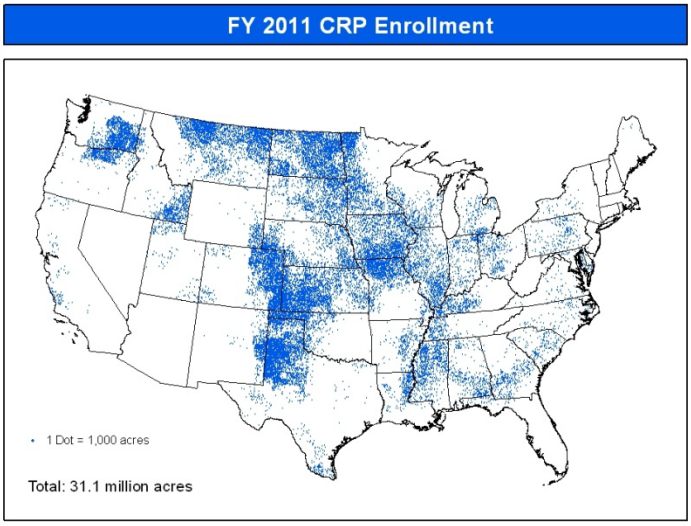
United States 2011

The Environmental Benefits of the Conservation Reserve Program



Fiscal Year		2007	2008	2009	2010	2011
Land enrolled	million acres	36.8	34.6	33.8	31.3	31.1
In Buffers	million acres	1.90	2.00	2.01	2.02	2.01
Wetlands	million acres	2.06	1.98	1.98	2.05	2.22
HEL	million acres	25.5	23.6	22.8	20.5	20.1
Reductions (not leaving field or intercepted by buffers)						
Sediment	million tons	216	219	220	220	226
Nitrogen	million lbs	623	616	611	607	623
Phosphorus	million lbs	124	123	123	122	124
Greenhouse Gas Reduction (CO2 equivalent/Year)						
CO2 Sequestered	million metric tons	50	48	47	44	44
Energy and Fertilizer	million metric tons	9	9	8	8	7
Total	million metric tons	60	57	55	52	51

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

- CRP reduces the nitrogen and phosphorus leaving a field in runoff and percolate. Using models developed by the Food and Agricultural Policy Research Institute (FAPRI), in FY 2011 623 million pounds less nitrogen and 124 million pounds less phosphorus left fields due to CRP, 95 and 86 percent reductions, respectively.
- Grass filters and riparian buffers (partial field enrollments) intercept sediment, nutrients, and other contaminants before they enter waterways. Using FAPRI's model it is estimated that in 2011, 377 million pounds of nitrogen and 76 million pounds of phosphorus were intercepted by CRP buffers, nationally.
- In 2011, grass and tree plantings reduced nitrate loss by 107 million pounds. 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.

- Wetlands restored and constructed by CRP improve water quality by converting nitrate / nitrogen into benign atmospheric nitrogen. Iowa's 69 CREP constructed wetland projects on 1,975 acres reduced nitrate runoff by nearly 700,000 pounds.

CRP enhances wildlife habitat. The 31.1 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** – Researchers from the United States Fish and Wildlife Service estimated that the CRP contributed to a net increase of about 2 million additional ducks per year (30 percent increase in duck production) since 1992 in North Dakota, South Dakota, and Northeastern Montana. Populations fluctuate on a year-to-year basis due to differences in precipitation patterns.
- **Ringed-Neck 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.
- **Sage Grouse** – The Washington Department of Natural Resources found that CRP enrollment was associated with halting a decline (25 percent between 1970 - 1988) in sage grouse populations. The study found that a region without substantial CRP enrollment had continued sage grouse population decline.
- **Northern Bobwhite Quail** – Mississippi State University found that quail were positively related to CRP upland buffer enrollment. The quail population response varies by cover and region.
- **Grassland Birds** – The CRP was identified as a 'Reason for Hope' for grassland birds in United States Fish and Wildlife Service's 2009 'State of the Birds' report, which documented serious declines in grassland birds. 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, including two birds designated as species of continental importance by Partners in Flight.

CRP sequesters carbon. CRP sequesters more carbon on private lands than any other federally administered program. In 2011, CRP resulted in the equivalent of a 51 million metric ton net reduction in carbon dioxide (CO_2) from CO_2 sequestration, reduced fuel use, and nitrous oxide emissions avoided from not applying fertilizer. Carbon sequestration helps offset the release of greenhouse gases (GHG) into the atmosphere. GHG have been associated with anthropogenic climate change

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 2011, CRP reduced soil erosion by an estimated 325 million tons from pre-CRP levels. Since 1986, CRP has reduced more than 8 billion tons of soil erosion.

CRP reduces downstream flood damage. CRP lands reduce downstream flood damage by helping to reduce peak flows by holding and slowly releasing the storm water.

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.