



FARMLAND INFORMATION CENTER

2007 NRI: CHANGES IN LAND COVER/USE—ANALYSIS

GENERAL

The National Resources Inventory (NRI) is conducted by the USDA Natural Resources Conservation Service (NRCS) in cooperation with Iowa State University's Center for Survey Statistics and Methodology.

The 2007 NRI, released in April 2010, tracks natural resources conditions and trends on non-federal land from 1982. The 2007 summary report provides estimates for the 48 contiguous states and documents changes in land cover/use for six different reporting periods: 1982–1987, 1987–1992, 1992–1997, 1997–2002, 2002–2007 and 1982–2007.

FINDINGS

Every state lost agricultural land to development

From 1982–2007, each of the 48 contiguous states lost agricultural land (crop, CRP, pasture and range land) to development. Texas lost a staggering 2.9 million acres, and Florida and California each lost more than 1.5 million acres of agricultural land. Thirty-five states lost more than 250,000 acres during the same time period.

In addition, 11 states—South Carolina, Maine, North Carolina, Maryland, Florida, Connecticut, New Hampshire, Delaware, Massachusetts, Rhode Island and New Jersey—converted more than 9 percent of their agricultural land to developed land. Massachusetts (18 percent), Rhode Island (22 percent) and New Jersey (27 percent) lost the largest portion of agricultural land between 1982 and 2007.

The U.S. converted more of its best land

Crop Land

During the 25-year span of the NRI (1982–2007), more than 11 million acres of cropland were converted to developed land. In contrast, 6.8 million acres of pasture and 5.2 million acres of range land were converted to developed land during the same period. Cropland accounted for 48 percent of agricultural land conversion but represented only 43 percent of the agricultural land in 1982. From 1982–2007, 21 percent more cropland was converted, on a proportional basis, than other types of agricultural land (i.e., pasture and range).¹

Prime Agricultural Land

Between 1982 and 2007, prime agricultural land was converted to developed land at a disproportionately higher rate. Thirty-eight percent of the agricultural land converted to developed land nationwide was prime, although prime land accounted for less than 30 percent of agricultural land at the beginning of the reporting period (1982). From 1982–2007, 44 percent more prime agricultural land was converted, proportionally, than non-prime agricultural land during the same time period.²

¹ The portion of cropland converted to developed land from 1982–2007 (2.65 percent of 419.5 million acres) is 21 percent greater than the portion of pasture and range land converted to developed land (2.19 percent of nearly 548.8 million acres) during the same time period.

² The portion of prime agricultural land converted to developed land from 1982–2007 (3.04 percent of 286.4 million acres) is 44 percent greater than the portion of non-prime agricultural land converted to developed land (2.12 percent of 681.9 million acres).



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Agricultural land conversion threatens domestic fruit and vegetable production

Development is having a disproportionate impact on the states that produce the bulk of U.S. fruits and vegetables. Two of the three states experiencing the largest acre losses of agricultural land from 2002–2007—California and Florida—account for nearly half (49 percent) of the acreage devoted to growing fruit and vegetables nationwide and represent 71 percent of fruit and 47 percent of vegetable production based on market value of agricultural products sold. The combination of soils, unique micro-climates and extended growing seasons makes the cropland in these states an irreplaceable agricultural resource.

In the face of growth, some states converted relatively less agricultural land

Examining population change provides context for agricultural land conversion. From 1982–2007, 45 of the 48 contiguous states realized net increases in population. Only Louisiana, North Dakota and West Virginia experienced declines. California added more than 11.7 million people, and Texas and Florida grew by 8.6 million and 7.8 million people respectively. Nineteen states grew by at least 1 million people.

In addition, 11 states grew by 50 percent or more: North Carolina (51 percent), Washington (51 percent), Alaska (52 percent), Idaho (54 percent), Texas (56 percent), Colorado (59 percent), Georgia (69 percent), Utah (70 percent), Florida (74 percent), Arizona (120 percent) and Nevada (191 percent).

When we compared agricultural land converted between 1982 and 2007 to population growth during the same time period, we found that 13 states had converted less than 0.25 acre of agricultural land for each new person added.³ Two states converted more than 2.5 acres of agricultural land for each new person: Iowa (2.55 acres) and Wyoming (9.49 acres). Louisiana, North Dakota and West Virginia continued to develop agricultural land despite net declines in population.

Compact/more efficient development helped slow conversion

From 2002–2007, the national average annual conversion rate was 816,060 acres per year, down 29 percent from the 1992–1997 reporting period, which was the most intense period of agricultural land conversion. The decline was widespread; 37 states experienced a decrease in agricultural land conversion from the 1992–1997 reporting period.⁴ The slowdown occurred despite the fact that residential building permits and housing completions reached all-time highs⁵ and construction expenditures for private, nonresidential development peaked during this period.⁶

More compact residential development offers one explanation. The 1997 American Housing Survey reported that 51 percent of newly constructed single-unit housing structures in suburbs and more rural areas (i.e., outside metropolitan statistical areas (MSAs)) were built on lots of 0.5 acre or less. The percentage of new single-unit homes built on small lots in these same areas jumped to 58 percent by

³ The 13 states are: New Hampshire (0.10 acre), Connecticut (0.12 acre), Massachusetts (0.13 acre), Rhode Island (0.13 acre), California (0.15 acre), Washington (0.16 acre), Georgia (0.17 acre), Nevada (0.19 acre), Florida (0.20 acre), Virginia (0.21 acre), Maryland (0.21 acre), New Jersey (0.22 acre) and Oregon (0.24 acre).

⁴ Seven states experienced increases—Arizona, Colorado, Delaware, Montana, Nevada, Texas and Vermont. Data was not available in four states.

⁵ Building permits *authorized* reached an all-time high of 9.4 million between 2002–2007, up 38 percent from the number authorized between 1992 and 1997. The percentage of single units permitted during each period remained the same—76 percent. Housing units *completed* also peaked in the 2002–2007 time period—up 34 percent from the 1992–1997 span. Again, the percentage of single-unit structures completed remained about the same between the two time periods—83 percent.

⁶ Private non-residential construction expenditures reached an all-time high of nearly \$1.4 trillion from 2002–2007, up 9 percent from 1997–2002. Information about public, non-residential construction expenditures is not available prior to 2002. Therefore, we compared private non-residential construction expenditures, which represented 75–77 percent of *total* construction expenditures for three different five-year intervals.



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the 2007 survey. Single-unit structures as a percentage of all new housing units built in the suburbs and more rural areas remained constant.

In addition, the 1997 housing survey reported that 26 percent of new single-unit homes in the suburbs and more rural areas were built on lots of 1 to 5 acres, and 11 percent were constructed on lots larger than 5 acres. By the 2007 housing survey new single-unit dwellings built on lots of 1 to 5 acres had dropped to 21 percent, and those constructed on lots larger than 5 acres had declined to 9 percent. Lastly, median lot size outside MSAs dropped from 1.56 acres in 1997 to 0.36 acre in 2007.

The decline in agricultural land conversion, likely due in part to more efficient development, underlines the critical role smart growth policies can play in saving agricultural land.

Protection saves land for the future

Another response to agricultural land conversion is permanent protection. Purchase of agricultural conservation easement (PACE) programs do not impact the rate of development. There is no correlation between states with active PACE programs and declines in conversion. Instead, PACE programs ensure that, in the face of development, there will be a supply of agricultural land in the future.

When we compared land protected by PACE through 2007 to agricultural land (crop, CRP, pasture and range land) converted to developed land we found that three states had saved more than 1 acre for each acre of agricultural land converted to development from 1982–2007: Delaware (1.06 acres), Maryland (1.42 acres) and Vermont (3.04 acres). Five additional states had protected more than 0.5 acre for each acre lost: Pennsylvania (0.55 acre), New Jersey (0.58 acre), Colorado (0.61 acre), Massachusetts (0.70 acre) and Connecticut (0.71 acre).