2008 Farm Bill (Pub. L. 110-246), while being environmentally responsible and reasonable to implement, and that would not have significant negative impacts. The following briefly describes the purpose and need for the proposed action and the alternatives considered.

#### Purpose and Need for the Proposed Action

The purpose of the Proposed Action is to establish and administer BCAP, as specified the 2008 Farm Bill. The need for the Proposed Action is to implement BCAP for the purposes specified in the 2008 Farm Bill, specifically to promote the establishment and production of eligible dedicated energy crops.

The purpose of the PEIS was to identify and assess the broad implications to the human and natural environments of the national implementation of those components of the BCAP that were discretionary in nature as provided by the 2008 Farm Bill. It was determined that BCAP provided incentives and assistance in the production of dedicated energy crops similar to the incentives for production of traditional agricultural row crops, which was the reasoning behind limiting the analysis to establishment and production of dedicated energy crops. Dedicated energy crops currently under consideration as economically viable were determined to use similar cultivation techniques, grown in areas with current traditional crop production, and have similar transportation methods and mechanisms, and as such, would have similar off-farm effects for delivery to markets, with these effects being site specific. The range of final products that could be produced from dedicated energy crops grown as part of BCAP is wide and changing with new technology on a rapid basis. Cumulatively, the conversion of dedicated energy crops into a final product was qualitatively analyzed since the location, type, and technology to reach a final product from a dedicated energy crop could not be

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quantifiably determined as part of this program.

#### Overview of BCAP

BCAP is a new program provided for in Title IX of the 2008 Farm Bill. BCAP is intended to assist agricultural and forest land owners and operators with the collection, harvest, storage, and transportation of eligible materials for use in a biomass conversion facility (BCF) and to support the establishment and production of eligible crops for conversion to bioenergy in selected project areas. BCAP will be administered by the Deputy Administrator for Farm Programs of the FSA on behalf of the Commodity Credit Corporation (CCC) with the support of other Federal and local agencies. BCAP is composed of two components: (1) The Matching Payments component for the collection, harvest, storage, and transportation (CHST) of eligible materials, and (2) the Establishment and Annual Payments component associated with BCAP project areas.

#### BCAP Matching Payments Component

CCC and FSA published a NOFA for the Matching Payments component of BCAP for eligible renewable biomass material on June 11, 2009 (74 FR 27767-27772). The NOFA announced the availability of funds beginning in 2009 for matching payments to eligible material owners for CHST of eligible material delivered to qualified BCFs in advance of full implementation of BCAP. FSA invited comments on the NOFA from all interested individuals and organizations over a 60-day comment period. On February 8, 2010, the proposed rule for full implementation of BCAP was published (75 FR 6264-6288) which terminated the NOFA effective February 3, 2010. With the publication of the proposed rule, the CCC and FSA requested comments on the proposed rule, which included both components of the BCAP.

The NOFA was published in response to the Presidential Directive issued to the Secretary of Agriculture directing an aggressive acceleration of investment in and production of biofuels. The Presidential directive requested that the Secretary of Agriculture take steps to the extent permitted by law to expedite and increase production of and investment in biofuel development by making the renewable energy financing available in the 2008 Farm Bill available within 30

days. The NOFA was the first step in a multi-step process to provide guidance and funding for CHST in response to the Presidential Directive consistent with the 2008 Farm Bill. The NOFA provided a general summary of the provisions that would be used to administer payments for CHST in advance of the rule on BCAP. Specifically, the NOFA (1) provided policies and processes for providing matching payments for the CHST of eligible material, to qualified BCFs, and (2) described the process for qualifying CHST BCFs. The Matching Payments component was implemented under the guidance of the Deputy Administrator for Farm Programs, FSA (Deputy Administrator), who is also the Executive Vice President of CCC. The USDA determined that making these funds available as soon as possible was in the public interest, and that withholding funds for CHST to provide for public notice and comment would unduly delay the provisions of the benefits associated with the program.

The Matching Payments component was determined not to be a major Federal action per the NEPA definition since (1) the program was understood to be a mandatory program subject to a final construction and implementation of the statutory terms and the interim allocation of funds while the final determinations were being made and (2) the materials collected during the Matching Payments component were currently being utilized in the marketplace for a similar, if not the same, purpose. The Matching Payments component incentivized an existing activity, which was fully seen from the data collected during the NOFA authority, to continue production during current economic conditions. The data from the NOFA indicated that approximately 80 percent of the BCFs qualified were collecting renewable biomass materials prior to the NOFA, indicating only a small number of qualified BCFs either were new facilities, facilities newly brought online, but were in the construction phases prior to the NOFA, or were facilities that restarted production from an off-line state due to the incentive created by the Matching Payments component encouraging delivery of the energy feedstock. There is an indication from the data that there was a redirection of some existing materials from pulp and paper manufacturers to wood pellet mills.

The Matching Payments component of BCAP was analyzed in the PEIS as a mandatory implementation of the 2008 Farm Bill for either alternative in the economic modeling as a payment to producers within project areas; it was

not analyzed as a payment to others outside the contract acreage producers. It was assumed for both alternatives that producers would receive the \$45 per ton as the maximum matching payment for delivery of biomass to a qualified facility for two years from the first delivery. Using this assumption would anticipate, per the model limitations, the potential for maximum adoption of dedicated energy crops by producers within project areas and therefore, estimated land use conversion given the highest potential value, in total (annual payment, delivery payment, and matching payment combination), for delivered biomass. The maximum payment scenario was used to depict a maximum adoption under limited funding and a scenario with unlimited funding that would assist in meeting the goals of other legislation (such as the Renewable Fuel Standard (RFS2)), which would indicate the broad potential impacts to the human and natural environments from the establishment and growth of dedicated bioenergy crops. The timing within the model was estimated as five years from acreage contracted during the last authorized fiscal year for herbaceous perennial crops with a delivery estimate of two to three years from establishment. For woody species, the contract period is 15 years with at least one delivery; therefore, the model results were assumed for a period 15 years from acreage contracted during the last authorized fiscal year with at least one delivery for some woody species and two deliveries for other woody species.

#### **BCAP Establishment and Annual Payments Component**

BCAP is intended to support the establishment and production of eligible crops on eligible land for conversion at a biomass conversion facility (BCF) in selected BCAP project areas and to provide financial assistance to producers of eligible crops in BCAP project areas. Under the Establishment and Annual Payments component, the CCC would accept BCAP project area proposals on a continuous basis. To be considered for selection as a BCAP project area, a project sponsor consisting of a group of producers or a BCF must submit to the Secretary a proposal that includes (at a minimum): (1) A description of the eligible land and eligible crops to be enrolled in the proposed BCAP project area; (2) a letter of commitment from a BCF that the BCF would use eligible crops intended to be produced in the BCAP project area; (3) evidence that the BCF has sufficient equity available if the BCF is not

operational at the time the project area proposal is submitted; and (4) other information that gives the Secretary a reasonable assurance that the BCF would be in operation by the time that the eligible crops are ready for harvest. BCAP project area proposals would be evaluated on selection criteria that take into account:

- The dry tons of eligible crops and the probability those crops would be used for BCAP purposes;
- The dry tons of renewable biomass potentially available from other sources;
- The anticipated economic impact within the project area;
- The opportunity for producers and local investors to participate in ownership of BCF;
- The participation by beginning or socially disadvantaged farmers or ranchers;
- The impact on soil, water, and related resources;
- The variety in biomass production approaches within a project area;
- The range of eligible crops among the project areas;
- The ability to promote cultivation of perennial bioenergy crops and annual bioenergy crops that show exceptional promise, and not primarily grown for food or animal feed; and
- Any additional criteria, as determined by the Secretary.

BCAP project areas would be subject to approval based on the above selection criteria and the successful completion of a finding of no significant impact (FONSI) for a NEPA Environmental Assessment (EA), which would determine that there would be no significant effects to the natural or human environment within the proposed project area. This project area level NEPA document would identify regionally and locally significant features and/or resources and the potential for effects to those resources from the proposed project area implementation. If certain mitigation measures could be undertaken to avoid significant effects, those measures would be detailed in the project area EA.

Additional requirements at the producer level include conservation planning in the form of a BCAP conservation plan or forest stewardship plan (or an equivalent plan). In addition to an approved conservation plan or forest stewardship plan (or the equivalent), a site-specific BCAP environmental screening form would be completed to determine the appropriate level of further environmental review necessary prior to completion of the BCAP contract with the producer. That environmental review and conservation

planning would provide site-specific mitigation measures, as necessary, to conserve physical and biological resources at the contract level. Those mitigation measures and practices approved through conservation planning would be periodically monitored by USDA to determine the success and compliance with those measures.

A producer within the project area may enter into a contract with CCC to commit eligible land, which would then be called contract acreage, to establish and/or produce eligible crops. Contract durations may be up to five years for annual and non-woody perennial crops and up to 15 years for woody perennial crops. The 2008 Farm Bill defined eligible land for project areas as agricultural land and non-industrial private forest land (NIPF), subject to certain exclusions. Eligible agricultural land for BCAP includes cropland, grassland, pastureland, rangeland, hayland, and other lands on which food, fiber, or other agricultural products are produced or are capable of being produced for which a valid conservation plan exists or is implemented. Eligible NIPF land for BCAP includes rural lands with existing tree cover, or that are suitable for growing trees, which are owned by any private individual, group,

association, corporation, Indian tribe, or other private legal entity as provided by section 5(c) of the Cooperative Forestry Assistance Act of 1978, as amended (16 U.S.C. 2103a). Agricultural and NIPF lands with already established energy crops or already contracted for energy crops or planned energy crops would be eligible lands for contract acreage. USDA FSA may consider waste lands, brownfields, abandoned mine land, and environmental clean-up sites as eligible land, if they meet the definition of agricultural land or NIPF, as described above and in the 2008 Farm Bill.

Producers in project areas may be eligible for both BCAP establishment payments and annual payments. Producers would be eligible for establishment payments for not more than 75 percent of the cost of establishing a perennial crop, which could include woody perennial crops. Establishment payments were not authorized for annual crops and would only be made for new perennial, eligible crops with a projected initial harvest time occurring within the length of the contract period. Existing eligible crops on agricultural lands and NIPF would not be eligible for establishment payments; however, they could be eligible for annual payments. Annual payments would be calculated on: (1) A

weighted average soil rental rate for cropland; (2) the applicable marginal pastureland rental rate for all other land except for NIPF; (3) for NIPF, the average county rental rate for cropland as adjusted for forestland productivity; and (4) any incentive as determined by the Deputy Administrator. The payments are intended to support production of eligible crops.

### Alternatives Analyzed

The following list contains action alternatives determined to be reasonable, which were evaluated in detail in the BCAP PEIS as developed during internal and public scoping processes, as described in the following section. These alternatives were developed to provide overall flexibility in the program with one alternative being restrictive and with limited funding, while the other was broader and could provide a greater level of funding. The No Action Alternative, used as a baseline for comparison of the Proposed Action, assumed no Federal program for the Establishment and Annual Payments Program component of BCAP. Alternative 1 was determined to be the Preferred Alternative in the Final PEIS.

### ALTERNATIVES CONSIDERED

Alternative 1: Targeted implementation of BCAP	Alternative 2: Broad implementation of BCAP
<p>BCFs supported by BCAP project areas are limited to producing energy.</p> <p>No new non-agricultural lands allowed for BCAP project area crop production.</p> <p>Cropland acres enrolled in the program would be capped at 25 percent of cropland acres within a given county.</p> <p>Advanced biofuels produced by BCAP project area BCFs must meet the greenhouse gas test.</p> <p>Only new BCFs are allowed to be part of BCAP project areas and only newly established crops on BCAP contract acres are eligible crops.</p> <p>Only large commercial BCFs would be allowed in BCAP project areas. Payments would be limited to provide some risk mitigation.</p>	<p>All bio-based products produced by a BCF in BCAP project areas can be supported.</p> <p>New non-agricultural lands allowed for BCAP project area crop production.</p> <p>Cropland acres enrolled in the program would not be capped.</p> <p>Advanced biofuels produced by BCAP project area BCFs do not need to meet the greenhouse gas test.</p> <p>Existing BCFs that meet BCAP eligibility requirements are supported.</p> <p>Small and Pilot BCFs would qualify for BCAP project areas.</p> <p>Payments would completely replace lost potential income from non-BCAP crops.</p>

### Public Involvement

Responses to the Final SEIS public comments and FSA's analyses supporting this Record of Decision are presented in the following discussion.

### Public Scoping

CCC first provided notice of its intent (NOI) to prepare the proposed BCAP PEIS in the **Federal Register** on October 1, 2008 (73 FR 57047–57048). CCC provided an amended NOI to prepare the proposed BCAP PEIS on May 13, 2009 (74 FR 22510–22511), and solicited public comment on the proposed PEIS for BCAP. Six public

scoping meetings were held in May and June 2009 to solicit comments for the development of alternatives and to identify environmental concerns. FSA performed a density analysis of likely BCAP participation to determine those areas that would utilize the program and meetings were planned for these six locations. Public meetings were held in Washington, Texas, Iowa, Louisiana, Georgia, and New York in the cities and dates as presented in the table below. The PEIS has taken into consideration comments gathered in the scoping process initiated with the October 1, 2008, NOI to develop the alternatives

proposed for the administration and implementation of BCAP. Announcements of the scoping meetings were posted in the FR (74 FR 22510–22511), State and county FSA offices, and the FSA Web site prior to the meetings. A public website was created that provided program information, scoping meeting locations and times, and an electronic form for submitting comments via the internet. A presentation was given at each meeting followed by a comment period for attendees. Printed program information and comment forms were made available at the meetings, along with

cards providing the public comment Web site address. Meetings were

attended by the FSA National Environmental Compliance Manager or

FSA Federal Preservation Officer, and were recorded by a court reporter.

#### LIST OF PUBLIC SCOPING MEETINGS

Date of meeting	City, state	Meeting location
May 28, 2009 .....	Olympia WA .....	Red Lion Hotel, 2300 Evergreen Park Drive, Olympia, WA 98502.
June 2, 2009 .....	Amarillo, TX .....	Hilton Garden Inn, 9000 I-40 West, Amarillo, TX 79124.
June 4, 2009 .....	Alexandria, LA .....	Alexander Fulton Hotel, 701 4th Street, Alexandria, LA 71301.
June 8, 2009 .....	Des Moines, IA .....	Renaissance Savery Hotel, 401 Locust Street, Des Moines, IA 50309.
June 10, 2009 .....	Albany, GA .....	Hilton Garden Inn, 101 S. Front Street, Albany, GA 31701.
June 11, 2009 .....	Syracuse, NY .....	Hilton Garden Inn, 6004 Fair Lakes, East Syracuse, NY 13057.

All comments received during the scoping process were recorded and categorized, as applicable, to the stated purpose and need for the Proposed Action, the Proposed Action itself, preliminary alternatives, and environmental resource areas. The comments were evaluated by FSA to determine the scope and significance of each issue and the depth at which it would be analyzed in the PEIS.

#### Draft PEIS

The availability of the Draft PEIS was announced on August 10, 2009 (74 FR 39915). This Notice of Availability (NOA) marked the beginning of a 45-day public comment period soliciting comments from interested persons and agencies. Comments were received through October 9, 2009. Copies of the Draft PEIS were provided to the headquarters and all the regional offices of the U.S. Environmental Protection Agency (EPA) and U.S. Fish and Wildlife Service (USFWS). Comments were received from State and Federal agencies, non-government organizations, and individuals. FSA responded to all substantive comments received and either expanded the PEIS to address the comment or explained why the PEIS was not expanded or clarified in accordance with the comment.

The Draft PEIS received comments from five Federal agencies, three private individuals, 25 organizations or corporations, and the Government of Canada. These 35 commenters generated 191 comments. The individual comments addressed Air Quality (22), Biological Resources (41), Cumulative Effects (9), Mitigation (4), Additional Language or Further Clarification (14), Other (39), Proposed Action and Alternatives (24), Purpose and Need (10), Recreation (1), Resources Eliminated from Detailed Study (3), Socioeconomics and Land Use (21), Soil Resources and Quality (11), and Water Quantity and Quality (10).

Comments concerning Air Quality included greenhouse gas (GHG) emissions from biomass burning, carbon sequestration, soil carbon, carbon sinks, primary/criteria air pollutants, and wind erosion. Biological resources comments included effects to protected species, primary nesting season (PNS) considerations, conversion of forest lands, conversion of grasslands, genetically engineered (GE) organisms, cumulative effects to vegetation and wildlife, types of crops planted, grassland birds, and invasive and noxious species. Cumulative effects comments included effects to higher-value product feedstocks, effects from forest land conversion, and associated and related programs at the state level. Mitigation comments included new tools to assess the values of biomass production at the site-specific level to generate the BCAP conservation plan and a request for greater details. Other comments received included mechanisms associated with CHST, monitoring programs, conversion of Conservation Reserve Program (CRP) acres, the inclusion of crop residues, greater description of forestry resources, agricultural plastics, more precise definitions of eligible crops and lands, and the use of only one crop type as an example of eligible crops. Several comments were received on the number of alternatives presented and analyzed. Comments on Socioeconomics and Land Use included the effects on existing BCF, the use of residues, and the inclusion of short rotation woody crops (SRWC) into the models. Soil-related comments included increased erosion potential, soil carbon sequestration, and the role of agricultural residues in soil formation. Water-related comments included water quantity for BCF use, erosion and pesticide transport, irrigation use, and Gulf of Mexico hypoxia.

#### Final PEIS

Public notices announcing the availability of the Final PEIS were

published on June 25, 2010 (75 FR 36386). The Final PEIS was available for public review and comment for 30 days, and to ensure that all potential comments from interested stakeholders were received and reviewed, an extra 30 days was provided for FSA receipt of comments. FSA received comments from two Federal agencies, 38 organizations or corporations, one local government representative, and seven private citizens. Approximately 54 percent of the commenters specifically favored one alternative over the others, with 15 commenters favoring Alternative 1, 10 commenters favoring Alternative 2, and one commentor favoring the No Action Alternative.

Final PEIS commenters supported Alternative 2, the Selected Alternative, for many of the following reasons: Provides the greatest incentive for forest landowners to continue managing NIPF to produce valuable ecosystem goods and services; discourages NIPF owners from converting forest land to other land uses; provides more renewable biomass than Alternative 1 or the No Action Alternative; creates the greatest reduction in fossil fuel consumption; increases energy security by increasing domestic energy production; socioeconomic benefits; environmental benefits; allows the all qualified BCF to participate regardless of size; Alternative 1 is too restrictive; more closely supports State renewable portfolio standards (RPS) goals; creates green jobs; and provides greater incentives to high potential bioenergy crops.

#### Impacts Summary

The Final PEIS outlines and compares all of the alternatives' potential impacts. Based upon the analyses and conclusions presented in the Draft PEIS, FSA identified the Preferred Alternative as Alternative 1; however, with comments received on the NOFA, experience with the Matching Payments component of BCAP, comments received on the proposed rule, and from

the Final PEIS comment period, FSA has chosen Alternative 2 to be the selected and implemented alternative. Within the context of the Proposed Action's purpose and need, this alternative is both environmentally responsible and reasonable to implement, would not have significant negative impacts, and more closely matches the intent and guidance of the 2008 Farm Bill. Both beneficial and potential adverse effects of the alternatives analyzed for implementing BCAP are identified and discussed below.

#### Alternative 1 (Preferred Alternative)

Under Alternative 1, the BCAP Establishment and Annual Payments component would be implemented on a more restrictive or targeted basis. Project areas would be authorized for those that support only large, new commercial BCFs that are limited to producing energy in part from only newly established crops on BCAP contract acres. No new non-agricultural lands (for example, NIPF converted to herbaceous crop lands) would be allowed to enroll for BCAP crop production.

#### Socioeconomics and Land Use Effects

Modeling indicates that at the national level, direct impacts to realized Net Farm Income are expected to remain unchanged from that of the No Action Alternative due to limited funding. However, net returns are likely to improve for those producers selected to participate in a BCAP project area. Total net returns for most potential project locations are positive, ranging between \$2.7 and 7.3 million in Year 1 of the program. Modeling shows that positive Net Returns would still be expected over the long term (Year 3), indicating that the BCAP project areas remain capable of supplying a BCF with required feedstock.

Alternative 1 would cause land use changes only at the local level (that is, county or multi-county region). Land use changes range between 22,000 to 44,000 acres of crop (for example, corn, wheat, soy, etc.) and hay land being converted to dedicated energy crops (switchgrass) from that of the No Action Alternative.

Overall, scientific literature and the modeling for the BCAP PEIS indicated that the vast majority of cropland for dedicated energy crops would come from cropland currently in production for traditional row crops and from pastureland. Additionally, recent literature indicates that potentially nine million to 15 million expiring CRP acres could return to crop production by

2025, with an estimated one million acres potentially being planted in dedicated energy crops. This was based on the probable higher value of traditional row crops without the incentives provided by BCAP for dedicated energy crop production. The impact of expiring CRP acres on total CRP enrollment would be offset through re-enrollments into CRP and new acres being enrolled in CRP to reach the 32 million acre CRP cap as specified in the 2008 Farm Bill.

The PEIS found that Alternative 1 would cause only minor conversion of natural landscapes, including native habitats and forests, due to (1) the economic costs associated with supplying infrastructure (for example, roads, temporary irrigation for establishment) to those lands and (2) the restrictions inherent in the 2008 Farm Bill that limit and protect unique native habitats such as native sod, which would include rangelands that have never been in crop production. Economic indirect impacts under this alternative vary by project location.

The analysis method used in the PEIS did not address international indirect land-use change. This can be done, for example, by coupling output from the Policy Analysis System (POLYSYS) economic simulation model to an international economic sector model, such as the Global Change Assessment Model (GCAM) at the Joint Global Change Research Institute. Associating carbon coefficients to the economic sectors (for example, forest, croplands, fossil fuels, etc), allow for estimates of indirect land-use change associated with the changes in land-use occurring nationally. However, it is important to recognize that the ratio of land-use change (for example, one acre of soybeans taken out of production in the United States equals one acre of tropical deforestation) has not been adequately established through scientific literature. The social drivers of indirect land-use change are not clear, not substantiated, and cannot be modeled in a fact-based analysis at this time.

Growing dedicated energy crops, and subsequent land use changes for those crops in a region, would impact the agricultural sector by the creation of a new market. The exact amount of land that may be converted is limited to 25 percent of the acreage within each county being eligible for BCAP payments. This equates to a relatively small amount of vegetation being converted from traditional crops or pastureland to approved dedicated energy crop species. It is estimated that producing a dedicated energy crop would require \$60 per dry ton

(approximately \$10 million) to establish the crop. To receive payments to establish a dedicated energy crop, producers must first convert their land from traditional crops. This would result in negative impacts within the community as inputs from the traditional crops are not purchased. Costs vary based on the community and the amount of land use changes required and range between \$1.5 million to \$5 million.

Total economic impacts range between \$19 million and \$28 million. Net positive impacts for the top five projects are between \$21 million and \$25 million for their region. However, land use changes would create negative impacts, through reduced purchases of inputs for traditional farming, within a region ranging from \$2.5 million to \$10 million depending on location.

#### Biological Resources

Due to the small scope of this alternative, and provided established provisions, standards, and guidelines are followed, and provided the BCAP conservation plan, forest stewardship plan (or the equivalent) are adapted to resource conditions, Alternative 1 would have no significant negative impacts on vegetation or wildlife.

It is unlikely there would be significant negative impacts to wildlife populations from the conversion to dedicated energy crops at a regional scale. However, the potential always exists for site-specific fluctuations in wildlife populations without the proper adaptive management techniques being applied during the establishment and harvesting stages of crop production. The proper use of adaptive management and appropriate mitigation techniques related to agricultural processes can help minimize any potential negative direct effects. There are not expected to be large scale impacts to regional wildlife populations because of the limited scope of land use change under this alternative. Indirect impacts to wildlife are related to habitat change. Some degree of wildlife mortality from collisions or nest destruction from farm equipment is unavoidable. Provided establishment and harvest of feedstock does not occur during the primary nesting season (PNS), these impacts should be minimized.

Reptiles and amphibians could experience negative and positive responses to the conversion to dedicated energy crops. The increase of native vegetation may increase the abundance of invertebrates, a source of food for many reptiles and amphibians. There may be short-term reductions in population sizes the year that

conversion occurs from agricultural activity to biomass establishment from collisions or crushing by farm equipment. The techniques described above, if properly planned and applied, are designed to minimize the impacts to wildlife of these activities. Likewise, because of the limited implementation under this alternative, these impacts would not be regional nor are they anticipated to affect regional wildlife population levels.

Impacts to invertebrates are related to habitat, and would vary based on specific lifestyle and habitat preference. Direct impacts to invertebrates are dependent on the degree of exposure and the mobility of a given species. Impacts from the establishment include destruction of nest sites, crushing, and the removal of food sources. These impacts can be reduced if activities are not conducted during periods of highest florescence or when flowers are in bloom.

Impacts to aquatic wildlife are associated with the dangers of sedimentation, and nutrient and agricultural chemical deposition into water bodies. However, provided established procedures for erosion and runoff control are followed, these potential impacts are not expected to be significant.

#### Air Quality

The analysis of potential air quality impacts was intended to estimate changes in land management associated with the adoption of dedicated biomass energy cropping practices and to estimate changes in greenhouse gases (GHG) and carbon stocks associated with those changes in land management. The analysis considered the range of potential effects associated with the establishment of the dedicated energy crop including crop production inputs through the harvesting of the dedicated energy crop to the farm gate.

The air quality analysis was developed through the output from the economic forecasting model associated with predicted changes in land management. This model (POLYSYS) is based on over 3,500 unique cropping practices that capture greater than 90 percent of all cropland production in the United States, using an annual time step and at a county level. When considering changes in land-use and soil carbon stocks, the model works at a sub-county level. The annual time step allows for near-term estimates of dedicated energy crop adoption and potential changes in GHG emissions. Changes in GHG emissions included upstream emissions from the production of agricultural inputs (for example,

fertilizers, pesticides, energy for irrigation), on-site fossil fuel emissions, on-site soil carbon dioxide (CO<sub>2</sub>) emissions from organic carbon (soil organic matter and plant residue) and inorganic carbon (agricultural lime), and soil nitrous oxide (N<sub>2</sub>O) emissions.

This method was chosen, because the economic modeling components within the POLYSYS model are of a spatial resolution (county) and temporal resolution (annual) needed to address dedicated energy crop adoption rates both locally and nationally. This information was used to assess the impact of annual adoption rates on GHG emissions. Fossil-fuel offsets from the use of cellulosic ethanol occur outside the farm gate; therefore, they were not included in this analysis. Inclusion of fossil-fuel offsets would likely contribute to larger carbon savings and less net CO<sub>2</sub> emissions to the atmosphere, than is accounted for in the current analysis.

Positive changes to air quality are expected under Alternative 1. However, since the scope of this alternative is limited, these changes would not be significant. Direct impacts relate to the energy and/or emissions from agricultural production activities. Under this alternative, energy consumption within the top five regions would be reduced by 3,664 gigajoules (GJ) through the conversion to switchgrass when compared to the No Action Alternative. This energy change is minor, in most cases less than 0.1 percent. Carbon emissions were less than those of the No Action Alternative, yet small, usually less than 0.1 percent reduction. Due to the limited scale of conversion under this alternative, the amount of fugitive dust emissions would be minor, temporary, local, and nearly equal to that of the No Action Alternative. Yet, over the long term, given the conversion to perennial dedicated energy crops and reduction tillage, there would be a reduction in fugitive dust emissions. These effects would be positive, but minor.

Limited indirect impacts would occur from emissions from equipment exhaust or other mobile sources necessary for the establishment of dedicated energy crops. However, since machinery is already utilized on these fields, these impacts are similar to those of the No Action Alternative.

Site-specific mitigation measures would be determined based on the local or regional Air Quality Control Region, as prescribed in the conservation plan or through local or State regulations concerning air emissions of criteria pollutants. Best Management Practices (BMPs) to reduce mobile sources

include proper maintenance of equipment and dust suppression activities.

#### Soil Resources

Under Alternative 1, a reduction in erosion from all sources is expected. Conversion of croplands from traditional crops to switchgrass is estimated to reduce topsoil loss from these acres by 0.4 inches per year; which equates to four inches over a ten year period. Soil carbon would increase between 0.2 and 10.1 percent over that of the No Action Alternative. Indirect impacts under Alternative 1 would be increased biodiversity of soil biota as a result of increased soil organic matter and the presence of perennial vegetation. The use of BMPs would further reduce the potential for soil loss. Provided established conservation standards, provisions and guidelines are implemented, Alternative 1 would have no significant negative impact on soil resources.

#### Water Quality and Quantity

Under Alternative 1, direct impacts to water quality are expected from the changes to the use of nutrients and agricultural chemicals for the establishment and production of switchgrass in the potential BCAP project locations. Decreases in the use of potassium (3.1 percent), lime (4.0 percent), herbicides (5.5 percent), insecticides (11.2 percent), and other agricultural chemicals (3.6 percent) are expected; while the use of nitrogen (2.1 percent) and phosphorus (2.9 percent) within the top five project areas are expected to increase over that of the No Action Alternative. The overall reduction in nutrients and agricultural chemical, erosion, total suspended solids (TSS), and sedimentation would provide positive impacts on water quality from implementation of this alternative. However, due to the limited amount of acreage under this alternative, these benefits would be local.

The change in the quantity of water required under this alternative would be minimal. The amount of water used for irrigation in the top five regions would only decrease approximately 0.25 percent over that of the No Action Alternative, saving an estimated 1.2 million gallons of water per day. When compared across all project area States, 23.6 million gallons of water per day would be conserved. Switchgrass has a higher water use efficiency (WUE) than other traditional crops, and is highly tolerant of various water regimes and is more drought tolerant than traditional crops.

Indirect impacts under Alternative 1 result from the reduction in sedimentation and nutrient and agricultural chemical deposition into surface water bodies that move downstream, benefiting larger water stream courses and regional water quality.

To further reduce impacts to water quality, buffer strips comprised of mixed native species between biofuel crop fields and surface water bodies should be established for sediment and nutrient retention. Adherence to established conservation standards, provisions, and guidelines ensures Alternative 1 would have no significant negative impact on water quality.

#### Recreation

Under Alternative 1 there could be localized positive or negative impacts on wildlife habitat, but they are expected to be small due to the relatively small amount of land converted to energy crops. The impacts to recreation involving wildlife are expected to be small locally and also not significant at the regional or national level.

#### Alternative 2 (Selected Alternative)

Alternative 2 expands the BCAP Establishment and Annual Payments component, allowing anyone who meets basic eligibility requirements of the BCAP provisions in the 2008 Farm Bill to participate. In addition, existing BCFs and crops would be supported, including small and pilot BCFs, and all bio-based products derived from eligible materials would qualify under this alternative. New non-agricultural lands (for example, NIPF converted into herbaceous cropland) would be allowed to enroll and the number of cropland acres would not be capped.

#### Socioeconomics and Land Use Effects

Significant changes are expected in net revenues as total revenue values increase more than the feedstock production costs and as feedstock production reduces the supply of other crops and subsequently increases their prices. Price increases are most significant for wheat, corn, and soybeans, with price changes expected to increase by 15 to 20 percent during the period 2009 to 2023. The addition of more forestry resources as feedstock would reduce pressures on crop prices somewhat, as would any future increase in crop yields. It is expected that government commodity payments would increase due to the price impacts triggered by the increased demand for cropland.

Overall, scientific literature and the modeling for the BCAP PEIS indicated that the vast majority of cropland for dedicated energy crops would come from cropland currently in production for traditional row crops and from pastureland. Additionally, recent literature indicates that potentially nine to 15 million expiring acres of CRP could return to crop production by 2025, with an estimated one million acres potentially being planted in dedicated energy crops. This was based on the probable higher value of traditional row crops without the incentives provided by BCAP for dedicated energy crop production. The impact of expiring CRP acres on total CRP enrollment would be offset through re-enrollments into CRP and new acres being enrolled in CRP to reach the 32 million acre cap as specified in the 2008 Farm Bill.

Land use shifts, especially among the major crops, are expected under this alternative. The amount and type of land, both traditional cropland and non-cropland, converted to dedicated energy crop production would depend on which areas are designated as project areas. Modeling indicates that by 2023, planting of dedicated energy crops would increase production cropland by over 50 million acres, while resulting in a reduction in traditional cropland acreage by approximately 17 million acres, with corn acreage estimate to increase by less than one million acres. Of the estimated 350 million acres in current use as pastureland, approximately 34 million acres would shift to the production of dedicated energy crops while 15 million acres would shift to hay production. Overall, scientific literature and the modeling for the BCAP PEIS indicated that the vast majority of cropland for dedicated energy crops would come from cropland currently in production for traditional row crops and from cropland pastureland. Natural landscapes and native habitats and forests would be anticipated to have only minor conversion due to (1) the economic costs associated with supplying infrastructure (for example, roads, temporary irrigation for establishment) to those lands and (2) the restrictions inherent in the 2008 Farm Bill that limit and protect unique native habitats such as native sod, which would include rangelands that have never been in crop production.

There would be both positive and negative indirect impacts from the establishment of dedicated energy crops which would flow through the rest of the economy. While payments for the establishment of dedicated crops is

estimated to be \$11 billion and the matching payments component of BCAP is expected to create an estimated 280,000 jobs, the costs associated with land use changes required to meet the demand for dedicated energy crops and crop residues may bring a decline of \$3.2 billion and a loss of 41,000 jobs. Overall, the total economic impact from implementation of Alternative 2 is anticipated to be positive with an estimated \$88.5 billion in economic activity throughout and the creation of nearly 700,000 jobs.

#### Biological Resources

As with Alternative 1, provided established provisions, standards, and guidelines (that is, BMPs similar to those used in CRP conservation plan) are followed and the BCAP conservation plans, forest stewardship plans, or equivalent plans, are adapted to resource conditions, Alternative 2 would have no significant negative impacts on vegetation or wildlife. Conversion may have both negative and positive impacts. The loss of forest land (for example, NIPF converted to herbaceous cropland) or native grasslands, not native sod (for example, CRP acres planted to native grass that have expired and gone back into production) would decrease the habitat quality for several wildlife species; however the effects would be limited given the minor amount of conversion anticipated from these land types. Yet, as described in Alternative 1, many of the dedicated energy crop options have a higher habitat quality than traditional crops. The types of impacts to wildlife during the establishment of dedicated energy crops would be similar to those described in Alternative 1; yet, with the potential to occur at a much broader scale. Again, the scale of this impact is dependent on the types and amount of land converted to dedicated energy crops. Negative impacts to large mammals, small mammals, reptiles and amphibians, and invertebrates are not expected to be significant. Similarly, impacts to birds are not expected to impact population densities. However, the largest potential negative impact to grassland birds would occur during conversion or harvesting activities. Provided these activities do not occur during the PNS, and the small portion of grasslands in potential BCAP project area locations, impacts to grassland birds are minimal.

#### Air Quality

Implementing Alternative 2 on a broader scale would reduce overall direct carbon equivalent emissions during perennial dedicated energy crop

growth. Total energy use was approximately one to two percent higher in most years due to the indirect energy requirement for increased equipment manufacturing. Direct energy usage was either neutral or decreased over time. The effects of fugitive dust emissions during the establishment phase would be similar to those of Alternative 1. After establishment, fugitive dust emissions would decrease due to the alteration of cropping systems to perennial species. In the long term, these effects would be on a regional scale and would be positive. Indirect impacts are similar to those of Alternative 1. Site-specific mitigation measures and BMPs as described in Alternative 1 would reduce potential impacts to Air Quality under Alternative 2.

### **Soil Resources**

Alternative 2 would result in reductions at both the local and regional level of soil erosion due to the transition from traditional crops to perennial vegetation used for dedicated energy crops. As indicated in the modeling results, dedicated energy crop production would increase production cropland by approximately 50 million acres under Alternative 2, with that acreage being shift from traditional row crops and cropland pasture, rather than natural landscapes, native habitats and forests. Overall, the shift toward more perennial vegetation on production croplands from traditional annual row crops would provide benefits to soil quality and soil carbon sequestration. Perennial crops, and the use of corn stover and wheat straw, would shift away from conventional tillage to no tillage practices. This shifting of tillage practices on an estimated 11 million acres would conserve approximately 40 million tons of soil each year over that of the No Action Alternative. As with Alternative 1, the biological diversity of the soil would also increase. As with Alternative 1, the use of BMPs would further reduce the potential for soil loss. Provided established conservation standards, provisions and guidelines are implemented, Alternative 2 would have no significant negative impact on soil resources.

### **Water Quality and Quantity**

The direct and indirect impacts to water quality under Alternative 2 would be similar to those described in Alternative 1. However, as the amount of acreage converted from traditional crops to perennial crops increases, the benefits to both water quality and quantity increase. The same mitigation methods described in Alternative 1

would reduce potential impacts to water quality. Adherence to established conservation standards, provisions, and guidelines ensures Alternative 2 would have no significant negative impact on water quality.

### **Recreation**

Under Alternative 2 there could be localized positive or negative impacts on wildlife habitat, but they are expected to be small due to the relatively small amount of land converted to energy crops. The impacts to recreation involving wildlife are expected to be small locally and also not significant at the regional or national level.

### **Mitigation Measures and Best Management Practices**

In addition to the required BCAP conservation and/or forest stewardship plan (or the equivalent), all project sponsors and producers must follow all environmental rules and regulations as required through participation in other USDA programs. Each project proposal will be subject to NEPA analysis prior to approval. A BCAP Environmental Screening worksheet must be completed for each contract offer. This worksheet would provide the necessary environmental information to FSA so they can accurately and expeditiously complete an environmental evaluation, consistent with FSA's regulations on environmental quality found at 7 CFR part 799, for enrollment of a particular site in BCAP. This worksheet can also be used in conjunction with the BCAP conservation and/or forest stewardship plan (or the equivalent) to develop methods/activities that could mitigate any potential minor site specific environmental effects for individual producers applying to the program while still meeting the overarching goal of BCAP and NEPA. Prior to execution of the BCAP Project Area contract, NRCS or an authorized technical service provider (TSP) would complete a site-specific environmental evaluation that would reveal any protected resources on or adjacent to the proposed program lands. When sensitive resources, such as nesting birds, wetlands or cultural resources are present or in the vicinity of the proposed lands, consultation with the appropriate regulatory agency would occur. Specific mitigation measures necessary to reduce or eliminate the potential localized negative impacts to those sensitive resources would be identified. If the environmental evaluation concludes that species or critical habitat protected under ESA are potentially present, and the proposed conservation activity on the land is

determined to have negative impacts and no alternatives exist, it is not likely the land would be eligible for that activity. Any mitigation measures and practices approved through conservation planning would be periodically monitored by USDA to determine the success and compliance with those measures.

If through completion of the environmental evaluation, it is determined that there is no potential for the proposed BCAP activity to significantly impact the quality of the human environment, the environmental evaluation serves as FSA's documented compliance with NEPA as well as the requirements of other environmental laws, regulations, and Executive Orders (EOs).

However, if after completion of the environmental evaluation it is determined that protected resources could potentially be adversely impacted, consistent with FSA's internal guidance, then no further action can occur until the BCAP applicant completes an EA. EAs would be required when the results of the environmental evaluation are unclear as to whether the proposed activities would significantly impact the quality of the human environment.

If the EA determines that there could be a significant effect on the quality of the human environment then a proposed BCAP project area or site specific EIS could be necessary. These EISs and all EAs would be tiered to this PEIS consistent with 40 CFR 1508.28.

### **Socioeconomics and Land Use Effects**

To mitigate the socioeconomic effects of BCAP, the final rule provides that the eligibility for payment of vegetative wastes, such as wood wastes and wood residues, collected or harvested from both public and private lands will be limited to only those that would not otherwise be used for a higher-value product. This specifically excludes wood wastes and residues derived from mill residues or other production processes that create residual by-products that are typically used as inputs for higher value-added production. Additionally, industrial or other process wastes or by-products, such as black liquor or pulp liquor that is a waste by-product of the pulp and kraft paper manufacturing process, would not be included in the definition of biobased products because they are not significantly composed of organic or biological products collected or harvested from land. The final rule also continues the exclusion of commercially-produced timber, lumber, wood, or other finished products that

otherwise would be used for higher value products. Also, urban wood wastes have been excluded as specified in the 2008 Farm Bill.

### Biological Resources

As specified in the 2008 Farm Bill, a conservation plan or forestry stewardship plan (or equivalent plan) is a fundamental component for ensuring appropriate and sustainable agricultural practices for specific programs. Consistent with accepted BMPs (for example, for CRP and associated programs), a BCAP conservation plan or forest stewardship plan (or the equivalent) that includes appropriate conservation practice standards and sustainable agriculture practices must be developed before implementation to reduce the negative impacts to biological resources. Dedicated energy crops should be chosen based on local ecosystem characteristics to minimize potential disturbance to native wildlife species and vegetation by providing habitats comparable to those found in natural habitats. Sustainable agricultural techniques should be used, if possible, to reduce negative impacts to biological resources. Specific county Natural Resources Conservation Service (NRCS) conservation practice standards, as well as State or county specific technical notes and specific guidance on mitigation measures, should be incorporated in the conservation plan and forest stewardship plan or equivalent. Applicable NRCS conservation practice standards should be followed on lands where conserving wildlife species is an objective of the landowner or forest stewardship plan. Site-specific environmental evaluation on the project site in conjunction with either informal or formal consultation with the appropriate USFWS office would protect species included on the endangered species list. Use of BMPs such as washing vehicles upon leaving and entering a work area would minimize the potential to spread invasive or noxious plant species.

Other eligible crops, such as animal wastes, food and yard wastes, and algae, have site-specific requirements in regards to potential for environmental effects. To lessen potential effects associated with animal wastes, appropriate guidance from State and Federal regulatory agencies concerning confined animal feeding operation practices and standard industry practices associated with animal production should be followed to ensure that collection of materials does not adversely impact localized vegetation and wildlife resources

through secondary effects associated with water and air quality.

### Air Quality

BMPs associated with dedicated energy crop production include the use of limited and no tillage components, which decrease the potential for fugitive dust emissions associated with exposed ground cover. Also, all producers would follow local air quality regulations, which may define other BMPs associated with agricultural activities, including transportation and chemical usage.

### Soil Resources

BMPs associated with dedicated energy crop production include the use of limited and no tillage components which decreases exposed ground cover and allows for greater retention of topsoil through perennial root systems. Other eligible crops, such as animal wastes, food and yard wastes, and algae, have site specific requirements in regards to potential for environmental effects. To lessen potential effects associated with animal wastes, appropriate guidance from State and Federal regulatory agencies concerning confined animal feeding operation practices and standard industry practices associated with animal production should be followed to ensure that collection of materials does not adversely impact soil resources through secondary effects associated with water and air quality.

### Water Quality and Quantity

Algae production, due to the specialized nature of the demonstration practices currently in effect, should move to minimize the use of potable water supplies, where feasible, to reduce effects on water consumption. BMPs for dedicated energy crop production that reduce the amount of agricultural chemicals used for production would benefit water quality through reduced transport in runoff. Also, the use of limited or no tillage cropping systems reduces the potential transported sediments by leaving ground cover on site and through the stability associated with perennial root systems. Agricultural irrigation systems are generally becoming more efficient, allowing for an overall reduction in irrigated water uses, and the inclusion of more dedicated energy crops with lower water demands and higher water use efficiencies would benefit water quantity by reducing the levels necessary for production.

### Recreation

Given the site specific nature of the BCAP project areas and the practices best suited to those conditions, effects to the abundance of wildlife for both consumptive and non-consumptive uses would vary. Practices that encourage more foraging habitat for game species could induce changes in relation to decreased traditional row crop fields; however, changes to pasture of hayland could indicate small adverse effects. As such, operators should be encouraged to comply with the goals for wildlife habitat enhancements associated with the conservation plans and forest stewardship plans, at the recommendation of the technical advisors (that is, NRCS and U.S. Forest Service).

### Cumulative Effects—Socioeconomics and Land Use Effects

Cumulative effects to socioeconomic conditions and land use would be highly dependent upon the location of the BCAP project areas and level of funding; however, overall the benefits associated with the establishment and production of dedicated energy crops should outweigh the losses associated with the land use shifts from traditional row crops. With limited funding, BCAP projects areas would be few and would be anticipated to provide local positive effects to the socioeconomic conditions from the conversion to dedicated energy crops; however, the effects would be balanced through the losses associated with input suppliers for traditional crops under Alternative 1. The limited funding assumption and the county acreage limitation would not induce national level changes in agricultural prices.

Under Alternative 2, the greater funding for BCAP could create numerous BCAP project areas with the potential to affect national crop prices. Alternative 2 would encourage greater regionalization, which could encourage more land use changes to dedicated energy crops, where traditional row crops only produced marginally positive income streams.

Also, the Matching Payments component has encouraged the use of woody biomass as a feedstock for many of the BCFs qualified during the NOFA period. More than 3.1 million tons of biomass was from woody resources during the NOFA period (85.6 percent of total biomass collected). Only 4.3 percent of woody resources were derived from Federal lands, with the remainder from non-Federal lands. During the short term, these resources could be an important source of

feedstock, until the sustainable harvest of dedicated energy crops would be available.

#### Biological Resources

Changes to vegetation structure and type could cause potential negative cumulative effects on native fish and wildlife through fragmented, degraded, or destroyed habitats. Cumulative effects to wildlife would be localized and site-specific as not all species are harmed by conversion of land to more intensive uses. While the footprints of the areas considered under conversion are relatively small (less than one percent of the area inside the 50-mile buffer), potential impacts may occur if land configuration and relative location of converted areas combined with existing habitat fragmentation patterns has a multiplicative effect on the overall regional habitat fragmentation values. The establishment of new crops in areas previously fallow or cropped with a different style of agriculture may cause direct mortality and range shifting at the local scale of wildlife. The use of BMPs and environmental assessments would prevent and minimize significant impacts; however, fragmentation is unavoidable. Cumulative impacts to vegetation would occur from the conversion of native pastureland or native vegetation to dedicated energy crops. The cap on the amount of acreage that may be used for dedicated energy crops under Alternative 1 (that is 25 percent in any single county within the 50-mile radius) also is designed to reduce these impacts. Similarly, because of the limited funding that would only provide for a limited number of BCFs, the amount of land that potentially would be converted is negligible.

Direct impacts to wildlife would occur by conflicts with haying machinery that may result in mortality. Under Alternative 1, direct impacts are expected to occur during the establishment and harvest stages of BCAP crops; yet, these impacts are expected to be short-term and localized. These habitat changes would impact such aspects as food availability, type and quantity of cover for escape and breeding, and the availability of adequate nesting sites. Wildlife in lands adjacent to the dedicated energy cropland may either be positively or negatively impacted depending on the habitat quality provided by the biofuel crops.

Cumulative effects through implementation of Alternative 2 would lead to direct and indirect impacts to vegetation and wildlife at a regional scale. As with Alternative 1, direct impacts are not expected to impact

wildlife at a population level; however, the significance of indirect impacts are dependent on potential land use changes. The quantity and habitat quality of any land converted from native grasses, forest land or pastureland for dedicated energy crops would determine the level of cumulative impacts. Under Alternative 2, depending upon the level of land use changes, the cumulative impacts to vegetation and wildlife could be significant.

No cumulative impacts under the No Action Alternative would occur as the program would not convert land from one use to a dedicated energy crop.

#### Air Quality

In general, the maturation of the biofuels and bioenergy industries should result in significantly positive energy balance in relation to first generation biofuels and bioenergy supported by grain feedstocks and fossil fuels. With a limited level of BCAP funding that would only provide for two commercial-scale facilities, the range of potential cumulative effects would be broad depending upon the location of the facilities. However, it was estimated that the BCAP program would generate net energy savings and greater soil carbon sequestration as lands are converted to dedicated energy crops. The effects were estimated to only be locally or regionally significant and not nationally significant.

Cumulatively, under Alternative 2, the unlimited funding of the BCAP to support all scales of BCFs could lead to national level effects, such as a decline in soil carbon sequestration due to an increased use of crop residues to meet the Energy Independence and Security Act of 2007 (EISA) volume requirements. It could be surmised that under Alternative 1, to meet EISA requirements there would be a greater use of first generation biomass (that is, corn) and second generation biomass (that is, agricultural crop residues) than from Alternative 2, given the potential funding difference between the two alternatives. This would indicate that the greater use of crop residues for biofuels feedstock could reduce soil carbon levels below currently seen in traditional row crops where the crop residues remain. However, in the analysis it was assumed that EISA targets could not be met under Alternative 1 as indicated by the anticipated waivers for production under the base scenario.

Overall, it was indicated that soil carbon would increase under Alternative 2, as traditional row crops were replaced with perennial dedicated

energy crops; however, in combination with EISA requirements for advanced biofuels percentages, traditional sources (for example, corn and crop residues) would be required in combination with BCAP project areas to meet the overall demand. It was estimated that there would be benefits from the conversion of lands associated with total carbon flux and overall energy use, but there would also be negative effects from the greater use of residues, which would generate additional GHG emissions and reduce soil carbon sequestration. In the longer term, as more acreage is planted to dedicated energy crops and regionally competitive crops (that is, SRWC), there would be some off-set from the anticipated soil carbon losses associated with residue removal and use.

Overall, the discussion of the EISA RFS2 program within the BCAP PEIS, including the characterization of indirect land-use impacts and GHG emissions, is appropriate given the limited overlap between the two programs. While both programs generally support the Administration's goals to expand domestic bioenergy production and consumption and decrease reliance on fossil fuels, BCAP supports a broader range of bioenergy conversion technologies as well as biobased products, which the RFS2 does not incentivize.

#### Soil Resources

The implementation of BCAP would generate positive effects from a reduction in soil erosion and increased soil carbon sequestration from the conversion of Title I crops to perennial dedicated energy crops. The conversion to a perennial dedicated energy crop provide greater soil retention due to anticipated cropping practices and the plant structure holding soil in place.

Under Alternative 1, with the limited BCAP funding, the benefits associated with reduced soil erosion would be only locally significant and would provide for positive changes to water quality, soil organisms biodiversity and overall biological diversity.

Under Alternative 2, depending upon the level of agricultural crop residue use to meet EISA requirements, the effects could be either insignificant or significant, cumulatively. When combined with the U.S. Forest Service measures to increase woody biomass utilization for bioenergy, there may be short term increases in soil erosion from forest lands in some regions; however, these should be minimal if harvest and management BMPs are implemented per the forest stewardship plan or the equivalent, and all applicable Federal, State, and local harvest regulations.

Also, in some regions, soil erosion on forest lands would be insignificant due to the species and understory cover provided. The increased use of crop residues is anticipated to lead to changes in cropping practices, which should provide greater soil cover by standing crop residues and reduced tillage practices to promote residues use.

### Water Quality and Quantity

The conversion to a perennial dedicated energy crop provides greater water use efficiency than traditional row crops such as corn. This conversion would be anticipated to limit runoff from agricultural fields and potential need for irrigation past the initial establishment period. Under Alternative 1, with the limited BCAP funding, the benefits associated with increased water quality and decreased water quantity would be only locally significant and would provide for positive changes. Under Alternative 2, depending upon the level of crop residue use, the effects could be either insignificant or significant, cumulatively. The implementation of BCAP would generate positive effects from (1) a potential reduction of irrigated cropland acres, (2) greater water use efficiency on non-irrigated and irrigated acreage, and (3) a general reduction in agricultural chemical use from the conversion of Title I crops to perennial dedicated energy crops.

The majority of water consumption associated with corn-based ethanol is from irrigation to grow the crop. A potential reduction in the amount of irrigated acres would reduce the total water consumption to produce ethanol. Also, studies have indicated that conversion of biomass at co-generation or combined heat and power (CHP) power plants for electricity is more efficient in the reduction than conversion into transportation fuels. However, water consumption for this use should also be considered. Other studies indicate that traditional liquid biofuels used as a fuel source for power generation are the most water inefficient when compared to traditional fuels, such as natural gas, which was the most water efficient.

### Recreation

Impacts to recreation could be positive or negative based on the locality for BCAP project regions. However, they would be small regionally and nationally under either alternative and would not substantively or cumulatively change the recreational aspects of participation in wildlife activities.

### Basis for the Decision

#### Proposed Action

Alternative 2 is selected as the alternative to implement the Proposed Action. Alternative 2, the Selected Alternative, complies with the 2008 Farm Bill, provides FSA flexibility in terms of program implementation and development of a sustainable industry, and is the most balanced approach to achieving long-term program goals, while being consistent with the intent and language of the 2008 Farm Bill. The No Action Alternative was used as an analytical baseline. Alternative 1 provided for a targeted application of the BCAP; however, this alternative was restrictive in the types of potential sized facilities that could participate in the program, thus limiting the overall scope.

The broader scope of implementation, as analyzed under Alternative 2, would have the potential to open new non-agricultural lands (that is, NIPF) into dedicated energy crop production, which, if the effects were unmitigated could create losses of biodiversity at a regional scale. However, conversion from non-agricultural lands should be minor, since modeling results indicated that the majority of the cropland for dedicated energy crops would be converted from traditional row crops and pastureland. Also, the use of the BCAP conservation plan and forest stewardship plan (or the equivalent) would avoid and mitigate those effects through appropriate BMPs and sustainable practice approaches. No significant impacts would occur from implementation of the Proposed Action and no adverse cumulative impacts are expected. Potential negative impacts would be minimized by employment of site-specific environmental evaluations prior to contract approval, BMPs, incorporation of practical mitigation measures in the BCAP conservation plan or forest stewardship plan (or the equivalent), and, if indicated, EAs would be tiered to the Final PEIS for those areas requiring further NEPA analysis prior to contract approvals, consistent with 40 CFR 1508.28.

### BCAP Components

BCAP is divided into two distinct components as specified in the 2008 Farm Bill. The Matching Payment component was determined to be largely mandatory and non-discretionary in nature. Implementation of the Establishment and Annual Payment component required an exercise of discretion by the Secretary of Agriculture. The separation of the two components in the 2008 Farm Bill and the mandatory nature of the Matching

Payments allowed for the NOFA to be used to initiate that component before final rule-making on the entire BCAP. An appropriate comment period and inclusion of the reference to the BCAP Establishment and Annual Payments components PEIS, which included the Matching Payments component in the cumulative effects analysis, made inclusion of the Matching Payments component as part of the alternatives analysis for BCAP PEIS unnecessary per standard, as such with the publication of the Final BCAP PEIS, this analysis including the cumulative effects would be complete. The range of reasonable alternatives, given the geographic scope of the analysis, provided valid consideration of the scale of the program with unlimited funding authorized for both the Matching Payments component and the Establishment and Annual Payments component of BCAP in the 2008 Farm Bill.

### Geographic Scale and Approach to the Analysis

The geographic scale of potential BCAP project area sites encompasses the entire United States and its territories and as a result land use changes, farming practices, weather conditions, soil types, water resources, natural ecosystems, and economies vary widely at the site-specific level. Therefore, the PEIS assessed the potential impacts of implementing the Establishment and Annual Payments component of BCAP on a broad scale that required that certain assumptions be made to assess the impacts of the program.

Since the BCAP supports the production of dedicated energy crops, the analysis focused only on the potential impacts associated with crop production and not the impacts associated with conversion of biomass into various types of energy (that is ethanol, electricity, burning for combined power and heat, etc.) since the intent of the program was for the successful establishment of dedicated energy crop production throughout the United States, which could be used in a myriad of end product components based on the facilities available to the producers. The PEIS evaluated the impacts of establishing a bioenergy crop (on BCAP eligible lands) and managing, and transporting to a BCF a specific crop from each of the three broad classes of cellulosic energy crops (woody crops, perennial herbaceous, and annual herbaceous). Hybrid poplar and willow (woody species), switchgrass (perennial herbaceous species), and forage sorghum (annual herbaceous species) were chosen

because they have the most widely available data; it is feasible that they can be established within the time frame of the program, and represent likely energy crops that would be grown for biofuels/bioenergy across varied regions of the United States. These representative dedicated energy crops in no way represent the entire range of possible bioenergy crops that could qualify as an eligible crop under the BCAP. The production of switchgrass, forage sorghum, hybrid poplar, and willow utilize agricultural practices that are similar to those used in traditional crop agriculture with some variations in equipment and techniques. Production operations and multi-year characteristics for each selected bioenergy crop would vary.

Although algae is an eligible crop under the Establishment and Annual Payments Program component of BCAP, it currently is not considered likely to be commercially feasible and suitable for inclusion in a BCAP project area by the end of fiscal year (FY) 2012, the expiration of the authority for BCAP. As such, algae as an eligible crop is briefly discussed, but is not included in the detailed analysis within this document.

Additionally, existing forestry resources on NIPF would be eligible for the Annual Payments. These resources are identified by approximate locations throughout the United States through association with private forest lands as detailed within the Forest Inventory and Analysis data publicly provided by the U.S. Forest Service.

#### Model Development and Approach

To determine the potential locations for BCAP projects based on prevailing economics of dedicated energy crop production, a model-based approach was used, which contained information on prevailing cropland uses, factors of production for an herbaceous energy crop (that is, switchgrass), factors for the use of crop residues as a bioenergy feedstock, and transportation costs. The model currently incorporates switchgrass and residues (crop and forestry) as feedstock for BCF. However, it is important to note that switchgrass can be seen as a generic dedicated energy crop which would represent the land use requirements implicit in the use of other energy crops for which data is not readily available. The use of switchgrass as a model crop representing other dedicated energy crops, could underestimate the production potential of feedstock that has a yield that could be significantly larger than switchgrass, and consequently underestimate the potential of specific regions of the

country as candidate locations for potential BCAP projects locations. In an effort to address those shortcomings, the model was complemented with preliminary data in an effort to include poplars, willows, and forage sorghum as eligible crops.

The analysis included prices for switchgrass ranging from \$35 to \$80 per dry ton. The \$60 per dry ton analysis provided a good regional coverage of feedstock potential supply for herbaceous perennial and annual crops, and consequently was selected to perform the GIS analysis to locate the potential BCAP projects; while \$70 per ton was needed for poplars and \$90 per ton for willows. The analysis assumed that farmers or land owners would receive \$45 per ton in payment through BCAP plus a match from the plant demanding the cellulosic feedstock. This assumption was made based on the information provided in the 2008 Farm Bill and the Matching Payments component of the BCAP NOFA. It was assumed that producers would receive this matching payment for two years from the first date of delivery of feedstock to a BCF.

The model was developed to first determine approximate project locations based on the regional availability of feedstock and price levels. Then through the use of Geographic Information System (GIS) program and land use data at the county level, areas were identified that had the potential for higher feedstock concentrations. The analysis incorporated projected land use and proprietor income changes, government payment changes, along with an increase in transportation and the development of a dedicated energy crop. The approximate predicated project locations were developed for each of the proxy feedstocks analyzed. These predicted project locations were then used for each of the resource areas to determine potential impacts, both positive and negative, from the alternatives.

Under Alternative 2, funding for BCAP was assumed to be unlimited and a driving factor was to produce enough biomass feedstock to meet the demands of EISA (that is, approximately 15 billion gallons of advanced biofuels). The analysis for Alternative 2 was conducted at both a regional and the national level. The analysis focused on the impacts to net farm income; farm prices; government payments; land use shifts; and direct, indirect, and induced economic impacts as a result of changes in the aforementioned variables. To model this, POLYSYS was used to estimate the quantity and price of feedstock necessary to achieve the EISA

targets through 2023. To meet the Department of Energy (DOE) goals of \$1.76 per gallon of ethanol and \$51 per dry ton of herbaceous feedstock by 2012, the role, size, and funding of a potential expanded BCAP was estimated, based on the estimated prices of feedstock. The analysis assumed that farmers or land owners would receive \$45 per ton in matching payments through BCAP in addition to payment from the plant demanding the cellulosic feedstock. This assumption was made based on the initial matching payments distribution as described in the 2008 Farm Bill and implemented in the NOFA. This analysis for Alternative 2, built on the models developed for Alternative 1, which analyzed a suite of specific potential project areas.

#### Resource Specific Attributes

Based on the model results, assuming unlimited funding for the Establishment and Annual Payments component, the Proposed Action would create a balance of the objectives and goals of the program (that is, create the framework for a dedicated energy crop production industry in the United States) with overall natural and human-built environmental benefits, while minimizing potential negative effects through a comprehensive project area proposal process and site-specific environmental evaluation of each contract holding.

Overall, air quality; soil resources; and water quality and quantity; would have benefits from either alternative with Alternative 2 providing for greater effects given the overall potential size of the program. It was estimated that there would initially be greater adverse effects, though not significant, during the establishment phases; however, after initial establishment there would be greater amassed benefits from a greater reduction in soil erosion, more soil carbon sequestration, and reduced irrigation demand for perennial dedicated energy crops, including SRWC over more land areas.

Socioeconomic effects and land use changes would initially have a decline in economic activity within certain sectors (that is, services for traditional row crops) as a shift occurs into dedicated energy crops; however, a new equilibrium would be reached as those traditional row crop sectors convert into supporting dedicated energy crops. Through the analyzed period (2009 to 2023) the overall balance for socioeconomics and land use would be positive economic activity in excess of \$88 billion with the potential for an increase in crop prices over the period by greater than 15 percent. There would

be the potential for regional effects to biological resources, however, it would be limited by the anticipated minor amount of conversion of non-agricultural lands (for example, NIPF converted to herbaceous cropland) and native grasslands, not native sod (for example, expired CRP acres that had been planted to native grass) to dedicated energy crops; however, those effects could be avoided and minimized through the use of accepted BMPs and BCAP environmental screening. On balance the Proposed Action, with the BMPs and practical mitigation measures associated in the BCAP conservation plan or forest stewardship plan (or the equivalent) in conjunction with project level NEPA analysis and the site-specific environmental evaluations prior to accepting contract holdings, would create a beneficial environment for the establishment of long-term dedicated energy crop industry in local and regional areas based on their unique dynamics, while growing those crops in a diverse and environmentally sustainable manner.

## The Decision

FSA would implement the Selected Alternative as described in this ROD. This alternative provides overall benefits to the environment, allows for flexibility in implementation, and follows the intent and language of the statute when compared to the other alternatives analyzed. FSA would ensure impacts are minimized by employment of appropriate practice standards in conservation plans and forest stewardship plans (or equivalent), site-specific environmental evaluations prior to each approved contract, and supplemental EAs or EISs for those areas requiring further NEPA analyses.

After the publication of the Final PEIS on June 25, 2010, the later enactment of the 2010 Supplemental Appropriations Act (Pub. L. 111-212) on July 29, 2010, provided a limitation of funding for BCAP of \$552,000,000 in fiscal year 2010 and \$432,000,000 in fiscal year 2011. FSA does not have the authority to limit the scope of BCAP to a smaller or more restrictive program than the 2008 Farm Bill authorizes, except as may be needed to confine the program within these newly provided spending limits. Consistent with 40 CFR 1502.9, FSA has determined that a Supplemental PEIS may be required for changes to BCAP.

Signed in Washington, DC, on October 19, 2010.

**Carolyn B. Cooksie,**  
Executive Vice President, Commodity Credit Corporation and Administrator, Farm Service Agency.

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BILLING CODE 3410-05-P

## NUCLEAR REGULATORY COMMISSION

### 10 CFR Part 50

[Docket Nos. PRM-50-93 and PRM-50-95; NRC-2009-0554]

**Mark Edward Leyse; Mark Edward Leyse and Raymond Shadis, on Behalf of the New England Coalition; Petitions for Rulemaking**

**AGENCY:** Nuclear Regulatory Commission.

**ACTION:** Notice of consolidation of petitions for rulemaking and re-opening of comment period.

**SUMMARY:** The Nuclear Regulatory Commission (NRC) is publishing for public comment a notice of consolidation of petitions for rulemaking (PRM). The PRMs to be consolidated are PRM-50-93 filed by Mark Edward Leyse on November 17, 2009, and PRM-50-95 filed on June 7, 2010, by Mark Edward Leyse and Raymond Shadis, on behalf of the New England Coalition (the Petitioners). PRM-50-95 was docketed by the NRC on September 30, 2010. In PRM-50-95, the Petitioners request that the NRC order Vermont Yankee Nuclear Power Station (Vermont Yankee) to lower the licensing basis peak cladding temperature in order to provide a necessary margin of safety in the event of a loss-of-coolant accident (LOCA). The NRC is considering PRM-50-95 in conjunction with existing PRM-50-93 that the NRC is reviewing on the same issues, and is re-opening the public comment period to consider the matters raised by PRM-50-95.

**DATES:** Submit comments by November 26, 2010. Comments received after this date will be considered if it is practical to do so, but the NRC is able to assure consideration only for comments received on or before this date.

**ADDRESSES:** Please include Docket ID NRC-2009-0554 in the subject line of your comments. For instructions on submitting comments and accessing documents related to this action, see "Submitting Comments and Accessing Information" in the **SUPPLEMENTARY INFORMATION** section of this document.

You may submit comments by any one of the following methods.

**Federal Rulemaking Web Site:** Go to <http://www.regulations.gov> and search for documents filed under Docket ID NRC-2009-0554. Address questions about NRC dockets to Carol Gallagher, 301-492-3668, e-mail [Carol.Gallagher@nrc.gov](mailto:Carol.Gallagher@nrc.gov).

**Mail comments to:** U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, ATTN: Rulemakings and Adjudications Staff.

**E-mail comments to:**

[Rulemaking.Comments@nrc.gov](mailto:Rulemaking.Comments@nrc.gov). If you do not receive a reply e-mail confirming that we have received your comments, contact us directly at 301-415-1677.

**Hand-deliver comments to:** 11555 Rockville Pike, Rockville, Maryland 20852, between 7:30 a.m. and 4:15 p.m. Federal workdays (telephone 301-415-1677).

**Fax comments to:** Secretary, U.S. Nuclear Regulatory Commission at 301-415-1101.

### FOR FURTHER INFORMATION CONTACT:

Cindy Bladey, Chief, Rules, Announcements, and Directives Branch, Division of Administrative Services, Office of Administration, U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, Telephone: 301-492-3667 or Toll Free: 800-368-5642.

### SUPPLEMENTARY INFORMATION:

#### Submitting Comments and Requesting Information

Comments submitted in writing or in electronic form will be posted on the NRC Web site and on the Federal Rulemaking Web site, <http://www.regulations.gov>. Because your comments will not be edited to remove any identifying or contact information, the NRC cautions you against including any information in your submission that you do not want to be publicly disclosed. The NRC requests that any party soliciting or aggregating comments received from other persons for submission to the NRC inform those persons that the NRC will not edit their comments to remove any identifying or contact information, and therefore, they should not include any information in their comments that they do not want publicly disclosed.

You can access publicly available documents related to this action using the following methods:

**NRC's Public Document Room (PDR):** The public may examine and have copied for a fee publicly available documents by the NRC's PDR, Room O-1 F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland.

**NRC's Agencywide Documents Access and Management System (ADAMS):**