

# LAND–USE DYNAMICS BEYOND THE AMERICAN URBAN FRINGE\*

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**ABSTRACT.** A deficiency common to both the historical debates over loss of agricultural land and the current discussions of urbanization and sprawl is a limited understanding of land-use dynamics beyond the urban fringe. Data aggregated at the county level poorly capture the fine-grained pattern of land-use change beyond the dynamic urban-rural interface. Furthermore, current urban-based definitions are poorly suited to delineate these areas, and low-density, exurban land use is difficult to measure using existing land-cover databases. Urbanization and the conversion of once-agricultural or other natural resource lands to other uses has traditionally been tracked using urban areas, as delimited in the U.S. census. Urban densities are typically defined as areas with more than 1,000 people per square mile, or 1.6 people per acre (U.S. Census Bureau 2000). Assuming an average of 2.5 people per housing unit, this translates to roughly 0.7 units per acre, or approximately 1 unit per 1.6 acres. The analytical units used in the census, however, both overbound and underbound areas with urban densities. About one-third of urban areas in 1990 comprised lower-than-urban housing density, thanks to overbounding. But, then, one-third of locations that had urban-level housing densities failed to be included in urban areas as a result of underbounding, which, if counted, would have constituted another 18 million acres of urban area. An increase over time of the average number of acres required per housing unit in exurban and higher-density locations occurred in roughly one-third of U.S. counties from 1960 to 1990 and persisted from 1990 to 2000. In 2000 roughly 38 million acres were settled at urban densities, and nearly ten times that much land was settled at rates from low, exurban density (as low as one house per 40 acres) to higher rates (up to one per 10 acres). This represents a continuing encroachment on land previously given over to other uses—habitat or agriculture. Practitioners of natural resource management need to recognize the ubiquity of exurban development and better incorporate the fine-scale patterns of land use beyond the urban fringe.

*Keywords:* agriculture, exurbia, land use, sprawl, urbanization.

In 1950 the condition of agriculture in the United States quietly reached a turning point. From the late 1800s until 1950, farmland expanded rapidly to eventually include 1,161 million acres. Since that peak, farmland acreage declined steadily to 931 million acres in 1997, at a rate of 5.39 million acres per year (USDA 1999) (Figure 1).<sup>1</sup> Although some have argued that agriculture was overextended and needed to be reduced (Platt 1985), a great deal of concern was expressed in the 1970s and 1980s about the decline of agricultural land, and many feared that the United States would soon be unable to feed itself (Hart 1976). A rancorous debate ensued after the re-

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