ABSTRACT

Between 1935 and 1992, the number of farms in the United States decreased from approximately seven million to fewer than two million. This change left a noticeable imprint on the landscape. Working farmsteads have been reduced to idle, desolate buildings, or in some cases there are no buildings left at all. To study this transformation, black and white air photographs from 1950 were compared with 1990 air photographs. Also, plat books and ground checks in four townships in Watonwan County in southwestern Minnesota helped document changes. Farmsteads were abandoned or demolished because people began to find they could not economically support their families in the farming industry. Many moved to nearby communities in search of urban jobs, leaving the out-buildings behind to deteriorate over time or to be destroyed. This research records the physical changes of farmsteads on the Minnesota landscape by mapping the abandoned, demolished, or still lived-in farmhouses in the four townships. Although abandoned farmsteads have increased, new uses for the rural landscape have emerged. One of these enterprises, commercial hog farming, reveals a viable alternative use of the fossil farmsteads.

KEY WORDS: farmsteads, Minnesota, land use, agriculture, migration, historical.

INTRODUCTION

Between 1935 and 1992, the number of farms in the United States declined from roughly seven million to fewer than two million (U.S. Bureau of the Census, 1937 and 1994). Five million farmhouses in the U.S. have been abandoned, demolished, or house non-farming families (Fig. 1). This decrease in farmsteads has changed the fabric of the landscape across the country. In Minnesota alone, there are over 125,000 abandoned or demolished farmsteads (Hart and Rainey, 1998).

Four townships in Watonwan County, Minnesota were selected as the study area. The four townships in the study area are located in the southwestern corner of
FIGURE 1. An abandoned farmstead in Watonwan County, Minnesota

the county: Odin, Long Lake, Butterfield, and St. James (Fig. 2). Watonwan County consists mostly of a nearly level to rolling glacial till plain, a nearly level to gently sloping outwash plain, and a finer-textured lake plain (U.S. Department of Agriculture, 1992). More than 85 percent of the county's farmland is considered "prime" by the U.S. Department of Agriculture (USDA). This means that the land is best suited for growing food, feed, forage, fiber, and oilseed crops.

These townships are representative of farm communities in the glaciated western cornbelt that have had declining farm numbers since 1935. Farmers have greatly expanded and diversified the acreage they cultivate. They are specializing in producing corn and soybeans for direct sale as cash crops, and they have reduced their traditional reliance on livestock (Hart and Mayda, 1998). Today, like much of the Midwest, the rural residents are primarily non-farmers with a growing number of part-time farmers, and only a handful of full-time farmers. Some of this change can be attributed to the industrialization of farming, which often leads to more part-time farmers who live in, or are closer to, the city (Borchert, 1987). The number of farms in the Corn Belt, including Watonwan County, has dwindled, and there is no longer a surplus farm population from which to draw (Hart, 1998).

PROCEDURE AND METHODOLOGY

The purpose of this paper is to describe the changing status of farmsteads in the study area from 1886 to the present. One goal of this study was to map the changes that have occurred in the declining number of farmsteads. The physical change in the number of farmsteads not only tells us that there are fewer farms, it also tells us that there are fewer farmers. In 1910 farm families comprised 65 percent of the rural population in the U.S. and 35 percent of the total population; however, by 1990 their share had been reduced to only 6.3 percent of the rural population and a paltry 1.6 percent of the nation's total population (Hart, 1995).
FIGURE 2. The study area, Watonwan County, Minnesota
To map this change, several resources were used. First, data for 1886 were obtained by examining a plat book printed by the Interstate Publishing Company that was revised and reprinted by the Watonwan County Historical Society in the 1990s (Ebeling et al., 1886). Farmsteads in this plat book were identified, located, and tabulated to understand how the number of farmsteads had changed since European settlement. Second, black and white aerial photographs from 1950 were obtained at the Watonwan County Soil and Water Conservation District (SWCD) Office in St. James. It was to be assumed that all of the farm houses were occupied in the 1950 aerial photographs. The scale of the aerial photographs is 1:21,600, making it possible to detect elements that a working farm would have, such as farm machinery, barns, and houses. The locations of these farmsteads were transferred onto a township map. The peak year for farms in the U.S. was 1935 (Hart and Rainey, 1998). Watonwan County reached its high in 1935 with 1,530 farms, which supports the 1950 assumption that most all of the farmsteads were occupied (U.S. Bureau of the Census, 1935).

Contemporary farmsteads were mapped in two parts. First, a current Watonwan County Plat Book was used to update the map of the 1950 farmsteads, using selected symbols used for selected categories such as a) demolished since 1950, b) lived in since 1950, or c) new since 1950. Because plat books do not map abandoned farms, an additional form of verification was used. Ground checks were needed to verify the accuracy of the plat books and to also map the abandoned farms. Maps of the townships were prepared and constructed and were used during the ground checks in the field. During the study of the 1950 aerial photographs, outlines of the farmsteads were determined and drawn on a township map according to their location in each square mile of land. During the ground checks, these outlines were either filled-in if the site was still lived in, left as an outline if the farmstead was abandoned, or crossed out if the farmstead was no longer physically there. The data from these four maps of the four townships in the study area were then utilized in a geographic information systems (GIS) database.

The Watonwan County SWCD office allowed the use of their GIS database that contained a semi-updated version of the existing farms in the county. This study allowed that database to be updated. This helped the county update their records to a current status in return for use of a GIS. This database provided point data and up-to-date aerial photos to accurately map out the demolished, abandoned, or occupied farms. After the database was completed, a map was produced using ArcView and the data were studied and analyzed. The result of the mapping is illustrated on Figure 3.

Careful study and analysis of the four townships reveals the trends associated with the disappearance of farmsteads. An evaluation of the data of the study show some of the patterns associated with population migration and the changing economic structure of agriculture. Figure 4 reveals change in the number of farmsteads in 1886, 1950, and 1995 in the selected townships.

The two townships that saw the greatest impact were the two that are the most rural. Odin and Long Lake, the two most southern townships, have no major town in them. Odin Township has half the town of Odin in it, but the population was only about 200. The settlement is a haven for retired farmers and people who live their entire lives in the community. Long Lake Township contains the other half of Odin and half the town of Ormsby, a town comparable in population to that of Odin. The "township having a town in it" factor is one that may play a role in the abandonment of farmsteads. If a township contains a larger town that can provide goods and jobs, it was perceived that that township had less farmstead abandonment than a township without a larger town. A farmer could continue to live on his farm and commute to that town for work instead of having to move if the town was further away.

On the other hand, Butterfield and St. James Townships both have towns in
FIGURE 3. Current status of farmsteads in four townships in Watonwan County, Minnesota

them bearing those names. Butterfield is a town of roughly 700 people while St. James boasts a population of 4000. Both also have a mix of businesses that cater to agricultural production as well as services and industries. Butterfield has a poultry processing plant that employs 200 persons. St. James has a variety of businesses, including a poultry and hog processing plant and a highway exit "mini-city" at State Highway 60 and County Road 27, complete with a Super 8 Motel, a Pizza Hut, a Happy Chef, and an Ampride truck stop.
WHAT HAPPENED TO THE FARMERS?

Historically, when farming was not productive, local farmers who lived near larger towns would have an easier time moving to that town to begin a new career. Between 1987 and 1997 the number of farmsteads in the United States declined by 15 percent (U.S. Bureau of the Census, 1997). Farmers often retire to nearby villages and towns, while community dwellers drive to nearby cities to work, to shop, and to take their children to school; and, in turn, the wealthy citizens of lead cities travel to yet larger and more distant cities for the sake of business, health, new tastes, and fashions (Amato and Meyer, 1993).

Farming techniques have also changed. In the past, a typical farmer owned about 160 acres of farmland. With advances in technology, fewer farmers can farm more acres of land. Selected data every five years comparing the number of farms and acres in agriculture from 1950 through 1997 reveal an inverse relationship between the number of farms and acres per farm. During the sampled period dramatic changes occurred. The number of farms decreased from 1476 units to 576 units—a decrease of 61 percent. However, land in production increased significantly from 183 acres per farm to 444 acres per farm—a 143 percent increase over the 47-year period (Fig. 5).

This phenomenon most certainly favored farmers who had a stable financial situation. Those who did not take courses of action because of the changing landscape conditions may have given up farming, migrated to a town, and/or found different employment. Children staying on the farm is also an issue in the
FIGURE 5. Number of farms vs. farms per acre, Watonwan County, Minnesota: 1950-1997 (Source: USDA, 1952 to 1999)

declining number of farmsteads. Historically, it was not unusual for children to stay on the farm after they completed high school. When a father retired, the son took over his father's land and started farming on his own. Today, this seldom occurs. The remaining rural population is aging: few young people are returning after they go away to college. One of the tough questions that small towns must ask themselves is “Why should any college graduate want to move and live here?” (Hart, 1998).

WHAT HAPPENED TO THE FARMSTEADS?

Farmsteads that are no longer used by a resident farm family may be used for a variety of purposes. A non-farming family may rent the house from the land owners and commute into town for work, or the dwelling may be left unused. When the
latter happens, buildings are neglected and eventually deteriorate. The land that the buildings are on may become more valuable than the building. If the buildings are not used to house farm machinery they are often torn down. These building sites may become prime land for other business endeavors. There has been a shift in the rural population from farming to non-farming residence. Figure 6 compares census data from 1950 and 1990. In 1950, people classified as “rural farm” made up 61 percent of the rural population of Watonwan County. In 1990, that number had dropped to 25 percent.

One specific business that is growing in rural Watonwan County is the hog industry (Fig. 7). Abandoned farmsites are often rented by local farmers who feed hogs for large pork producers. They may also be used by farmers privately to produce hogs. This occurs because of two main reasons. First, the site offers space, accessibility, and shelter. More often than not, utilities such as electricity and water can still be found on the site. If the site was a true farmstead, there is probably an existing shelterbelt or grove of trees that offer protection from wind, which may reduce heating costs in winter and provide shade in summer, thus reducing cooling costs. It may also partially provide a buffer between the hog barns and adjacent land. This is important to some hog farmers who think the public may view their operation as harmful to the landscape and to the community.

One of these abandoned farmsteads that was turned into a hog operation was the Jacoby farm in Odin Township. The Jacoby barn was burned in the summer of 1999 to make room for three barns that each house 1000 hogs (Fig. 8). This is not an uncommon practice. With the rapid increase of hogs in Watonwan County, producers are seeking land on which to build their barns. In some cases, this land is on abandoned farmsteads. Figure 9 shows a

![Graph showing population in Watonwan County, Minnesota from 1950 to 1990](image)

more than doubling of hog production in Watonwan County since the mid-1970s when the technologies necessary for large-scale hog production improved.

A co-owner of KBQ Hogs, a Mt. Lake, Minnesota-based hog producer, suggested that the spread of disease between hogs is one of the biggest drivers of the hog agribusiness (Dick, 2001). In the early 1990s, the hog industry determined that they could cut the cost of vaccinations for their pigs if they moved their feeder pigs off of the site containing the farrowing barns. This change brought the need for more sites to raise hogs during their various stages of development. The pigs are weaned at 14 days—when they weigh 12 pounds—and taken to a nursery unit, where they stay until they weigh 50 pounds (Hart and Mayda, 1997). They are then hauled a final time to a finishing barn where they will stay until they are six and a half months old and weigh 275 pounds.

Because of this, hog companies began to rent barns from area farmers to raise their feeder pigs. Everything within the barns, from temperature to medicine in the hog feed that was custom made in the producer's feed mill from locally grown corn, is controlled and monitored to ensure the best possible conditions for growth. Because a new hog barn on a farmstead would lower the resale value of that farm, farmers began to build hog barns on abandoned farmsteads that they owned. This kept the financial burden of the hog industry away from the farmstead, which was where the everyday farming duties were done, while still allowing the farmer to make some extra income from raising hogs or by renting out his barn to a neighbor.

The conversion of land from working farmsteads, complete with a house and outbuildings, into new forms of agricultural developments such as hog barns, is a new, and often unnoticed trend. In the four townships in this study, this conver-
tion occurred at four abandoned or demolished sites. It is more common, however, to have new hog barns built separate from the farmstead, usually on a piece of farmland that had not been part of a farmstead.

Undoubtedly, much more research is needed to better understand this new and complex agricultural land use transition. Presently, it is unclear what some of the implications and consequences of this change might be, but with the recent increase in the number of hogs in southern Minnesota, there is evidence that a new type of agriculture has begun in an area with a long agricultural tradition.

CONCLUSION

When this project started, its purpose was to map the changes in the number of farmsteads in four townships in southwestern Minnesota. The study not only accomplished that, but it uncovered several new geographic issues that are becoming more common because of the abandonment of farmsteads. Continuing research will be needed to better understand the conversion of farmland to hog barns, continuing abandonment of farmsteads, and understanding the changes in commercial agriculture and its impacts on the physical and cultural landscape, to name a few.

The abandonment of farmsteads in southern Minnesota happened over a long period of time. Often, the changes are so subtle and at such a small scale that no one notices. However, when these transitions are studied over a longer timeframe, and the issue is scaled up to a county or state level, these changes are much more impressive and clear. This project was done on a relatively small area, looking at roughly five hundred farmsteads, but related a story that has impacts at a national scale. Changes on the landscape, such as the ones seen in this four-township region, will continue into the future. If we have a better understanding of the issues involved with these past changes, both positive and negative,
FIGURE 9. Number of hog farms and total hogs in Watonwan County, Minnesota: 1930–1997 (Source: USDA, 1932 to 1999)

it may help influence future changes and help decision makers make more educated and thoughtful choices.

REFERENCES