Conservation of Sensitive Lands

Description

The term "sensitive lands" denotes soils and landscapes that are valuable due to properties (e.g., high organic matter, wet hydrology) and/or function (e.g., wildlife habitat, filtration, and hydrologic storage). Typical examples of these soils are organic rich histosols, floodplains, or wetlands along riparian areas. Properties and functions of these soils are easily disrupted from agricultural or urban land use. Sensitive lands that are used for agricultural production can be protected by changes in land use (long-term cover). This reduction in land use intensity can provide multiple environmental benefits, including substantial GHG mitigation that occurs as carbon is sequestered or preserved in soils and vegetation. When land is removed from crop production, several activities—including tillage, nitrogen fertilization, and energy use—are substantially reduced or eliminated, generating additional GHG mitigation. FSA and NRCS are committed to identifying these sensitive lands and encouraging landowners, farmers, and ranchers to voluntarily adopt conservation systems--using financial and technical assistance--to generate GHG benefits.

This building block has four separate elements:

1. Identify and target eligible lands to enroll additional riparian buffers, wetlands, and other conservation practices with large GHG mitigation benefits into CRP;
2. Extend benefits from CRP conservation by enrolling lands into permanent or long-term easements within the Agricultural Conservation Easement Program (ACEP), with State easement programs under the Conservation Reserve Enhancement Program (CREP), and with private partners;
3. Enroll organic soils used for crop production into CRP or wetland restoration easements under ACEP; and
4. Increase conservation actions on highly erodible lands (HEL) and wetlands as a result of conservation compliance provisions included in the 2014 Farm Bill.

Each of these elements is described in detail below:

1. *Identify and target eligible lands to enroll additional riparian buffers, wetlands, and other conservation practices with large GHG mitigation benefits into CRP.*

The CRP was instituted by the Food Security Act of 1985 to reduce erosion by protecting highly erodible cropland. As other benefits from CRP were identified, program goals were expanded in later Farm Bills. Long-term conservation covers such as grass, trees, and wetlands were established on croplands, protecting soils, improving water quality, enhancing wildlife habitat, reducing emissions, and sequestering carbon. By placing cropland into long-term vegetative covers, practices such as tillage, fertilization, and machinery use are stopped. This change in land management reduces GHG emissions associated with crop production and leads to carbon being stored in the soils and vegetation when enrolled in the CRP. The substantial amount of GHG mitigation from CRP practices establishing trees, wetlands, and other vegetative covers has been well documented.

CRP wetland and riparian buffer practices have regional concentrations because land suited for wetland restoration and buffers is distributed unequally across the country. Seventy-five percent of wetlands are in North Dakota, South Dakota, Minnesota, and Iowa, while about 60 percent of riparian buffers are located in 7 Mississippi River-bordering States. These different regional patterns demonstrate the need to use targeted incentives and outreach efforts to expand the adoption of practices with high GHG benefits. An important aspect of this targeting is the development of new partnerships with State and local governments and non-governmental organizations that focus on regional concerns, including the mitigation of GHGs. These partnerships can bring together organizations with multiple primary objectives that will support common practices. The following examples of conservation practices through FSA and NRCS programs provide examples of how partnerships can encourage GHG reduction and carbon sequestration on riparian buffers, wetlands, and forestlands:

Riparian buffers – FSA is developing a targeted outreach and technical assistance effort for the Chesapeake Bay watershed. In 2015, FSA increased technical assistance funds for the Chesapeake Bay States by six-fold to hire and train nine additional foresters to identify eligible lands and work with landowners to increase forested riparian buffer enrollment in the watershed. The effort will be supported by the States' need to meet Total Maximum Daily Load water quality standards. In addition, FSA is making $5 million available to the six Chesapeake Bay States as a "challenge grant" to develop ways to accelerate the adoption of riparian buffers. Similar efforts will be explored within the Mississippi River Basin as States develop their nutrient management strategies. In addition to reducing nutrient runoff, these riparian buffers can absorb nitrogen that would otherwise be released as nitrous oxide.

Wetlands – FSA has developed several initiatives to encourage landowners and farmers to restore and create wetlands using the CRP. These initiatives include a one-time signup incentive payment, a 40-percent practice incentive payment, and an extra 20-percent

rental rate payment. Additional incentives may be provided when the land is enrolled within a Conservation Reserve Enhancement Program agreement. FSA has developed formal and informal partnerships with several organizations to deliver wetland practices within the CRP, including Ducks Unlimited, joint ventures, State agriculture and water quality agencies, and organizations working to improve the health of the Gulf of Mexico. We will continue efforts to attract new partners.

Forestlands – CRP has several practices to establish and manage forestlands, including the Longleaf Pine and Bottomland Hardwood. These initiatives offer additional incentives for landowners to adopt these practices. Additional discussion of these practices is included in the Private Forest Growth and Retention building block (p. 33).

Given the incentives currently in place, focused outreach efforts, and past landowner response to CRP incentives, FSA believes that enrollment of riparian buffer, wetland, and other practices with high GHG benefits can be increased by 40,000 acres per year (using 2014 as the base year).

2. *Extend benefits from CRP conservation by enrolling lands into permanent or long-term easements within ACEP, with State easement programs under CREP, and with private partners.*

The Agricultural Act of 2014 established ACEP "for the conservation of eligible land and natural resources through easements…." The Act specifically identifies wetlands and riparian areas as eligible land and states that the Secretary may terminate or modify CRP contracts if that land is entered into the ACEP.

Enrolling CRP land into easements such as ACEP can provide several GHG mitigation benefits: (1) the easement will maintain the conservation and agricultural use permanently or for extensive periods; thus, the carbon sequestered by CRP in the soils and vegetation is protected and will not be released; and (2) while CRP is statutorily limited in the number of acres it can enroll, land that transitions from CRP to other easement programs will allow CRP to enroll additional land with high GHG benefits into the program.

Under the ACEP-Agricultural Lands easement component, NRCS provides cost share assistance to eligible entities to purchase easements from eligible landowners to protect agricultural use, including grazing. "Eligible Entities" include State and local governments, Indian Tribes, and certain non-governmental organizations (e.g., American Farmland Trust, Nature Conservancy). The agreement with NRCS allows the protection of natural resources and the agricultural value of the land, while permitting the landowner the right to continue agricultural production and related uses. NRCS may contribute up to 50 percent of the fair market value of the agricultural land with the eligible entities whose applications are selected for funding.

Under ACEP-Wetland Reserve Easement program, NRCS will purchase a reserved interest in eligible lands directly from eligible landowners. Easement types for wetlands are: (a) *Permanent Easements* (conservation easements in perpetuity)–NRCS pays 100 percent of the easement value for the purchase of the easement, and between 75 to 100 percent of the restoration costs; (b) *30-Year Easements*--NRCS pays 50 to 75 percent of the easement value for the purchase of the easement, and between 50 to 75 percent of the restoration costs; (c) *Term Easements* (for the maximum duration allowed under applicable State laws)–NRCS pays 50 to 75 percent of the easement value for the purchase of the term easement and between 50 to 75 percent of the restoration costs; and (d) *30-Year Contracts*–only available to enroll acreage owned by Indian Tribes.

3. *Enroll organic soils used for crop production into a program such as ACEP or CRP.*

The vast majority of agricultural soils remove carbon from the atmosphere; in 2013, 855.6 million acres of mineral soils sequestered 34.3 $MMTCO_2e$, or the equivalent of removing 7.2 million cars from the road for 1 year. In contrast, a small area of cultivated organic soils—around 2.5 million acres—was a net source of emissions, releasing 26.9 $MMTCO_2e$ into the atmosphere. These soils are high in organic matter, and release CO_2 as they are drained and cultivated. Carbon emissions from the small amount of organic soils—less than 0.1 percent of all crop and forestland in the United States—cancel out more than three-quarters of the carbon sequestration of the remaining soils.

To address this concentrated source of GHG emissions, USDA is focusing on cropland with organic soils. However, enrolling organic soils into a cropland conservation program will likely not be successful without a strong outreach effort to farmers with organic soils, as producers on these lands have not regularly participated in these types of programs. This outreach effort will be enhanced by the development of conservation systems that reduce GHG emissions within the integrated context of the producers' farm operation. USDA anticipates 5 years of focused outreach and conservation efforts will need to occur before organic cropland soil will be enrolled. Once outreach has occurred, this building block would target up to 5,000 acres of organic rich soils to be enrolled in these programs each year.

4. *Increase the conservation actions on HEL and wetlands as a result of conservation compliance provisions included in the 2014 Farm Bill.*

The 2014 Farm Bill links availability of crop insurance premium subsidies to HEL and wetlands compliance provisions. Because these provisions have been a requirement for most farm programs, many producers already have certified that they are in compliance. An initial cost-benefit analysis associated with this new provision indicates that, at a maximum, 1.5 million acres of HEL and 1.1 million acres of wetlands may require producers to undertake additional conservation actions. FSA and NRCS are working with USDA's Risk Management Agency to acquire additional data and develop a more refined baseline estimate. USDA estimates that this additional baseline information will be available in the fall of 2016 and will help FSA and NRCS better target conservation assistance to specific geographic locations.

Greenhouse Gas Reduction Goal

Goal	GHG Reduction Goal ($MMTCO_2e$ per year by 2025)[12]
Enroll 400,000 additional acres with high carbon sequestration potential in wetland and riparian buffer practices (CRP).	0.8
Transfer 40,000 expiring CRP acres into ACEP or other easement to preserve the conservation benefits—including carbon sequestration—of conservation.	<0.1
Total	**0.8**

For the remaining two elements of the building block—enrolling organic soils into CRP and increasing conservation actions on HEL and wetlands—USDA has not yet established a quantified GHG reduction goal. While organic soils have a high potential to reduce net GHG emissions, there are significant questions about how to encourage conservation practices or voluntary removal of these lands from production. Likewise, USDA is exploring opportunities to link crop insurance and conservation programs and is gathering data to quantify the potential GHG benefits of that coordination.

[12] For more information on how to interpret this goal, see p. 6.

Partnership Opportunities

There are many opportunities for USDA agencies to partner with agricultural and forestry stakeholders to reduce GHG emissions from sensitive lands. In particular:

- CREP partners with States to address agricultural-related environmental concerns in specific geographic regions. Under this program, States identify critical resource concerns that can be addressed using CRP practices. The States work with USDA to geographically target specific practices and enhance conservation effectiveness. States contribute technical and financial assistance to CREP. In agreements through this program, States can acquire easements on the land enrolled, ensuring that conservation practices are maintained after the CREP contract expires. There are currently 1.2 million acres enrolled in 47 CREP agreements covering 34 States. States are full partners with USDA in developing projects and identifying locations and conservation practices that will address important State resource concerns. Many CREP agreements include practices such as forested riparian buffers and wetland restoration that provide large GHG mitigation benefits. Additional agreements would allow USDA and States to focus on areas of particular concern.
- Easement programs within States can also be potential partners for GHG reduction. Forty-nine States have laws pertaining to conservation easements; these laws allow public agencies and private conservation organizations to acquire interest in land for conservation and preservation. Many States, such as Michigan, Minnesota, New York, Florida, Georgia, Kansas, Oregon, California, and Colorado, have easement programs. As of 2012, there were 27 States that had State-level purchase of agricultural conservation easement programs.
- To evaluate potential outreach to farmers who cultivate organic soils, USDA has partnered with the Center for Behavioral and Experimental Agri-Environmental Research to evaluate interest by producers in converting organic soils currently in agricultural production into a program such as ACEP or CRP.

CASE STUDY

The Prairie Pothole Region is a huge expanse of grassland, stretching from Iowa, through the Dakotas, and into Canada. Small wetlands called "potholes" or "sloughs" spatter the rolling grasses and provide ideal habitat for waterfowl. Birds such as pintails, mallards, and shovelers rely on the region for breeding habitat—others, including snow geese, depend on the area during migration. The potholes also benefit people by recharging groundwater and storing carbon that builds up over years in the prairie soil. The prairie provides an ideal setting for ranching, allowing cattle to feed on plentiful native grasses.

A Missouri Coteau wetland near Bismark, ND, in the heart of the Prairie Pothole Region. Photo courtesy of Jim Ringelman, Ducks Unlimited.

But all is not well in the Pothole Region. An estimated 194,000 acres of grassland have vanished since 1984, and over half of the potholes in some regions are either gone or degraded. The prairies are increasingly falling under the plow for crop production, as producing certain crops has recently offered farmers higher incomes than traditional ranching. Cultivating grasses for crop production releases carbon into the atmosphere as soil organic carbon oxidizes. It also causes erosion and destroys habitats. Conserving these sensitive lands is a key part of both fighting climate change and ensuring critical habitat is retained for future generations.

Recently, the USDA Natural Resources Conservation Service teamed up with Ducks Unlimited to combat these losses. The USDA awarded Ducks Unlimited with a Conservation Innovation Grant aimed at providing incentives for ranchers to retain rangeland instead of converting their acres to crop production. By registering stored carbon that would otherwise be released via crop farming, ranchers can sell carbon offsets, which act as an alternative source of income. In turn, the partnership protects water quality, reduces erosion, and retains habitat by placing an avoided tillage easement on the ranches to ensure that the working grasslands will be available for grazing and duck nesting habitat for years to come.

South Dakota native Brad Magness made the choice to preserve his ranchland. "I have a concern not just because I'm a rancher, but because I run a livestock auction market. And when I see grass get torn up, that's just that many fewer cattle that have a chance to come through my sales… (conserving grassland) wasn't a hard decision, because it wasn't going to alter any of my operations."

"There's interest from landowners to protect these areas that's consistent with their view of how this land should be used. And really we need the funding to get that job done," said Scott Stephens, Director of Planning at Ducks Unlimited. Luckily, the USDA is ready to rise to the challenge and work with partners to preserve these critical lands—and at the same time, benefit ranchers, wildlife, and the environment.

Proposed Actions

FY 2016

Action	Lead USDA Agency(s)
Enroll 40,000 additional high-carbon acres in wetland and riparian buffer practices.	FSA
Provide technical assistance funding to Forest Service for States to hire additional foresters.	FSA
Provide outreach funds for State foresters.	Forest Service, FSA
Complete organic soils outreach study.	FSA, NRCS

FY 2017

Action	Lead USDA Agency(s)
Enroll 40,000 additional high-carbon acres in wetland and riparian buffer practices.	FSA
Provide technical assistance funding to FS for States to hire additional foresters.	FSA

FY 2018

Action	Lead USDA Agency(s)
Enroll 40,000 additional high-carbon acres in wetland and riparian buffer practices.	FSA

Additional Actions

These proposed mitigation efforts involve targeting and selecting high GHG-emitting soils (organic soils, wetlands, riparian buffers) currently being used for agricultural production and that can respond to conservation actions (principally CRP) or removal from production (easements). This effort will require a coordinated effort between FSA and NRCS and will involve personnel from the national, State, and field offices. There will need to be State-specific targeted initiatives for both CRP and ACEP, and partnerships with States and non-governmental organizations must be strengthened. These partnerships will be very important to increase the number of acres in easements, beyond what can be delivered with existing financial incentives.

NRCS State Conservationists are responsible for developing a State-level ranking process for easements to prioritize all eligible applications and to recommend applicants for funding. Prioritizing the ranking criteria may lead to the selection of more lands with higher GHG emissions or the potential for greater sequestration of carbon. The ranking criteria for the ACEP program is developed with input from the State Technical Committee (composed of agricultural producers, private forestland owners, and other professionals), FSA, U.S. Fish and Wildlife Service, and other partners.

The NRCS Easement Programs Division at National Headquarters will coordinate and develop program outreach materials for eligible partners and landowners. The Regional Conservationists provide oversight to program goals and ensures outreach occurs for all potential partners and landowners. These proposed actions must be conveyed to the Service Center staff who will be responsible for communicating these potential CRP and easements programs to producers. The field offices, as delegated by and with oversight from the State Conservationist, will conduct the local marketing, education, and outreach activities. These marketing activities may be supported by the local Cooperative Extension Service, or with the assistance of non-profit organizations such as The Nature Conservancy or Land Trust.

In addition, FSA is exploring opportunities that can provide greater CRP and CREP GHG mitigation benefits, such as working with State forestry agencies to increase technical assistance and outreach. These activities can increase riparian forest buffer enrollment in CRP and CREP, which will provide substantial GHG mitigation, water quality, and wildlife habitat benefits. A similar effort will be made to increase wetland restoration enrollment.