

# National Resources Inventory: *Highlights*

The National Resources Inventory (NRI) is a statistically based survey that has been designed and implemented using scientific principles to assess conditions and trends of soil, water, and related resources on non-Federal lands in the United States.

The NRI is conducted by the U.S. Department of Agriculture's Natural Resources Conservation Service in cooperation with the Iowa State University Statistical Laboratory. It is a compilation of natural resource information on non-Federal land—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.

Data used for the NRI were collected using a variety of imagery, field office records, historical records and data, ancillary materials, and a limited number of on-site visits. The data have been compiled, verified, and analyzed to provide a comprehensive look at the state of the Nation's non-Federal lands.

The following highlights cover the 48 conterminous States, Hawaii, Puerto Rico, and the U.S. Virgin Islands.

## Land Use

Federal land totaled about 402 million acres in 1997. Non-Federal land amounted to just under 1.5 billion acres, most of it rangeland (27 percent) and forest land (27 percent), followed by cropland (25 percent), pastureland (8 percent), and developed land (6.6 percent).

Land use is not static, however. It is surprisingly dynamic, with annual shifts in and out of different uses. In agriculture there are constant shifts in the use of land among cropland, pasture, range, and forest land to meet production needs, implement rotations of land in and out of cultivation, and maintain and sustain soil resources.

Since 1982, cropland and land enrolled in the Conservation Reserve Program (CRP) declined 11 million acres, pastureland 12 million acres, and rangeland almost 11 million acres. Forest land increased by 3.6 million acres. The largest increase in acreage by land use was for development, about 25 million acres, from 5 percent of the land area in 1982 to 6.6 percent in 1997.

## Urbanization and Development

Although not considered a threat to the Nation's food production overall, land development and urbanization is a critical issue because it can lead to

fragmentation of agricultural and forest land; loss of prime farmland, wildlife habitat, and other resources; additional infrastructure costs for communities and regional authorities; and competition for water.

In 1997, developed land totaled a little over 98 million acres, about 6.6 percent of the U.S. non-Federal land area. However, in the 5-year period between 1992 and 1997, the pace of development (2.2 million acres a year) was more than 1-1/2 times that of the previous 10-year period, 1982-92 (1.4 million acres a year). Over the 15-year period, 1982-97, the total acreage of developed land increased by more than 25 million acres, or one-third (34 percent).

In 16 States, 50 percent or more of the acreage that had been developed since 1982 was developed between 1992 and 1997. Non-Federal forest land is the dominant land type being developed. Combined, forest land and cultivated cropland have made up more than 60 percent of the total acreage developed since 1982.

Between 1992 and 1997, more than 3.2 million acres of prime farmland were converted to developed land, on average more than half a million acres (645,000) of prime farmland per year overall. Over the 5-year periods 1982-87, 1987-92, and 1992-97, converted prime farmland made up about 30 percent of the newly developed land.

## Irrigation

The number of irrigated acres continued to decline in the West and South Central States, while increasing in the Midwest, Northern Plains, East, and Southeast. States with the largest decreases in irrigation since 1982 were Texas, California, New Mexico, Nevada, Oklahoma, and Idaho. Largest increases since 1982 were in Arkansas, Nebraska, Mississippi, Missouri, Michigan, Montana, and North Carolina. Regional decreases were greatest in the Southern Plains, Pacific, and Mountain farm production regions. The greatest increases were in the farm production regions of the Delta, Northern Plains, Corn Belt, Appalachian, Northeastern, and Great Lake States.

The biggest shifts in redistribution of irrigated acres occurred between 1987 and 1992; they continued, but slowed, during the period 1992-97 in every region except the Southeast (driven by decreases in Florida and Georgia). Competition for water, the economics of production agriculture, and risk management to ensure crop production to compensate for shortages of rainfall have driven regional shifts in demand for irrigation.

In the future, continued severe and prolonged droughts may lead to concerns about surface and groundwater withdrawals in irrigation growth areas. This may lead to water supply issues in areas where they have not been major concerns in the past.

## Erosion

Since 1982, erosion on cropland and CRP land has been reduced by 38 percent. Stewardship by agricultural producers and private landowners on

the Nation's working lands hit an all-time high with successful implementation of the 1985 and 1990 Farm Bills.

Since 1995 though, erosion has leveled off at about 1.9 billion tons per year, and 108 million acres (29 percent of cropland) has been determined to be excessively eroding at rates of 1.3 billion tons per year.

Excessive erosion continues to be a serious problem in many parts of the country. More than 57.3 million acres of fragile highly erodible cropland was determined to have excessive erosion, and nearly 50.5 million acres of non-highly erodible cropland was determined to have erosion that exceeded the tolerable soil loss rate.

Excessive erosion of 1.3 billion tons per year leads to concerns about sediments, nutrients, and pesticides impacting water quality, as well as air quality in wind erosion areas of the West, Midwest, Northern Plains, and Southern Plains.

Excessive erosion rates indicate where there are opportunities to improve soil quality, sequester carbon dioxide, and reach goals to reduce greenhouse gases in the atmosphere.

## Grazing Lands

Maintaining and improving the amount and condition of grazing lands is important for sequestering greenhouse gases, protecting water quality and quantity, providing vegetation for livestock and wildlife, as well as enhancing wildlife habitat and the landscape.

The Nation's grazing lands total 588 million acres on non-Federal land

and include pastureland, rangeland, and grazed forest land. Together, pastureland and rangeland amount to nearly 526 million acres, or 35 percent of non-Federal land.

Since 1982, total pastureland and rangeland has declined by 23 million acres. From 1992-97, because of changes in land use, the combined decline in pastureland and rangeland acreage was nearly 7.5 million acres; 24 million acres were converted from pastureland and rangeland to other uses, while 16 million acres were converted to pastureland and rangeland. Development accounted for nearly 14 percent of decreases in pastureland and rangeland. Shifts in usage from pastureland and rangeland to development and cultivation cause dramatic changes in condition and hydrology.

Most of the decreases and increases in pastureland and rangeland acreage involved conversion from or conversion to cultivated cropland. Twenty-six percent of decreases in pastureland and rangeland resulted in increases in the amounts of cultivated cropland. And 45 percent of the increase in pastureland and rangeland came from cultivated cropland.

## Wetlands

Wetlands are a vital natural resource that provide flood protection and enhance water quality, wildlife habitat, and air quality.

The 1997 data indicate that an annual average of 101,000 acres of wetlands was lost from 1992-97 with almost 69,000 acres gained, for an overall average annual net loss of 32,600 acres per year. Development was the reason for 49 percent of the total losses; agriculture accounted for

26 percent of the losses; silvicultural practices, 12 percent; and miscellaneous, 13 percent—over half of which was due to natural climatic variations, such as drought. Programs designed to restore or enhance wetlands, such as the Wetlands Reserve Program, as well as State, local, and private initiatives on agricultural lands, have resulted in reduced losses.

Nearly 59 percent of wetland acreage is on forestland and 16.5 percent is on agricultural cropland, pasture, and land in the Conservation Reserve Program.

By region, just under 31 percent of wetland acres are in the Southeast, 24 percent in the Midwest; 17 percent in the South Central; 13 percent in the Northeast; 9 percent in the Northern Plains; and 6 percent in the West.

### **For Further Information**

NRI information available from the Natural Resources Conservation Service, which is listed under U.S. Department of Agriculture in the phone book, and will be available on the Internet at <http://www.nhq.nrcs.usda.gov/NRI>

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