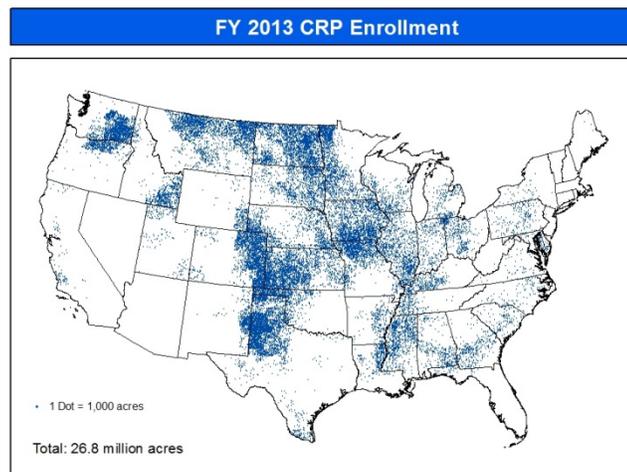


Environmental Benefits of the Conservation Reserve Program

2013

United States



<u>Fiscal Year</u>		2008	2009	2010	2011	2012	2013
Land Enrolled*	million acres	34.6	33.8	31.3	31.1	29.5	26.8
In Buffers	million acres	2.00	2.01	2.02	2.01	1.98	1.88
Wetlands	million acres	1.98	1.98	2.05	2.22	2.10	2.09
Reductions (not leaving field or intercepted by buffers)**							
Sediment	million tons	219	220	220	226	221	209
Nitrogen	million lbs	616	611	607	623	605	565
Phosphorus	million lbs	123	123	122	124	121	113
Greenhouse Gas Reduction (CO2 equivalent/year)**							
CO2 Sequestered	Mil. metric tons	48	47	44	44	42	38
Reduced Fuel and Fertilizer Use	Mil. metric tons	9	8	8	8	7	6
Total	Mil. metric tons	57	55	52	52	49	45

*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 FY 2013, by an estimated 565 million pounds of nitrogen and 113 million pounds of phosphorus, compared to land that is cropped.
- Wetlands restored and constructed by CRP improve water quality by converting nitrate-nitrogen into benign atmospheric nitrogen. Nitrate is a form of nitrogen that is biologically available to algae. Excess nitrate contributes to the formation of hypoxic zones in the Gulf of Mexico, Chesapeake Bay, and other waters. Iowa's 94 CREP constructed wetland projects are designed to intercept and treat water from underground

agricultural drainage systems. In FY 2013, these projects removed 1.1 million pounds nitrate from agricultural drainage water.

CRP enhances wildlife habitat. The 26.8 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 United States Fish and Wildlife Service estimated that since 1992 the CRP contributed to a net increase of approximately 2 million additional ducks per year (30 percent increase in duck production) in North Dakota, South Dakota, and Northeastern Montana. Populations fluctuate on a year-to-year basis due to differences in precipitation patterns.
- **Grouse** – The CRP has been recognized as an important tool for aiding sage grouse (SAGR) and lesser prairie chicken (LEPC) populations. 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.” With respect to SAGR, the Washington Department of Natural Resources (WDNR) found that CRP enrollment was associated with halting a decline (25 percent between 1970 - 1988) in SAGR populations. The WDNR study found that a region with low CRP enrollment had continued SAGR population decline. The LEPC has been listed as threatened and the SAGR is being considered for listing under the Endangered Species Act.
- **Northern Bobwhite Quail** – Mississippi State University researchers found that quail populations were positively related to CRP upland buffer enrollment, estimating an increase of 730 thousand quail. Overall breeding season bobwhite densities were 70-75% greater on CRP buffers than control fields. Fall covey densities exhibited an increasing effect from 50% in 2006 to 110% in 2008.
- **Grassland Birds** – The CRP has repeatedly been identified as an important conservation program for grassland birds by the North American Bird Conservation Initiative. Serious declines in grassland bird populations have been documented by the USFWS. The 2013 ‘*State of the Birds*’ report states: “Conservation Reserve Program is restoring grassland habitat for breeding birds. Henslow’s Sparrow populations, which have declined more than 95% since the mid-1960s, have rebounded in some areas through CRP. In Illinois, the regional Henslow’s Sparrow population has significantly increased; spring bird counts for the species are now about 25 times greater than 30 years ago, prior to CRP.” Researchers from the United States Fish and Wildlife Service, U.S. Geological Survey, and the University of Montana found that CRP 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.
- **Ring-Necked Pheasants** – Western EcoSystems Technology, Inc. found that, in prime pheasant habitat, a 4 percent increase in CRP herbaceous vegetation was associated with a 22 percent increase in pheasant counts.
- **State Acres for Wildlife Enhancement (SAFE)** - CRP’s SAFE program 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 2013, CRP resulted in the equivalent of a 45 million metric ton net reduction in atmospheric CO₂ from sequestration, reduced fuel use, and nitrous oxide emissions avoided from not applying fertilizer. Carbon sequestration helps offset the release of greenhouse gases (GHG) from other sources into the atmosphere. CRP sequesters more carbon, 38 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 8.7 million cars from the road for a year.

CRP protects and enhances soil productivity. CRP conservation covers reduce erosion and protect soil productivity. By targeting fragile cropland and placing these lands into protective conservation covers, the CRP greatly reduces soil erosion. In 2013, CRP reduced soil erosion by over 275 million tons from pre-CRP levels. Since 1986, CRP has reduced soil erosion more than 8 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, U.S. Army Corps of Engineers found that urban areas realized significant monetary flood damage reduction benefits due to existing CRP land in the Indian Creek basin of Iowa.

CRP can benefit aquifer water levels. USGS examined the relationship between CRP enrollment and Ogallala aquifer water level change. The analysis reveals that the benefits of CRP are greatest in those critical 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 cooperative agreements with Federal, State, and other partners to refine these performance measures and to estimate the benefits from CRP. For more information see <http://www.fsa.usda.gov/FSA/webapp?area=home&subject=ecpa&topic=nra>.