

How Much South Dakota Agricultural Land Lost to Development?



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According to the latest 2022 Census of Agriculture data from the US Department of Agriculture (USDA), South Dakota land in farms decreased from 43,785,079 acres in 2002 to 42,304,601 acres in 2022, a decrease of 1,480,478 acres or 3.38% in 20 years. However, there is a lack of data on how much agricultural land was lost to development from the Census of Agriculture data. The USDA defines farms in a broader term as places from which \$1,000 or more of agricultural products were produced and sold or would have been sold normally during the census year. This definition of land in farms includes agricultural land for crops, pasture, grazing, woodland, and wasteland that are not under cultivation or used for pasture or grazing as long as these lands are part of the farm or the lands are enrolled in the Conservation Reserve Program, Wetland Reserve Program, or other conservation reserve programs from the government.

In this report, I use data from the Multi-Resolution Land Characteristics (MRLC) based on land cover information from the National Land Cover Database (NLCD) to report the amount of agricultural land lost to development between 2001 and 2021. One thing to notice here is that the NLCD defines agricultural land as areas used for the production of annual crops production and areas intensively managed for livestock production. Thus, agricultural land in NLCD

only includes cultivated crops and pasture/hay classes. Cultivated crops class are areas used to produce annual crops, such as corn, soybeans, vegetables, tobacco, cotton, and perennial woody crops, such as orchards and vineyards. The crop vegetation must account for more than 20% of total vegetation. The cultivated crops class also includes land that is being actively tilled. Pasture/hay class are areas of grasses, legumes, or the mixtures of grasses and legumes for livestock grazing or the production of seed or hay crops. The pasture/hay class is areas managed or improved from the natural landscape.

The definition of agricultural land from the NLCD is much narrower compared to the definition of land in farms from the USDA. South Dakota has more than 42 million acres of land in farms, according to the 2022 Census of Agriculture. However, using a much narrower definition, NLCD reports roughly 19.6 million agricultural land in 2021. Figure 1 shows the difference in the agricultural land at the county level between the two databases. NLCD reports much lower acres of agricultural land for counties West of the Missouri River since its agricultural land only includes pasture/hay and cultivated crops; grassland, woodland, wasteland, or agricultural land in CRP, WRP is not considered as agricultural land under NLCD.

Table 1. Total Agricultural Land from the Census of Agriculture and from the National Land Cover Database

Ag Land from 2022 Census of Agriculture	Ag Land from 2021 NLCD	Land Lost to Development 2001-2021 (NLCD)
42,304,601 (acres)	19,601,369 (acres)	26,400 (acres)

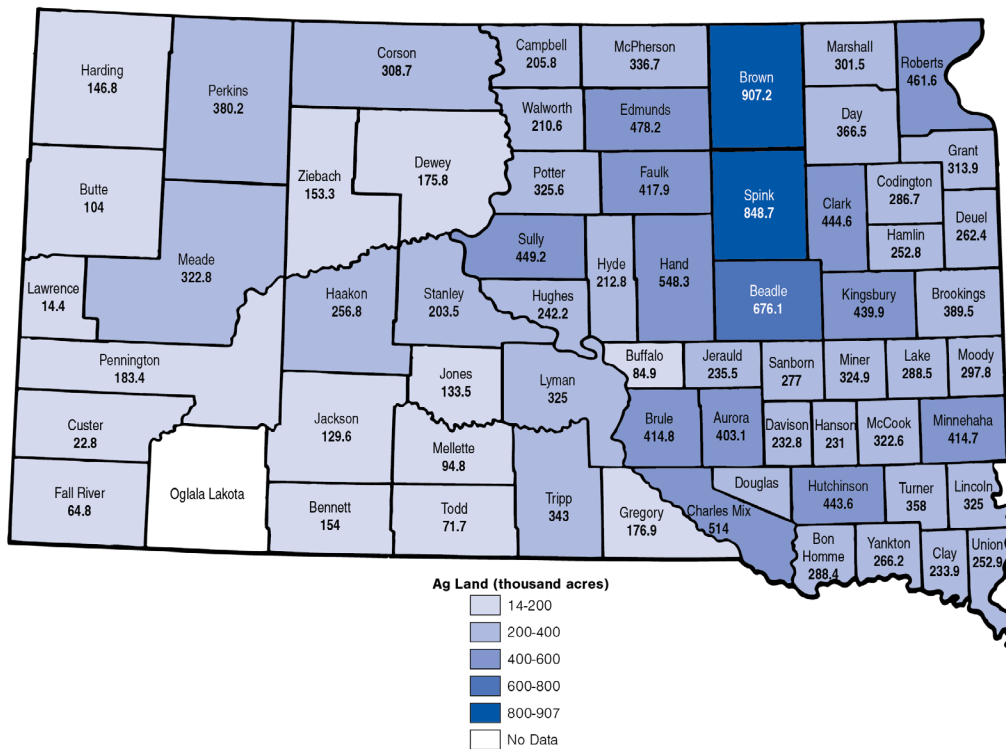


Figure 1A. Agricultural Land at Counties in 2021 in thousand acres based on land cover from the NLCD.

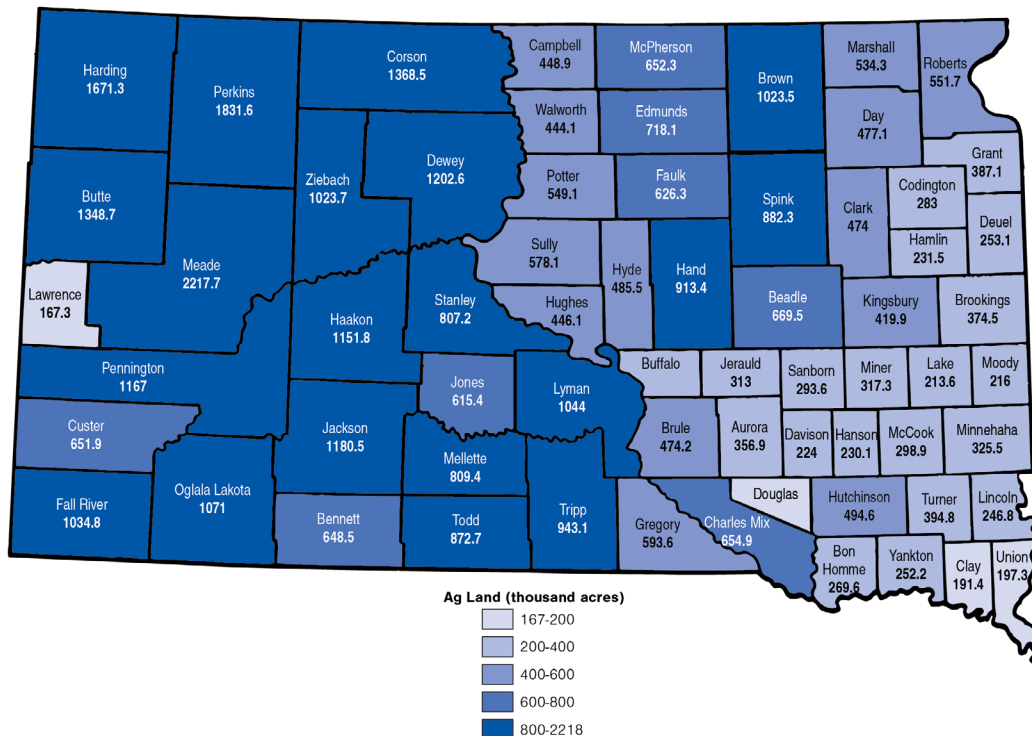


Figure 1B. Agricultural Land at Counties in 2022 in thousand acres based on data from the Census of Agriculture

Agricultural Land Lost to Development between 2001-2021 by County

Between 2001 and 2021, South Dakota lost 26,400 acres of agricultural land to development (Table 1). Minnehaha and Lincoln counties lost the most agricultural land to development among counties in South Dakota, as shown in Figure 2. Brown lost 1,568 acres of agricultural land to development and ranked

third among South Dakota counties. Brookings lost just over 1,400 acres of its agricultural land to development. Other counties experience a small decrease in their agricultural land due to development. Most of the declines in agricultural land due to development occur in the east river.

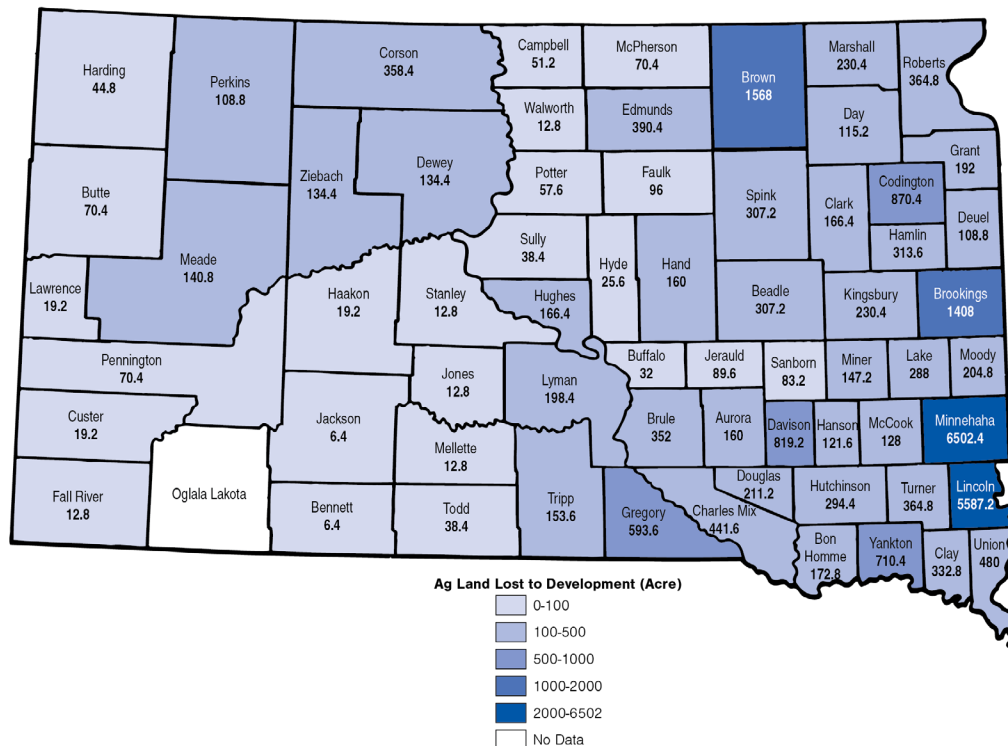


Figure 2. Agricultural Land Lost to Development between 2001-2021

Note: Data on agricultural land lost to development is obtained from the Multi-Resolution Land Characteristics (MRLC) based on land cover information from the National Land Cover Database (NLCD). The number in the map is the amount of agricultural land (acres) lost to development between 2001-2021. The NLCD defines agricultural lands as areas used for the production of annual crops, which is the cultivated crop class, or areas intensively managed for livestock production, which is the pasture/hay class, a much narrower definition compared to land in farms definition from the USDA.

References

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