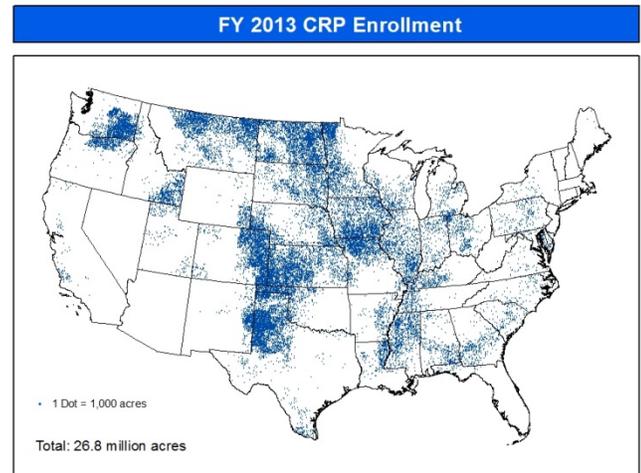


Environmental Benefits of the Conservation Reserve Program

2016

United States



	<u>Fiscal Year</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>
Land Enrolled*	million acres	31.1	29.5	26.8	25.4	24.2	23.9
In Wetlands	million acres	2.2	2.3	2.1	2.0	1.9	2.1
Buffers	million acres	2.0	2.0	1.9	1.8	1.8	1.7
<u>Reductions (not leaving field or are intercepted by buffers)**</u>							
Sediment	million tons	226	221	209	201	195	190
Nitrogen	million lbs.	623	605	565	542	524	514
Phosphorus	million lbs.	124	121	113	108	105	102
<u>Greenhouse Gas Reduction (CO2 equivalent/year)**</u>							
CO2 Sequestered	Mil. metric tons	44	42	38	37	35	34
Reduced Fuel and Fertilizer Use	Mil. metric tons	8	7	7	6	6	6
Total	Mil. metric tons	52	49	45	43	41	40

*Cumulative acres. ** see Estimation Methodology.

CRP improves water quality. CRP water quality benefits accrue in multiple ways:

- CRP reduces the nitrogen and phosphorus leaving a field in runoff and percolate. Nitrogen and phosphorus leaving CRP fields are 95 and 86 percent less, respectively, compared to land that is cropped.
- Grass filter strips and riparian buffers intercept sediment, nutrients, and other contaminants before they enter waterways. Because buffers both reduce contaminants on the land they occupy and intercept contaminants from other lands, they have disproportionate water quality benefits.
- Using models developed by the Food and Agricultural Policy Research Institute (FAPRI), CRP reduced nutrient losses in 2016, by an estimated 514 million pounds of nitrogen and 102 million pounds of phosphorus, compared to land that is cropped. Additionally, CRP enhanced water quality by reducing sedimentation by 190 million tons in 2016.
- Wetlands restored and constructed by CRP improve water quality by converting nitrate-nitrogen into benign atmospheric nitrogen and help reduce the formation of hypoxic zones in the Gulf of Mexico. For example, Iowa's 117 CREP constructed wetland

projects removed 1.3 million pounds of nitrate nitrogen from agricultural drainage water in 2016.

CRP enhances wildlife habitat. The 23.9 million acres of grass, trees, and wetlands established by CRP benefit numerous wildlife species. Several independent studies have identified benefits to multiple bird populations including:

- **Prairie Pothole Ducks** – The U.S. Fish and Wildlife Service (USFWS) estimated that CRP contributes to a net increase in ducks each year. Between 1992 and 2012 CRP resulted in over 37 million additional ducks from the North Dakota, South Dakota, and northeastern Montana portion of the Prairie Pothole region. Because CRP enrollment in the Prairie Pothole region has decreased, annual waterfowl numbers attributable to CRP have also decreased. However, with CRP enrollment of 4.5 million acres in the Prairie Pothole region, including 1.4 million acres of wetlands, CRP continues to strongly benefit duck populations.
- **Grouse** – The CRP is recognized as an important tool for aiding sage grouse (SAGR) and lesser prairie chicken (LEPC) populations, birds listed by the USFWS as species of conservation concern. The Western Association of Fish and Wildlife Agencies developed a range-wide conservation plan for the LEPC, reporting that “The CRP is a voluntary program that supports the most robust populations of LEPC across their range,” and the USFWS found that ... CRP and conservation measures to benefit LEPC ... result in positive population response by the species. With respect to SAGR, the Washington Department of Natural Resources (WDNR) found that CRP enrollment was associated with halting a decline in SAGR populations. In response, FSA developed CRP SAFE initiatives to further assist LEPC and SAGR.
- **Northern Bobwhite Quail** – Mississippi State University researchers found that quail populations were positively related to CRP upland buffer enrollment. Overall breeding season bobwhite densities were 70-75% greater on CRP buffers than control fields.
- **Ring-Necked Pheasants** – Western EcoSystems Technology, Inc. documented that, in prime pheasant habitat, a 4 percent increase in CRP herbaceous vegetation was associated with a 22 percent increase in pheasant counts.
- **Grassland Birds** – Researchers from the USFWS, U.S. Geological Survey, and the University of Montana have demonstrated that, since its inception, CRP has had a large impact on grassland bird populations in the Northern Plains, including two birds designated as species of continental importance by Partners in Flight. Further, CRP has repeatedly been identified as important to grassland birds by the North American Bird Conservation Initiative. The 2013 ‘*State of the Birds*’ report states: “CRP is restoring grassland habitat for breeding birds. Henslow’s Sparrow populations, which declined more than 95% between the mid-1960s and 1990s, rebounded in some areas through CRP. In Illinois, the regional Henslow’s Sparrow ... spring bird counts ... are now about 25 times greater than ... prior to CRP.”
- **State Acres for Wildlife Enhancement (SAFE)** – As of October 2016, 1.5 million acres have been enrolled in CRP’s SAFE program. SAFE identifies priority habitat to be conserved for wildlife species that are threatened or endangered, have suffered significant population declines, or are important environmentally, economically, or socially. SAFE areas have created habitat for Columbian Sharp-tailed Grouse in Colorado, Idaho, and Washington; LEPC in Colorado, Kansas, New Mexico, Oklahoma, and Texas; Northern Bobwhite in Missouri; American Woodcock, Henslow’s Sparrow, Sedge Wren, and

Grasshopper Sparrow in Indiana; Upland Sandpiper in Maine; and Ferruginous Hawk in Washington.

- **CRP reduces greenhouse gas emissions.** In 2016, CRP resulted in the equivalent of a 40 million metric ton net reduction in atmospheric CO₂, reduced fuel use, and avoidance of nitrous oxide emissions from lower fertilizer use. Carbon sequestration helps offset the release of greenhouse gases (GHG) from other sources into the atmosphere. CRP sequesters more carbon—34 million metric tons carbon dioxide equivalent (CO₂)—on private lands than any other federally administered program. The total reduction in GHG is equivalent to removing 8.6 million cars from the road for a year.
- **CRP protects and enhances soil productivity.** CRP greatly reduces erosion and protects soil productivity by targeting fragile cropland and placing these lands into protective conservation covers. Since 1986, CRP has reduced soil erosion by more than 9 billion tons.
- **CRP reduces downstream flood damages.** Upstream CRP lands reduce downstream flood damage. Peak flows are reduced by slowing, storing, and infiltrating storm water runoff. For example, the U.S. Army Corps of Engineers found that CRP land in the Indian Creek basin of Iowa resulted in urban areas realizing significant monetary benefits due to flood damage reduction.
- **CRP can benefit aquifer water levels.** USGS examined the relationship between CRP enrollment and Ogallala aquifer water level changes. The analysis reveals that the benefits of CRP are greatest in areas with the greatest water-level decline. Targeting land in these areas for increased CRP enrollment or re-enrollment is likely to be beneficial to the aquifer.

FSA is using CRP enrollment data, the USDA soils and natural resource inventories, and agreements with Federal, State, and other partners to refine these performance measures and to estimate the benefits from CRP. For more information and documentation see <http://www.fsa.usda.gov/FSA/webapp?area=home&subject=ecpa&topic=nra>.