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USDA Launches First Phase of Soil Carbon Monitoring Efforts through Conservation Reserve Program Initiative

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WASHINGTON,?Oct.?12, 2021?–The U.S. Department of Agriculture (USDA)?is investing?$10?million?in?a new initiative to sample, measure, and monitor soil carbon on Conservation Reserve Program (CRP) acres to better quantify the climate outcomes of the program. CRP is an important tool in the Nation's fight to reduce the worst impacts of climate change facing our farmers, ranchers, and foresters. This initiative will begin implementation in fall 2021 with three partners. Today's announcement is part of a broader, long-term soil carbon monitoring effort across agricultural lands that supports USDA's commitment to deliver climate solutions to agricultural producers and rural America through voluntary, incentive-based solutions.

"These?CRP Climate Change Mitigation Assessment Initiative?projects will?survey, sample and measure the climate benefits of land enrolled in CRP conservation?practice types over time," said?Zach Ducheneaux, Administrator of USDA's Farm Service Agency (FSA). "This?data?will help USDA?better target CRP?practices?to achieve continued climate wins across environmentally sensitive lands while strengthening our modeling and conservation planning resources for all producers."??

These models include?the Daily Century Model, or?DayCent, which simulates the movement of carbon and nitrogen through agricultural systems and informs the?National Greenhouse Gas Inventory. Data will also be used to strengthen the?COMET-Farm?and?COMET-Planner?tools, which enable producers to evaluate potential carbon sequestration and greenhouse gas emission reductions based on specific management scenarios.?

USDA partners will conduct soil carbon sampling on three categories of CRP practice types: perennial grass, trees, and wetlands.

Perennial grasses: In consultation with USDA, Michigan State University will sample and measure soil carbon and bulk density of CRP grasslands (including native grass plantings, rangelands, and

pollinator habitat plantings) at an estimated 600 sites across the U.S. with a focus in the central states during this five-year project. This information will be used to model and compare the climate benefits of CRP. Partners include the University of Wisconsin-Madison, the University of Arkansas at Pine Bluff, Deveron, an agriculture technology company, and Woods End Laboratories.

“Our interdisciplinary team is excited to work with FSA on assessing, monitoring, and modeling the climate benefits of CRP,” said Professor Bruno Basso, Michigan State University. “Our proposed integrated system for sampling and modeling soil organic carbon accrual and ecosystem services in CRP lands aims to maximize climate outcomes to mitigate the deleterious effects of climate change on our planet”.

Trees: Mississippi State University will partner with Alabama A&M University to collect above and below ground data at 162 sites across seven states documenting CRP-related benefits to soil and atmospheric carbon levels. Information will help further calibrate the DayCent model. This five-year project will focus within the Mississippi Delta and Southeast states.

“There are hundreds of thousands of acres of trees planted under the CRP program in Mississippi and neighboring states that make a substantial contribution to climate change?mitigation, but we don’t have a good idea how large that contribution is,” said Austin Himes, assistant professor at?Mississippi State University.?“This incredible team?of partners?will?use a mix of traditional forestry measurements and state of the art technologies to get an accurate estimate of those benefits, which in turn can help policy makers incentivize tree planting. Additionally, we get to train students to collect all that data, providing them hands-on experience.”?

Wetlands: Ducks Unlimited and its partners will collect data on carbon stocks in wetland soils as well as vegetation carbon levels at 250 wetland sites across a 15-state area in the central U.S. Data will support the DayCent and additional modeling. Partners for this five-year project include: Migratory Bird Joint Venture, Intertribal Research and Resource Center at United Tribes Technical College, Clemson University, Kenyon College, Lincoln University, Pennsylvania State University, the University of Missouri, and the University of Texas at Austin.

“We’ve long known wetlands offer many ecosystem services that have an outsized benefit for wildlife and people” said Dr. Ellen Herbert, DU’s Ecosystem Services Scientist. “This study will help improve our understanding of the potential of CRP restored wetlands to mitigate the effects of climate change, improve water quality and provide habitat. We believe the data gathered from this study will ultimately help demonstrate the effectiveness and overall values of CRP. And, we greatly appreciate USDA for selecting DU to partner in this project.”

About the Conservation Reserve Program?

CRP is one of the world's largest voluntary conservation programs, with an established track record of preserving topsoil, sequestering carbon, reducing nitrogen runoff and providing healthy habitat for wildlife.?

?In exchange for a yearly rental payment, agricultural producers enrolled in the program agree to remove environmentally sensitive land from production and plant species that will improve environmental health and quality. In general, land is enrolled in CRP for 10 to 15 years, with the option of re-enrollment.?FSA offers multiple CRP signups, including the general signup and continuous signup, as well as Grassland CRP and pilot programs focused on soil health and clean water.?In 2021, producers and landowners enrolled more than 5.3 million acres in CRP signups, surpassing USDA's 4-million-acre goal.

Earlier this year, USDA announced updates to CRP?including higher payment rates, new incentives for environmental practices, and a more targeted focus on the program's role in climate change mitigation. This included a new Climate-Smart Practice Incentive for CRP general and continuous signups that aims to increase carbon sequestration and reduce greenhouse gas emissions. Climate-Smart CRP practices include establishment of trees and permanent grasses, development of wildlife habitat, and wetland restoration. Download the "What's New" fact sheet to learn more about CRP updates.?

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