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Iowa producers reduce erosion -- 1997 NRI data

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Abstract

The United States Department of Agriculture (USDA) has released the 1997 Summary Report of the National Resources Inventory (NRI). Agriculture Secretary Dan Glickman asserted that the study shows America's need to increase its conservation efforts. "Conservation challenges are mounting and intensifying more quickly than we are solving them. This report demonstrates that we must redouble our efforts to preserve farm and forestland, reduce soil erosion, improve water quality, and protect wetlands."

Keywords

Agronomy

Disciplines

Agricultural Science | Agriculture | Agronomy and Crop Sciences

INTEGRATED CROP MANAGEMENT



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"Conservation challenges are mounting and intensifying more quickly than we are solving them. This report demonstrates that we must redouble our efforts to preserve farm and forestland, reduce soil erosion, improve water quality, and protect wetlands."

The NRI estimates data about land use, including land cover, soil erosion, farmland, wetlands, habitat diversity, selected conservation practices, and other natural resource information. In 1997, total rural land in Iowa tallied nearly 33.6 million acres, with most of it (25.3 million acres) used as cropland, followed by pastureland, forestland, Conservation Reserve Program (CRP) land, and other rural land (Table 1). Since 1982, the amount of land devoted to pastureland has decreased by 1.1 million acres. However, the amount of land in forestland has increased by nearly 300,000 acres (Table 1).

The NRI points out that the trend for erosion on cropland in Iowa is downward, with 4.9 tons of erosion per acre on cultivated cropland every year. This number is down from a high of 7.7 tons/acre/year in 1982. In every year that the NRI has been completed, it shows that Iowa's estimated sheet and rill erosion has been reduced on cultivated cropland (see chart). The NRI showed that estimated annual wind erosion in Iowa declined as well (see chart).

But the news on the conservation front isn't all good. Information gathered for the National Crop Residue Management Surveys by the Conservation Technology Information Center shows that from 1997 to 1998, conservation tillage practices in Iowa actually declined. Producers left more than 30 percent crop residues on 11.9 million acres in 1998, a decline from 13.3 million acres in 1997. Moreover, 4.4 million acres of cropland in Iowa was left with less than 15 percent crop residue, up from 3.7 million acres in 1997. For more information on the crop residue management and tillage surveys, see the Web site at extension.agron.iastate.edu/soils/tillage.html

Other data in the NRI included estimates of Iowa's land use, which shows that the total area of rural land is declining in Iowa (Table 2). Much of this decline is due to urban development. From 1982 to 1992, the average annual rate of conversion to developed land was 5,230 acres/year for a total of 52,300 acres over a 10-year period. From 1992 to 1997, the average annual rate of conversion was 20,580 acres/year, for a 5-year total of 102,900 acres.

The NRI is conducted every 5 years by the USDA Natural Resources Conservation Service in cooperation with the Iowa State University Statistical Laboratory. The NRI is a statistically based survey that has been designed and implemented with scientific principles to assess

conditions and trends of soil, water, and related resources on nonfederal lands in the United States, nearly 75 percent of the nation's total land area. The 1997 NRI captures data on land cover and use, soil erosion, prime farmland soils, wetlands, habitat diversity, selected conservation practices, and related resource attributes at more than 800,000 scientifically selected sample sites.

Additional information on the NRI and conservation tillage data for Iowa can be obtained from the [Natural Resources Conservation service](#) and at the [1] [Iowa Soil and Land Use Information](#) [2] site.

Table 1. Iowa's rural land area use (in thousands of acres) by year.

Year	Cropland	CRP Land	Pasture-Land	Forest-Land	Other Rural Land	Total Rural Land
1982	26,439.3	0	4,609.6	1,791.5	935.8	33,776.2
1987	25,714.6	1,243.9	4,041.6	1,850.7	890.7	33,741.5
1992	24,988.2	2,093.0	3,775.7	1,972.9	873.6	33,703.4
1997	25,262.0	1,739.3	3,553.8	2,083.5	912.3	33,550.9

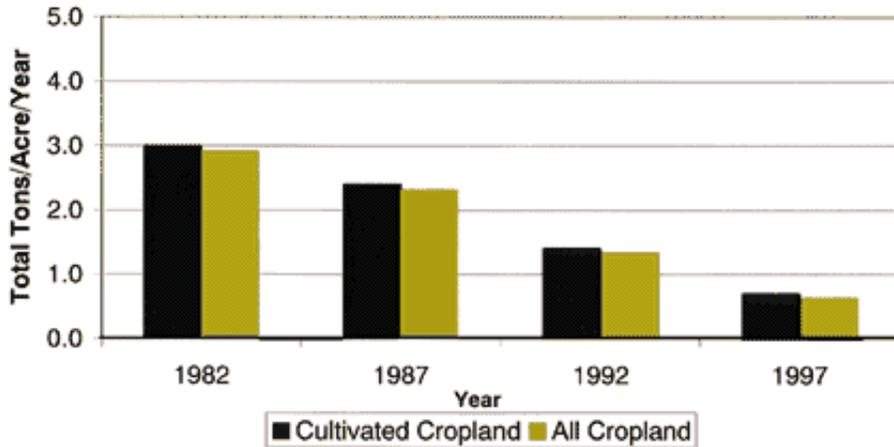
Source: USDA, Summary Report, 1997 National Resources Inventory.

Table 2. Iowa's total land area use (in thousands of acres) by year.

Year	Federal Land	Water Areas	Nonfederal Developed Land	Nonfederal Rural Land	Nonfederal Land Total	Total Surface Area
1982	153.0	439.7	1,647.6	33,776.2	35,423.8	36,016.5
1987	154.1	445.4	1,675.5	33,741.5	35,417.0	36,016.5
1992	164.2	449.0	1,669.9	33,703.4	35,403.3	36,016.5
1997	186.2	476.6	1,802.8	33,550.9	35,353.7	36,016.5

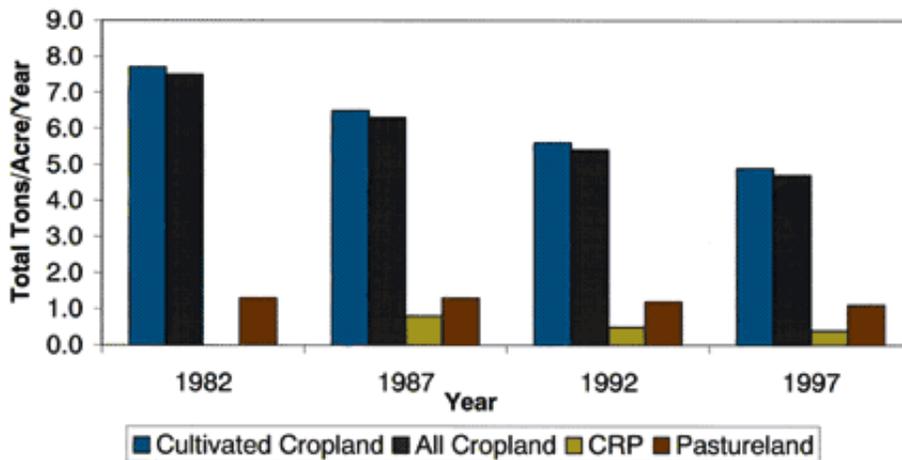
Source: USDA, Summary Report, 1997 National Resources Inventory.

Estimated Average Annual Wind Erosion by Year for Iowa Farmland



Source: USDA, Summary Report 1997 National Resources Inventory

Estimated Average Annual Sheet and Rill (Water) Erosion by Year for Iowa Farmland



Source: USDA, Summary Report 1997 National Resources Inventory

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Links:

[1] <http://www.nrcs.usda.gov/>

[2] <http://extension.agron.iastate.edu/soils/>

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