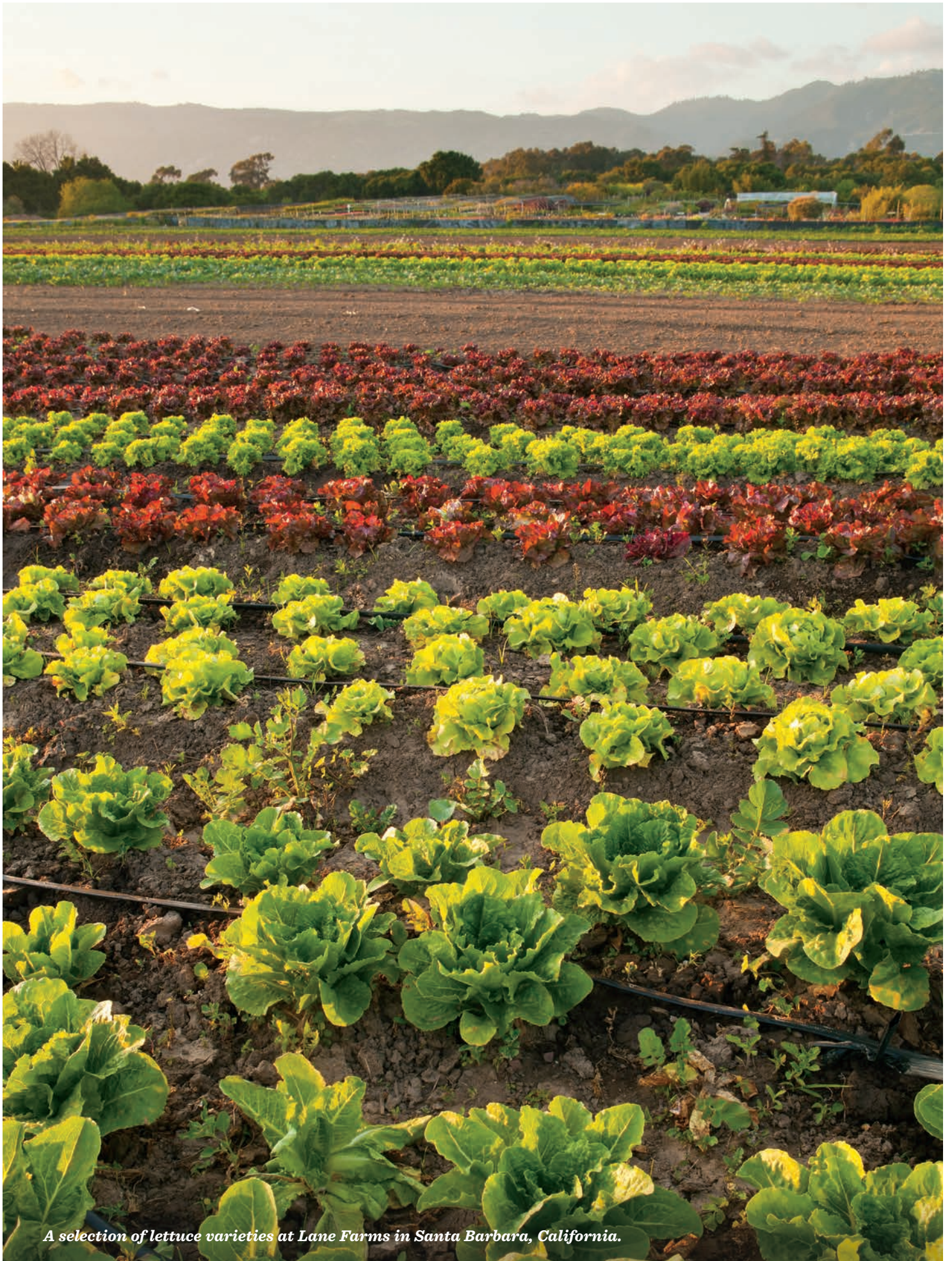




FARMS UNDER THREAT

The State of America's Farmland



CHUCK PLACE/LAMY STOCK PHOTO

A selection of lettuce varieties at Lane Farms in Santa Barbara, California.

Executive Summary

WITH KEY FINDINGS AND RECOMMENDATIONS

MAY 9, 2018

The United States is blessed with a remarkably productive agricultural landscape. Cropland, pastureland, rangeland, and woodland support a regionally diverse food and farming system capable of ensuring domestic food security. Agricultural land contributes to state and local economies, supplies lucrative export markets, and bolsters the nation's balance of trade. These exceptional natural resources sustain valuable wildlife habitat, provide flood control and fire suppression, scenic views, and resources for hunting and fishing. This land also acts as an enormous carbon sink, drawing down carbon from the atmosphere, which helps combat climate change. By 2050, the demands on agriculture to provide sufficient food, fiber, and energy are expected to be 50 to 70 percent higher than they are now. Given a limited land area in the United States and the need to feed and house an increasing number of people, it is more important than ever to protect the agricultural land and natural resources needed for long-term sustainability.

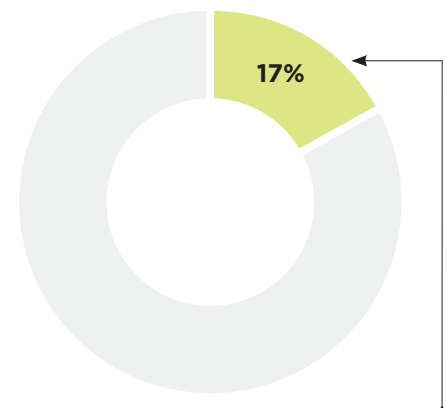
This call for action is documented and reinforced by the findings of *Farms Under Threat: The State of America's Farmland* by American Farmland Trust (AFT). The report's research shows that between 1992 and 2012, almost 31 million acres of agricultural land were irreversibly lost to development. That is nearly double the amount of conversion previously documented and is equivalent to losing most of Iowa or New York. As alarming, this loss included almost 11 million acres of the best land for intensive food and crop production. This is land where the soils, micro-climates, growing seasons, and water availability combine to allow intensive production with the fewest environmental impacts. These precious and irreplaceable resources comprise less than 17 percent of the total land area in the continental United States. Their conversion was equivalent to losing most of California's Central Valley, an agricultural powerhouse.

Over 20 years ago, AFT released the groundbreaking report, *Farming on the Edge*. This compelling study and extensive mapping gained global media attention by showing how sprawling development consumed America's highest quality farmland in critical regions across the country. Now, new threats to the nation's agricultural lands create a pressing need to update the old analyses and assess threats to America's agricultural land in the 21st century. Improvements in the availability of national data and models now enable AFT to more accurately track the scale and spatial location of the threat of development to the nation's agricultural



Beets in Inyo County, California.

U.S. AGRICULTURE RELIES ON HIGH-QUALITY FARMLAND



Only 17 percent of the land in the continental U.S. is agricultural land with the productivity, versatility, and resiliency (PVR) to produce a wide variety of crops with minimal environmental limitations.

AFT's goal is to document the threats and offer policy solutions to ensure the long-term protection and conservation of agricultural land in the United States to sustain an expanding population and maximize biodiversity.

land.¹ They also make it possible to assign values to measure the land's productivity, versatility, and resilience. These advances make it possible for AFT not only to examine past conversion patterns but also to forecast future development patterns likely to occur without better land use planning and policy intervention.

These analyses underpin *Farms Under Threat*, AFT's multi-year initiative to complete the most comprehensive assessment of the loss of U.S. farmland and rangeland ever undertaken, both past and future. AFT's goal is to document the threats and offer policy solutions to ensure the long-term protection and conservation of agricultural land in the United States to sustain an expanding population and protect biodiversity. This first report, *Farms Under Threat: The State of America's Farmland*, examines the nation's irreversible loss of agricultural land to development between 1992 and 2012. A subsequent report will analyze state-level data on past farmland conversion and the effectiveness of state-level farmland protection policies. In a third report, *Farms Under Threat* will assess a range of future threats, forecast potential impacts to 2040 and recommend effective policies that help conserve agricultural land.

AFT is working with Conservation Science Partners (CSP), a non-profit conservation organization, to ensure these assessments are grounded in reliable data and strong science. This partnership is supported by the USDA's Natural Resources Conservation Service (NRCS). A national Advisory Committee provided additional guidance, and NRCS shared data and reviewed findings. *Farms Under Threat* significantly advances our understanding of the patterns of past farmland conversion and provides information about the location, quantity, type, and quality of the agricultural land lost to development in the continental United States between 1992 and 2012. These maps and data can serve to improve agricultural land conservation and permanent protection across the nation.

***Farms Under Threat: The State of America's Farmland* significantly improves the national inventory of agricultural land in multiple ways:**

1) It maps and analyzes the extent of low-density residential development on agricultural land; 2) It identifies agricultural land based on its productivity, versatility, and resiliency to support intensive food and crop production (PVR values); 3) It includes a new class of agricultural land that estimates woodland associated with farm enterprises; 4) It maps grazing on federal land; and 5) It shows the spatial patterns of agricultural land

¹ *Farms Under Threat* defines *agricultural land* as cropland, pastureland, rangeland, and woodland associated with farms in the continental United States (48 states), excluding federally owned grazing land. This non-federal agricultural land is called farmland and rangeland by the public. The analysis uses the USDA National Resources Inventory (NRI) definitions for cropland, pastureland, rangeland, and forestland.



DESIGN PICS INC./ALAMY

An Iowa soybean field.

uses and conversion to development in a consistent way over time so that people can see the patterns of change.

Assigning PVR values to agricultural land helps quantify the quality of the agricultural land converted by development. Land with lower PVR values has progressively greater limitations that restrict how it can be used and whether it can be cultivated. The land best suited for intensive food and crop production has much higher PVR values and is geographically limited to areas where the nation's soils, micro-climates, growing seasons, and water access combine to allow production with the fewest environmental impacts.

KEY FINDINGS²

BOB NICHOLS/USDA NRCS

New homes replace farmland in Dane County, Wisconsin.

- **The U.S. converted almost 31 million acres of agricultural land between 1992 and 2012.** By including woodlands associated with farms and low density residential development, this analysis found nearly twice the conversion previously reported. The loss is equivalent to developing most of Iowa or the entire state of New York.
- **Overall, development disproportionately occurred on agricultural lands.** More than 70 percent of urban development and 62 percent of all development took place on agricultural land. Expanding urban areas accounted for 59 percent of the loss, including the commercial, industrial, transportation, and high-density residential development which reflect the expanding footprint of U.S. cities and towns. Low-density residential development accounted for 41 percent of the loss and included residential areas with houses built on one- to 20-acre parcels and exurban homes on even larger lots that effectively removed these properties from agricultural uses.
- **Urban development favored cropland while low-density residential development posed an equal threat to cropland and pastureland.** Urban development most frequently converted cropland (41 percent) and lower percentages of pastureland (25.9 percent), rangeland (23.8 percent), and woodland (9.3 percent). In contrast, low-density residential development posed an equal threat to cropland and pastureland (34.5 percent each) and favored woodland (19.9 percent) over rangeland (11.1 percent). For forestland, low-density residential development presented a greater threat than urban development.
- **The impact of these development patterns puts high quality agricultural land at risk.** The analysis assigned values to reflect the productivity, versatility, and resiliency (PVR value) of agricultural land for cultivation. As the PVR value increased, fewer acres of land qualified. The analysis found that the median PVR value of agricultural land lost to development was 1.3 times higher than the median PVR value of land that stayed in production. These cumulative and irreversible losses of most productive, versatile, and resilient lands have serious implications for agricultural productivity and domestic food security.

² AFT is solely responsible for the conclusions and recommendations in this report. Although information from NRCS data comprises a major component of this analysis, the conclusions and recommendations are AFT's alone.

- **By 2012, the best land to support intensive food and crop production had dropped to less than 17 percent of the total land area in the continental United States.** Only 324.1 million acres of agricultural land had PVR values with the optimal soil characteristics and growing conditions to support intensive food and crop production with minimal environmental limitations. This is slightly more than one third of agricultural land.
- **In less than one generation,³ the United States irrevocably developed nearly 11 million acres of its best land for intensive food and crop production.** While a 3.2 percent loss does not sound devastating, it is roughly equivalent to losing one of the most productive growing regions in the United States, California's Central Valley.

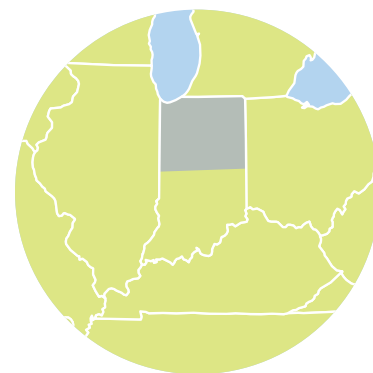
Beyond food security and economic prosperity, well-managed agricultural land provides open space, recreational resources for activities like hunting and fishing, and critical ecological services such as wildlife habitat, carbon sequestration, groundwater recharge, and flood control. This incredible diversity provides the United States with invaluable options to help the nation optimize the use of agricultural resources to sustain future generations.

It is time for the United States to recognize the strategic value of our agricultural land and step up our efforts to protect it. It is critical to balance the growing demands for energy, housing, transportation, and water to ensure our best agricultural land remains available for food and other crop production. Through thoughtful and carefully implemented land use and agricultural policies, the nation can protect farmland and strategically direct development away from critical agricultural resources while nourishing the land with conservation practices and helping the farmers and ranchers who manage this landscape to thrive.

FARMLAND LOST TO DEVELOPMENT, 1992-2012



All farmland lost: almost 31 million acres (nearly equivalent to the land mass of New York State)



Some of our best farmland was irreversibly lost: almost 11 million acres (equivalent to 47% of the land mass of Indiana)

³ A generation is considered to be about 25.5 years in length.

KEY RECOMMENDATIONS

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Ripe cranberries in Valley Junction, Wisconsin.

Based on these national findings, AFT believes a bold and comprehensive national strategy is needed to save the land that sustains us, including:

- A dramatic increase in federal investments in agricultural land protection through the USDA Agricultural Conservation Easement Program—Agricultural Land Easements (ACEP-ALE);
- Supporting and fully funding the USDA agencies and their programs that provide unbiased information to help monitor changes to U.S. agricultural resources, including the NRCS' National Resources Inventory (NRI), the National Agricultural Statistics Service's (NASS) Tenure, Ownership and Transfer of Agricultural Land (TOTAL) survey, and the Economic Research Service's (ERS) Major Land Uses reports; and,
- Enacting a 21st century federal agricultural land protection platform to more effectively address the interconnected threats to farmland from development, climate change, agricultural viability, and farm succession.



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#farmsunderthreat

