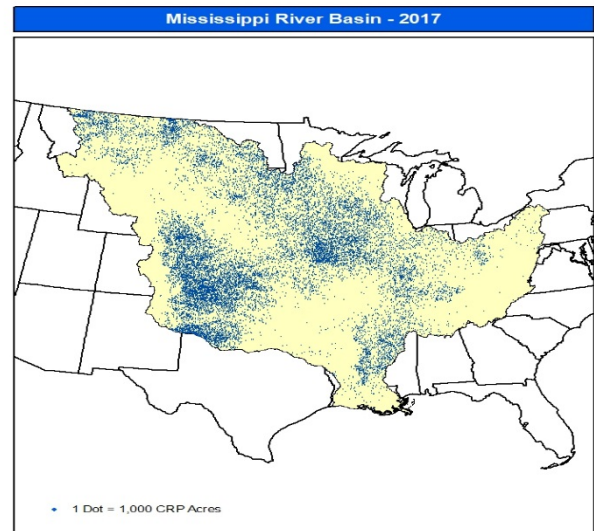


Environmental Benefits of the Conservation Reserve Program

2017

Mississippi River Basin



<u>Fiscal Year</u>		2012	2013	2014	2015	2016	2017
Land Enrolled *	million acres	19.4	17.6	17.0	16.3	16.3	16.0
In Wetland	million acres	1.5	1.4	1.3	1.4	1.5	1.5
Buffers	million acres	1.3	1.3	1.3	1.2	1.2	1.2
<u>Reductions (not leaving field or intercepted by buffers)**</u>							
Sediment	million tons	171	165	160	157	155	152
Nitrogen	million lbs	461	441	426	417	417	409
Phosphorus	million lbs	93	89	85	84	83	82
<u>Greenhouse Gas Reduction (CO2 equivalent/year)**</u>							
CO2 Sequestered	Mil. metric tons	27	25	25	24	24	23
Reduced Fuel and Fertilizer Use	Mil. metric tons	8	8	7	7	7	7
Total	Mil. metric tons	35	32	32	31	31	30

*Cumulative acres. ** Annual estimate - See Estimation Methodology at link below.

The Conservation Reserve Program (CRP) improves water quality. CRP water quality benefits accrue in multiple ways:

- Using models developed by the Food and Agricultural Policy Research Institute (FAPRI), CRP reduced nutrient losses in 2017, by an estimated 409 million pounds of nitrogen and 82 million pounds of phosphorus, compared to land that is cropped. Sediment losses were reduced by an estimated 152 million tons.
- CRP reduces the amount of nutrients and chemicals leaving a field in runoff and percolate. On average, CRP covers reduce nitrogen and phosphorus leaving CRP fields by 95 and 86 percent, respectively, compared to land that is cropped.
- Grass filter strips and riparian buffers intercept sediment, nitrogen, phosphorus, 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.
- 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. Iowa's 126 Conservation Reserve Enhancement Program (CREP) constructed wetland projects are designed to intercept and treat water from underground agricultural drainage systems. In 2017, these projects removed 1.5 million pounds nitrate-nitrogen from agricultural drainage water.

CRP enhances wildlife habitat. Grass, trees, and wetlands enrolled in CRP benefit numerous wildlife species. Several independent studies have identified benefits to multiple bird populations including:

- 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. CRP enrollment in the Prairie Pothole region has decreased, however, with CRP enrollment of 4.4 million acres in the Prairie Pothole region, including an estimated 1.5 million acres of wetlands, CRP continues to strongly benefit duck populations.
- In prime ringed-neck-pheasant habitat, a 4 percent increase in CRP herbaceous vegetation was associated with a 22 percent increase in pheasant count.
- Mississippi State University researchers found that quail populations were positively related to CRP upland buffer enrollment. Overall breeding season bobwhite densities were 70-75 percent greater on CRP buffers than control fields.
- Researchers from the USFWS, U.S. Geological Survey (USGS), 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 says: "CRP is restoring grassland habitat for breeding birds. Henslow's Sparrow populations, which declined more than 95 percent 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."
- 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. Examples of State Area For Wildlife Enhancement (SAFWE) conservation are habitats created for Northern Bobwhite in Missouri; and American Woodcock, Henslow's Sparrow, Sedge Wren, and Grasshopper Sparrow in Indiana.

CRP benefits honey bees and other pollinators. USGS scientists have shown that beekeepers strongly favor CRP lands when selecting locations to keep honey bee colonies during the summer in the Northern Great Plains; a region that supports over 40 percent of US honey bee colony stock. Beekeepers value CRP lands because it provides pesticide-free areas to keep bees in agricultural landscapes and because of the multiple flower species that grown on CRP. USGS research has highlighted the national importance of CRP lands in supporting honey bee colonies, diverse native bee communities, and monarch butterfly populations. Insect pollinators play a critical role in pollinating agricultural crops and maintaining ecosystem function. In the US insect pollination of agricultural crops is valued at over \$15 billion annually.

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 sequesters carbon. CRP sequesters more carbon, on private lands than any other federally administered program, improving soil health. In 2017, CRP resulted in the equivalent of a 30 million metric ton net reduction in atmospheric CO₂ within the Mississippi River Basin from sequestration, reduced fuel use, and nitrous oxide emissions avoided from not applying fertilizer. Carbon sequestered in soils helps improve soil health.

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, documentation, and estimation methodology see <http://www.fsa.usda.gov/FSA/webapp?area=home&subject=ecpa&topic=nra>