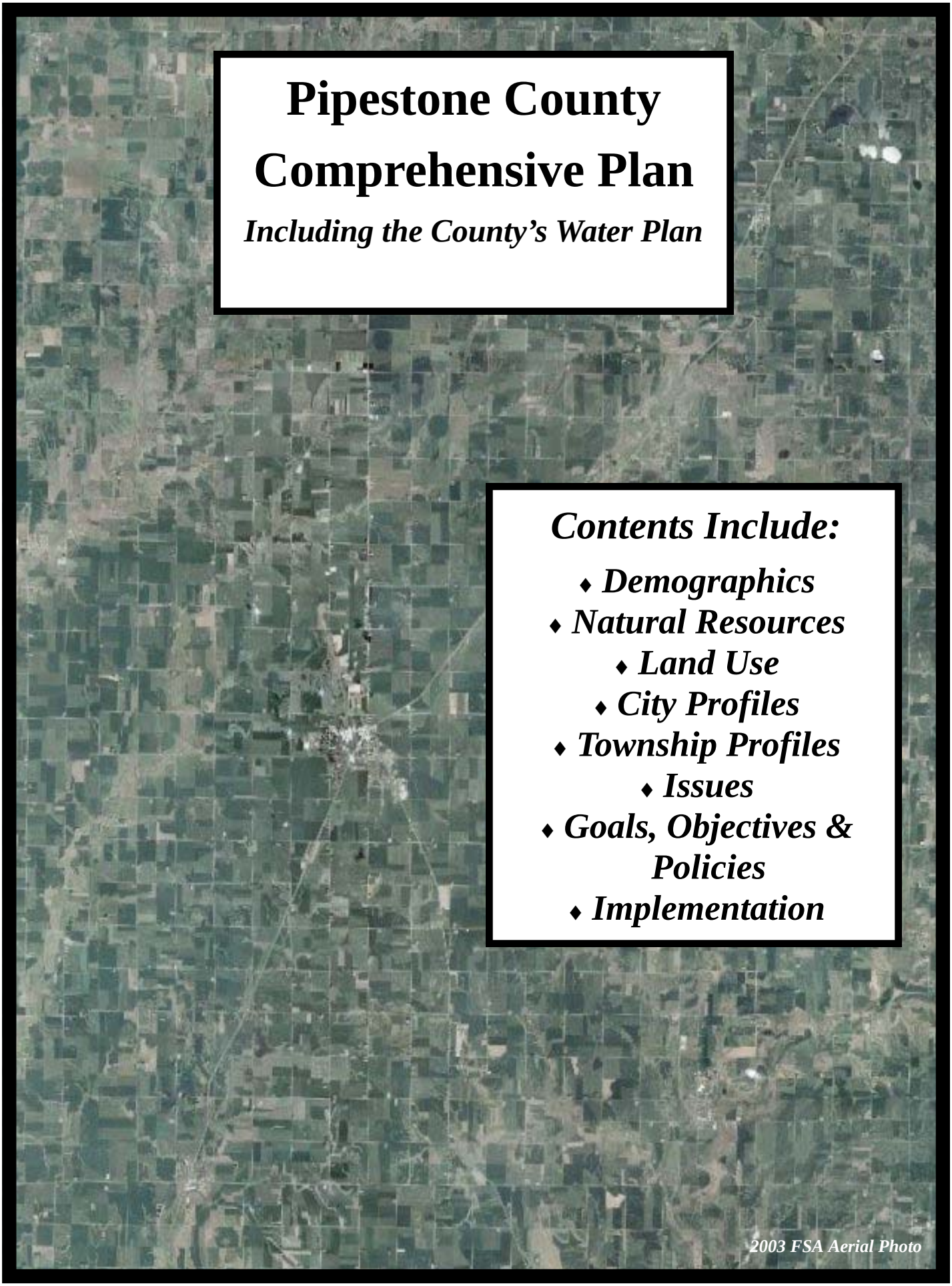
# Pipestone County Comprehensive Plan

*Including the County's Water Plan*



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*2003 FSA Aerial Photo*

# Pipestone County Comprehensive Plan
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*Pipestone County Courthouse*

# Chapter One:
# Pipestone County Profile

This Chapter profiles the people of Pipestone County, including information on the County's history, demographics and future population and household estimates. The history section is recreated from information provided by the Pipestone County Historical Society (see the source below). The demographic section is based primarily on U.S. Census data. Likewise, the population and household projections are based on the County's historic Census data since 1960. The projections simply estimate how many people and households Pipestone County may have over the next 20 years.

## A Brief History of how Pipestone County was Founded

**Recreated from www.pipestoneminnesota.com/museum/**
**Originally compiled from, Pipestone, by Lisa M. Ray, Minnesota Calls, March/April, 1994**

It was not Horace Greeley's advice, "Go west, young man, and grow up with the country," which brought the first white people to the area in extreme southwestern Minnesota where grasses on the upland prairie stood taller than the average man. It was instead a curiosity gleaned from Native American legends and the folklore surrounding a pipestone quarry that attracted the inquisitive pioneers.

George Catlin, an author and popular portrait painter, had heard about the red rock while visiting tribes on the upper Mississippi River in the early 1800's. He was confident that it was different from other known minerals and set out to find it. Reaching the area on horseback, he wrote that he was "crossing one of the most beautiful prairie countries in the world...covered with the richest soil, and furnishes an abundance of good water, which flows from a thousand living springs." As he drew near the quarry he found "great difficulty in approaching, being stopped by several hundred Indians, who ordered us back and threatened us very hard, saying 'that no white man had ever been to it, and that none should ever go." Catlin forged ahead, arriving in 1836. He recorded, in painting and writing, the Native American's activities at the quarry. Before he left, he collected a sample of the red stone and sent it to Washington, D.C., to be analyzed. The new stone was given the geological name catlinite.

Charles Bennett, a druggist from Le Mars, Iowa, was intrigued by the legends of the pipestone quarry. He first traveled there in 1873 with a party of four others. He decided then that it would be the ideal place to establish a town. Previously, settlement of the region had been slowed by territorial disputes between the area's Native Americans and the U.S. government and eventually by the Civil War. Bennett returned in 1874 and, using a load of lumber hauled from Luverne, built the city's first house. The five-foot tall building was only meant to serve as a marker to show passers by that a claim had been made. After the death of his wife and infant son in Le Mars, Bennett asked his friend Daniel Sweet to return and hold his claim site. Bennett moved to Pipestone permanently in 1875. A grasshopper plague in 1876 drove some new residents away from the area, but Bennett and Sweet stayed on and platted the township of Pipestone City.

New settlers arrived and by 1878, Pipestone was a small but thriving trade center. Bennett was instrumental in bringing the railroad to Pipestone in 1879 by contributing cash and land to the rail companies. He also persuaded the Close Brothers Land Office, realtors from England, to open an office in Pipestone in 1884. The Close Brothers were partially responsible for a five-fold increase in the number of businesses within a year of the first train arrival and by 1880 the population of Pipestone was more than 200.


***Olive Street East, Pipestone, MN (1908)***

**<u>Pipestone National Monument</u> (***also see Chapter Three, Page 6***)**

Less than a mile north of the City of Pipestone lies the Pipestone National Monument, described in Native American legends as a square-cut jewel lying upon folds of shimmering green velvet. This is an accurate depiction of the red quartzite almost hidden by the vast prairie grasses. Designated a National Monument by Congress on August 25, 1937, the quarry is as rich in Native American history as it is in the red stone for which it is named. Monuments are distinct from national parks in that they act to preserve only on nationally significant resource.

Pipestone National Monument is not a monument in the conventional sense, not a towering statue to pose next to for vacation snapshots. The quarry is located on the west slope of a high plateau, called *Coteau des Prairies* by French explorers, the dividing ridge between the Mississippi and Missouri rivers. Today, only Native Americans are allowed to quarry pipestone. It may take up to three to six weeks to complete the quarrying process, which usually occurs from late May to late October. Only hand tools, such as sledge hammers, chisels, wedges and shovels can be used. To ensure that pipe making skills are passed on to new generations, the Upper Midwest Indian Cultural Center was created in the visitor's center at the Monument. Here Native American craftsmanship is demonstrated and the pipes and other handcrafted items sold.

For more information on the Pipestone National Monument, visit the following website:

**www.nps.gov/pipe/history.htm**

## PIPESTONE COUNTY'S DEMOGRAPHICS

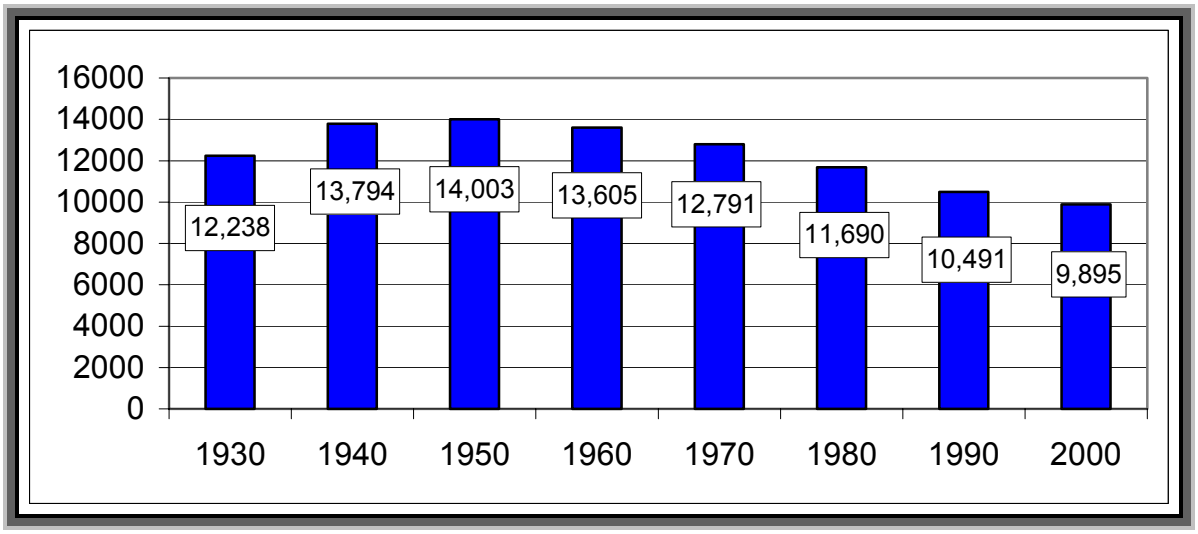
The demographic analysis within any comprehensive plan is intended to provide a background on the type, age and general characteristics of those people living within the plan's service area. By knowing the age and number of people living in Pipestone County, decision makers will be better able to understand trends that may be developing or that have the potential to develop. All of the data used in this chapter is taken from the Census and pertains mainly to countywide data. A copy of the County's 2000 Census Profiles can be found in Appendix A. Demographic data specific to the cities and townships can be found in Chapters Four and Five in the City and Township Profiles.

### Population Trends

A key trend to analyze in a County Comprehensive Plan is to look at the historic population levels within the County. Figure 1A illustrates Pipestone County's population data since 1930. Pipestone County's population peaked in 1950 at the height of agricultural employment and has since dropped in recorded population every ten years since.

The data comprising Figure 1A shows that the County grew by 1,765 people from 1930 to 1950. This was an annual average of 88.25 people per year, or a growth rate of 14.4 percent. From 1950 to the year 2000, Pipestone County lost 4,108 people, a decrease rate of 29.3 percent. The State's Demographers Office also publishes annual population estimates for all of the counties within Minnesota. Currently, the Demographers Office has estimated Pipestone County's 2001 population at 9,883 people, a loss of 12 people (-.1%) from the official 2000 Census.

**Figure 1A:**
**Historic Population Data (1930 – 2000)**




Source: U.S. Census, 1930 – 2000

One of the best ways to compare the County's rate of population growth (or decline) is to compare the similar results of its neighboring Counties. Table 1A does this for the twelve county area around Pipestone County, including all of Region 8 (Lincoln, Lyon, Redwood, Pipestone, Murray, Cottonwood, Rock Nobles and Jackson) and three counties in South Dakota.

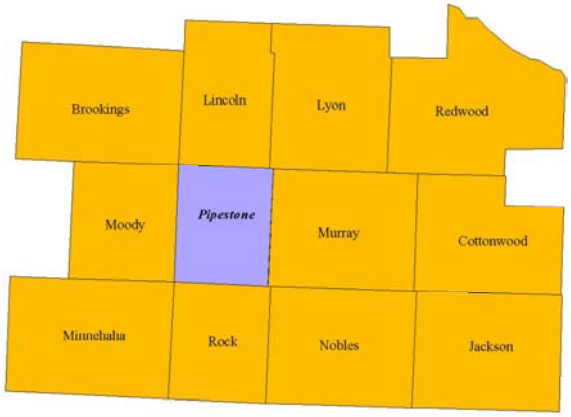
**Table 1A:**
**Twelve County Area Population Changes (1980 – 2000)**

| County | 1980 | 1990 | 2000 | 1980-2000 Change | Percent Change |
|---|---|---|---|---|---|
| **Cottonwood** | 14,854 | 12,694 | 12,167 | -2,687 | -18.09% |
| **Jackson** | 13,690 | 11,677 | 11,268 | -2,422 | -17.69% |
| **Lincoln** | 8,207 | 6,890 | 6,429 | -1,778 | -21.66% |
| **Lyon*** | 25,207 | 24,789 | 25,425 | 218 | 0.86% |
| **Murray** | 11,507 | 9,660 | 9,165 | -2,342 | -20.35% |
| **Nobles** | 21,840 | 20,098 | 20,832 | -1,008 | -4.62% |
| **PIPESTONE** | **11,690** | **10,491** | **9,895** | **-1,795** | **-15.36%** |
| **Redwood** | 19,341 | 17,254 | 16,815 | -2,526 | -13.06% |
| **Rock** | 10,703 | 9,806 | 9,721 | -982 | -9.17% |
| **South Dakota** | | | | | |
| **Brookings** | 24,332 | 25,207 | 28,220 | 3,888 | 15.98% |
| **Moody** | 6,692 | 6,507 | 6,595 | -97 | -1.45% |
| **Minnehaha** | 109,435 | 123,809 | 148,281 | 38,846 | 35.50% |

Source: US Census 2000

Table 1A shows that every county sharing a direct border with Pipestone County has lost population since 1980. Pipestone County lost the 4th highest percentage of its population compared to the other counties in Region 8. Two of the three counties in South Dakota showed large increases in population during this time span. This steady level of decreasing population is typically attributed to "specialization" in agriculture – decreases in the number of farms, increases in the size of farms and increases in the number of confinement type livestock operations. Not only has the real price farmers receive for the commodities they sell decreased, but the amount of positions that the agricultural industry used to support largely declined during the last half of the twentieth century.

**Figure 1B:**
**Pipestone and Surrounding Counties**



**Population by Age**

Much can be learned about an area by studying its population broken down into age categories. Using data provided from the U.S Census, the age of the County's population can be analyzed. Table 2B displays this information for the years 1980, 1990 and 2000.

From 1980 through 2000, there was an overall decrease in population of 15.36% in Pipestone County. In addition, Table 1B indicates that the age groups that had the highest percentage decreases were in the 20-24 and 25-34 age groups. The smallest decrease was seen in the 65-74 age group. Small increases were seen in the 45-54 and 75-84 age groups. The 35-44 age group saw continual increases during the entire period while the 85 and over group had the largest increase (60.16%), demonstrating an increasing demand to accommodate senior needs within the County. It should be noted, however, that the number of Pipestone County citizens between the ages of 65 and 74 decreased from 1,133 people in 1980, to 921 in 2000 (representing a decline of 18.71%). This trend was unique in Southwestern Minnesota, as a high number of counties are seeing large increases in elderly population. By comparison, the number of Pipestone County citizens under the age of 25 went from 4,667 in 1980, to 3,223 in 2000 (a decrease of 30.9%).

**Table 1B:**
**Pipestone County Population**
**by Age Category (1980 – 2000)**

| Age Group | 1980 | 1980 Percent of Total | 1990 | 1990 Percent of Total | 2000 | 2000 Percent of Total | 1980-2000 Percent Change |
|---|---|---|---|---|---|---|---|
| **0-9** | 1,736 | 14.85% | 1,668 | 15.90% | 1,241 | 12.54% | -28.51% |
| **10-19** | 2,063 | 17.65% | 1,554 | 14.81% | 1,574 | 15.91% | -23.70% |
| **20-24** | 868 | 7.43% | 468 | 4.46% | 408 | 4.12% | -53.00% |
| **25-34** | 1,412 | 12.08% | 1,420 | 13.54% | 989 | 9.99% | -29.96% |
| **35-44** | 1,039 | 8.89% | 1,264 | 12.05% | 1,450 | 14.65% | 39.56% |
| **45-54** | 1,135 | 9.71% | 907 | 8.65% | 1,220 | 12.33% | 7.49% |
| **55-64** | 1,279 | 10.94% | 1,017 | 9.69% | 901 | 9.11% | -29.55% |
| **65-74** | 1,133 | 9.69% | 1,120 | 10.68% | 921 | 9.31% | -18.71% |
| **75-84** | 774 | 6.62% | 751 | 7.16% | 789 | 7.97% | 1.94% |
| **85+** | 251 | 2.15% | 322 | 3.07% | 402 | 4.06% | 60.16% |
| **General Summary** | | | | | | | |
| **0-19** | 3,799 | 32.50% | 3,222 | 30.71% | 2,815 | 28.45% | -25.90% |
| **20-44** | 3,319 | 28.39% | 3,152 | 30.04% | 2,847 | 28.77% | -14.22% |
| **20-64** | 5,733 | 49.04% | 5,076 | 48.38% | 4,968 | 50.21% | -13.34% |
| **65+** | 2,158 | 18.46% | 2,193 | 20.90% | 2,112 | 21.34% | -2.13% |

Source: U.S. Census 1980 – 2000

**Median Age**

According to the U.S. Census, the median age between 1980 and 2000 increased in almost every community and township in Pipestone County (refer to Table 1C). Overall, Pipestone County's median age of 33.2 in 1980 increased to a median age of 40.2 in 2000. During this time, the Region 8 median age was 32.2 in 1980 and 39.9 in 2000. Statewide, this compares to 29.2 in 1980 and 35.4 in 2000. This shows that Pipestone County is closely following the State trend towards an increasingly elderly population.

**Table 1C:**
**Median Age for Political Subdivisions (1980 – 2000)**

| Political Subdivision | 1980 | 1990 | 1980 - 1990 Percent Change | 2000 | 1980 - 2000 Percent Change |
|---|---|---|---|---|---|
| ***Municipalities*** | | | | | |
| Edgerton | 38.9 | 43.3 | 11.31% | 49.7 | 27.76% |
| Hatfield | 27.3 | 27.5 | 0.73% | 34.3 | 25.64% |
| Holland | 49.7 | 38.5 | -22.54% | 43.9 | -11.67% |
| Ihlen | 27.8 | 40.4 | 45.32% | 41.8 | 50.36% |
| Jasper | 42.4 | 44.5 | 4.95% | 44.2 | 4.25% |
| Pipestone | 35.7 | 37.2 | 4.20% | 39.4 | 10.36% |
| Ruthton | 39.8 | 34.1 | -14.32% | 38.3 | -3.77% |
| Trosky | 40.5 | 32.5 | -19.75% | 41.5 | 2.47% |
| Woodstock | 46 | 39.7 | -13.70% | 39.8 | -13.48% |
| ***City Average*** | **38.68** | **37.52** | **-2.99%** | **41.43** | **7.12%** |
| ***Townships*** | | | | | |
| Aetna | 28.9 | 38 | 31.49% | 35.9 | 24.22% |
| Altona | 30.1 | 31.3 | 3.99% | 33 | 9.63% |
| Burke | 24.8 | 28.4 | 14.52% | 38 | 53.23% |
| Eden | 30.2 | 33.3 | 10.26% | 35.3 | 16.89% |
| Elmer | 25.3 | 28.1 | 11.07% | 34.7 | 37.15% |
| Fountain | 25.9 | 33.2 | 28.19% | 33.8 | 30.50% |
| Grange | 27.2 | 32.2 | 18.38% | 37 | 36.03% |
| Gray | 29.8 | 35.3 | 18.46% | 40.3 | 35.23% |
| Osborne | 25 | 30.1 | 20.40% | 39.2 | 56.80% |
| Rock | 26.5 | 32 | 20.75% | 40.8 | 53.96% |
| Sweet | 30.5 | 35.7 | 17.05% | 47 | 54.10% |
| Troy | 29.8 | 32.7 | 9.73% | 37.7 | 26.51% |
| ***Township Average*** | **27.83** | **32.53** | **16.86%** | **37.73** | **35.54%** |
| **Pipestone County** | **33.2** | **36** | **8.43%** | **40.2** | **21.08%** |
| **Region 8** | **32.2** | **36.9** | **14.60%** | **39.9** | **23.90%** |
| **Minnesota** | **29.2** | **32.5** | **11.30%** | **35.4** | **21.20%** |

Source: U.S. Census, 1980, 1990, 2000

## County Migration

A report by the Minnesota State Demographic Center (November 2000) identified the leading origins on in-migrants and out-migrants for each county in Minnesota. The information was based on Internal Revenue Service data and identifies the top origins and destinations for the years 1998 – 1999. Before examining this data, it is important to understand that the IRS data does a better job of counting out-migrants than it does of counting in-migrants. Since IRS data is based on matched income tax returns, they may undercount college students and other young adults, immigrants, newly divorced and separated people, and others who are likely not to have matchable returns. It does, however, allow for annual calculations while the U.S. Census only calculates migration once every ten years.

The IRS data indicates that the leading places of origin of in-migrants to Pipestone County during 1998 to 1999 were from Lincoln County (1st), Minnehaha County SD (2nd), Murray County (3rd) and Lyon County (4th). The leading places of destination of out-migrants from Pipestone County during the years spanning 1998 to 1999 were to Minnehaha County (1st), Rock County (2nd), Lyon County (3rd) and Nobles County (4th). Table 1D looks at Region 8's Natural Increase and Residual Net Migration for the years spanning 1990 – 2000. This data comes from MN Planning and is based on population data from the U.S. Census as well as birth and death data from the Minnesota Center for Health Statistics. The report from Minnesota Planning indicated that almost every county in Minnesota had a more positive migration pattern the 1990's than it did in the 1980's (more people migrated in than migrated out). Between 1990 and 2000, 55 of Minnesota's 87 counties experienced net in-migration. As Table 1D indicates, however, all of the counties within Region 8 experienced negative net migration during the 1990's.

**Table 1D**
**Natural Increase and Residual Net Migration, Region 8 (1990 – 2000)**

| County | 1990 Population | 2000 Population | Change | Births 4/1/90 - 03/31/00 | Deaths 4/1/90 - 03/31/00 | Natural Increase | Net Migration | Net Migration per 100 |
|---|---|---|---|---|---|---|---|---|
| Cottonwood | 12,694 | 12,167 | -527 | 1,392 | 1,604 | -212 | -315 | **-2.5** |
| Jackson | 11,677 | 11,268 | -409 | 1,206 | 1,281 | -75 | -334 | **-2.9** |
| Lincoln | 6,809 | 6,429 | -461 | 696 | 1,060 | -364 | -97 | **-1.4** |
| Lyon | 24,789 | 25,425 | 636 | 3,499 | 2,303 | 1,196 | -560 | **-2.3** |
| Murray | 9,660 | 9,165 | -495 | 1,009 | 1,009 | 0 | -495 | **-5.1** |
| Nobles | 20,098 | 20,832 | 734 | 2,903 | 2,056 | 847 | -113 | **-0.6** |
| **Pipestone** | **10,491** | **9,895** | **-596** | **1,222** | **1,275** | **-53** | **-543** | **-5.2** |
| Redwood | 17,254 | 16,815 | -439 | 2,057 | 2,162 | -105 | -334 | **-1.9** |
| Rock | 9,806 | 9,721 | -85 | 1,153 | 1,064 | 89 | -174 | **-1.8** |

*Natural Increase=(births – deaths) and Net Migration=(population change – natural increase).
Source: MN Planning – MN State Demographic Center

## Households and Average Household Size

Table 1E shows population, number of households and average household size in Pipestone County for the years spanning 1970 through 2000 (the United States Census defines household as "including all of the people who occupy a housing unit as their usual place of residence"). There was a slight increase in the number of households from 1970 to 1980, however, the County lost most of what it gained by 1990. Pipestone County also witnessed a decreasing average household size, going from an average of 3.21 people per household in 1970, to 2.43 people per household in 2000. Smaller household sizes were seen throughout Minnesota during the same time span.

**Table 1E:**
**Population and Households in Pipestone County**
**(1970 – 2000)**

| Year | 1970 | 1980 | 1990 | 2000 |
|---|---|---|---|---|
| **Population** | 12,791 | 11,690 | 10,491 | 9,895 |
| **Households** | 3,982 | 4,357 | 4,078 | 4,069 |
| **Household Size** | **3.21** | **2.68** | **2.57** | **2.43** |

Source: U.S. Census 1970 - 2000

## Population Projections

The information presented to this point in the Chapter helps to pinpoint a reliable range of population projections for the County over the next 20 years. Chapters Five and Six provide detailed population and household projections for each city and township located within Pipestone County. These projections should be used to plan for each of these identified areas.

Table 1F presents three population projections for the entire County based on its historic level of growth since 1960. In addition to the historic-based projection (the one referred to as "based on the last 40 years" in the Table), Table 1F includes population projections that are based on a slow rate of decline and a slow rate of population gain. Ordinarily, projections would be based on historic rates of growth and include projections for both a slower and faster rate of growth. However, Pipestone County's population has a historic rate of decline and rather than plan for three different possibilities of population decline, what would be the "fast rate of decline" projection has been changed to a "slow rate of growth". The slow decline projection is 50 percent of the County's historic rate of decline. Likewise, the slow rate of growth projection is a 50 percent growth of the County's historic rate of decline. The combination of the slow decline, historic, and slow growth population projections provide a reliable range of possibilities that could occur in Pipestone County over the next 20 years.

## Table 1F:
## 20-Year Population Projections Pipestone County

| County's Population | 1960 | 1970 | 1980 | 1990 | 2000 | Change |
|---|---|---|---|---|---|---|
| | 13,605 | 12,791 | 11,690 | 10,491 | 9,895 | -3,710 |
| **County's Population Projections** | | **2005** | **2010** | **2015** | **2020** | **Change** |
| Based on Slow Decline | | 9,663 | 9,431 | 9,199 | 8,967 | -928 |
| Based on The Last 40 Years | | 9,431 | 8,968 | 8,504 | 8,040 | -1,855 |
| Based on Slow Growth | | 10,127 | 10,359 | 10,591 | 10,823 | 928 |

Table 1F suggests that Pipestone County would lose an additional 1,855 residents by the year 2020, if it simply experiences the same growth rate over the next 20 years as it has since 1960. This decrease would continue to have negative impacts on the economy, school enrollments and County's tax base. Although the loss of this many residents would cause may population decline-related problems, the potential for a slow rate of growth also does exist. Table 1F shows a potential increase of 928 people for the slow growth estimate.

Pipestone's situation of continual population loss is not unique in southwest Minnesota. Furthermore, one important characteristic of population projections must be clearly understood: ***they are only an estimate of potential population gain or loss.*** The main function of the projections are not to be "right" as much as it is for the County to be "prepared" for population fluctuations. The following text box explains what variables can factor into population projections.

**A note about population projections...**

A population projection is a well-informed estimate of how many people could live in an area in the future. One of the best indicators used to make a reliable estimate is the area's historic level of growth. For example, if a community has grown by an average of two people per year for the last 20 years, it is often assumed that this average rate of growth will continue into the future.

The difficult part of making population projections is determining whether past trends will continue and, if not, how they will change. The future population of a community is derived from its present population plus births and net migration minus any deaths. Therefore, any factor that influences births, deaths, or migration will alter the projected population. In addition, the community's population can also change simply by altering its attractiveness to both current and potential residents, the ease and cost of community employment areas; employment opportunities within the community; local housing supply and housing costs; and the community's overall aesthetics (lakes, scenery, etc.).

As a result of the complexity of making population projections, they should only be viewed as ***estimates***. To help compensate for their uncertainty, the population projections used in this comprehensive plan provide a low, a medium, and a high range of possibilities.

## Household Projections

Using the population projections found in Table 1F (and reproduced again below) and the household size information presented in Table 1E, household projections for Pipestone County can be created. The results are shown in Table 1G. An average size of 2.4 per household was used, due to the County's 2000 average of 2.43 people and taken into consideration a shrinking average household size. If the County experienced the same level of population loss over the next 20 years as it has since 1970, the County would lose approximately another 580 households. This decrease, however, could reach a leveling off point and might even start to rebound for a variety of reasons (i.e., land availability, economic development, low cost of living, etc.).

One of the trends currently being noticed throughout rural Minnesota is the demand for rural residential housing. This is sometimes viewed by current residents in a number of different ways. On one side, some townships like to see new housing, primarily because in theory, it increases their tax base. On the other side, new housing is sometimes placed in areas that encroach on the farming community. Furthermore, new rural residents often place additional demands on public services, such as school busing and snow removal. For these and other reasons, it is advantageous to discuss the ideal location of new rural residential development before it occurs.

**Table 1G:**
**Pipestone County Population and Household Projections**

| County's Population Projections | 2005 | 2010 | 2015 | 2020 | Change |
|---|---|---|---|---|---|
| Based on Slow Decline | 9,663 | 9,431 | 9,199 | 8,967 | -928 |
| Based on The Last 40 Years | 9,431 | 8,968 | 8,504 | 8,040 | -1,855 |
| Based on Slow Growth | 10,127 | 10,359 | 10,591 | 10,823 | 928 |
| **County's Household Projections Based on 2.4 People per Unit** | **2005** | **2010** | **2015** | **2020** | **Change** |
| Based on Slow Decline | 4,026 | 3,930 | 3,833 | 3,736 | -290 |
| Based on The Last 40 Years | 3,930 | 3,737 | 3,543 | 3,350 | -580 |
| Based on Slow Growth | 4,220 | 4,316 | 4,413 | 4,510 | +290 |

# Chapter Two:
# Pipestone County's Natural Resources

This Chapter profiles Pipestone County's natural resources. One of the main goals of the comprehensive planning process was to incorporate the County's Water Plan into the County's Comprehensive Plan. This is accomplished by breaking the County's typical water plan into three components. First, this chapter identifies the County's priority water planning issues. Second, many of the data items (natural resource topics) typically found in a County's Water Plan are described. Third, Chapter Six establishes the County's Goals, Objectives and Policy Guidelines, including a section devoted to natural resources. This is where the County's "traditional" water planning action steps are located.

## Pipestone County
## Natural Resource Issues Meeting

The Pipestone County Planning Commission and Comprehensive Planning Task force hosted a special public informational meeting to identify and discuss the County's key natural resource issues. The meeting was well advertised in the newspaper and letters were mailed out to all local governmental units (including adjacent counties) and various governmental agencies. The meeting took place on May 14, 2003, at the Pipestone County Courthouse (at 8 p.m.) and had 21 participants. The following issues were discussed:

1. This Comprehensive Plan should serve as the County's Water Plan.

2. The County needs to be conscientious of the impact the comprehensive plan will have on the agricultural community.

3. The comprehensive plan should identify the connection between Pipestone County's surface- and groundwater.

4. The County needs to learn how they can partner with Lincoln-Pipestone Rural Water on water resource issues.

5. The Comprehensive Plan should identify Wellhead Protection Areas and should assist with sealing abandoned wells.

6. Implementation steps should focus on general water education (i.e., using the Prairie Ecology Bus, newsletters, etc.).

7. Individual Sewage Treatment Systems (ISTS) – what are Pipestone County's current ISTS regulations? What State mandated changes are on the horizon? How can the County assist with septic upgrades?

8. The plan should explain the need for storm water protection and identify the County's NPDES Phase II requirements (if applicable).

9. Water retention/surface water management
    a. Address flooding (City of Pipestone – how serious is it and what can be done?)
    b. Erosion control

10. Total Maximum Daily Loads (TMDLs) – learn more about what can be done

11. Use intergovernmental cooperation to address groundwater issues, including the Rock, Red Rock and Lincoln/Pipestone Rural Water Associations. Learn how to protect the County's aquifers.
    a. Irrigation & wells (including the 10 monitoring sites)
    b. Who are the key players and what role do they play?
    c. Explore developing a Water Conservation Plan (i.e., for household use)
    d. Explore developing a countywide Drought Contingency Plan (i.e., when would County restrictions kick in?)
    e. Examine the Lewis and Clark Diversion Project (to Laverne)

12. Learn about the study on County Ditch #1 (double as Pipestone Creek) from FEMA & the Army Corps of Engineers.

13. Learn more about the Topeka Shiner (on the endangered species list).

14. Feedlots (some townships have chosen to administer tougher feedlot regulations)

15. Reference issues regarding the State Park and National Monument.

16. Properly address soil erosion.

17. Learn more about the County's aggregate source and aggregate needs.

18. Identify and address the County's wind turbine issues.

**Priority Water Planning Issues**

Based upon the results of the natural resource meeting and feedback received throughout the planning process, Pipestone County identified five priority water planning issues. The first one pertains to simply creating ***reasonable*** environmental standards, regardless of which issue a policy is addressing. The second and third priority issues strive to enhance and protect the County's surface water (issue #2) and groundwater (issue #3) resources. The fourth issue is to systematically address reducing the County's priority pollutants (i.e., soil erosion, feedlots, ISTS, etc.). Finally, the last issue identified is to raise the public's awareness on a number of key natural resource issues. ***The rest of the Chapter is primarily organized under these five issues, however, many of the topics discussed could be mentioned under more than one category.*** Furthermore, most of the County's general natural resource information is found in Section One under the creating reasonable environmental standards profile.

# Section One:
# General Natural Resources Profile

## Climate and Precipitation

Because of its location near the center of North America, Pipestone County is subject to a variety of air masses that affect the amount of precipitation that falls within the County. During the winter months, cold, dry continental polar air dominates the region. Hot, dry continental tropical air masses from the desert southwest, along with warm, moist maritime tropical air masses that originate over the Gulf of Mexico, are common during the summer months. The spring and fall months serve as transitional periods. Table 2A shows that Pipestone County's temperatures range from an average of 11 degrees Fahrenheit in January to an average 72 degrees Fahrenheit in July. The Table also shows that Pipestone County ranges from an average low of one-half inch of precipitation in February to a high average of nearly four inches in the month of June.

**Table 2A: Pipestone County's Average Temperatures and Precipitation**

| Element | JAN | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | YEAR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Average Max °F | 20.6 | 27.1 | 39.4 | 55.8 | 69.2 | 78.5 | 83.1 | 80.9 | 71.8 | 58.9 | 39.0 | 25.5 | 54.2 |
| Average Min °F | 1.7 | 8.8 | 21.0 | 33.3 | 46.2 | 55.7 | 60.1 | 57.6 | 46.7 | 34.2 | 21.0 | 7.4 | 32.8 |
| Mean °F | 11.2 | 18.0 | 30.2 | 44.6 | 57.7 | 67.1 | 71.6 | 69.3 | 59.3 | 46.6 | 30.0 | 16.5 | 43.5 |
| Precip (inches) | 0.55 | 0.51 | 1.72 | 2.41 | 3.32 | 3.93 | 3.31 | 3.10 | 2.76 | 2.22 | 1.52 | 0.60 | 25.95 |

**(1971-2000 from the Midwest Regional Climate Center)**

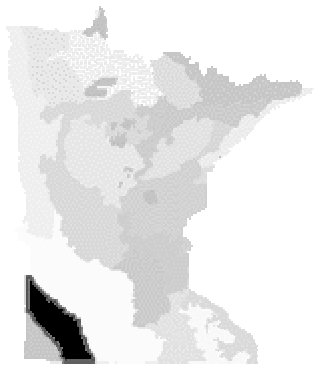
For more information on the County's climate, contact the State Climatology Office at (651) 296-4214 or visit their website at: **www.climate.umn.edu**

## Topography

Three of North America's ecological regions (representing the major climate zones) converge in Minnesota: prairie parkland, deciduous forest and coniferous forest. The presence of three biomes in one non mountainous state is unusual, and accounts for the diversity of ecological communities in Minnesota. The Prairie Parkland region covers most of the area in Minnesota occupied by tall grass prairie before settlement, including Pipestone County. Topography is predominantly level to gently rolling. Major land forms include lake plains and ground moraines. In Minnesota, the Prairie Parkland ecological system is broken down into the Red River Valley and the North Central Glaciated Plains (which includes south-western Minnesota).

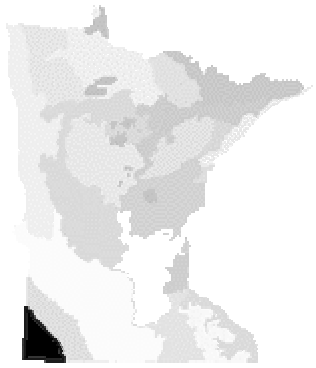
The North Central Glaciated Plains is further subdivided into three subsections: the Minnesota River Prairie, the Coteau Moraines and the Inner Coteau. Pipestone County falls with both the Coteau Moraines and the Inner Coteau. These are described below:

**Coteau Moraines**



The southern boundary of this subsection is characterized as a transition from shallow deposits of wind blown silt (loess) over glacial till to deeper deposits of loess. To the northwest, a steep escarpment marks the boundary. This becomes less evident to the southeast to southwestern boundary of this subsection. This subsection is a unique area occupying southwestern Minnesota, southeastern South Dakota and northwestern Iowa. It is a high glacial landform, topped by the Buffalo Ridge (1995 feet) in northern Pipestone County. This high elevation is caused by thick deposits of pre-Wisconsin age glacial till (up to 800 feet thick). There are two distinct parts to this subsection. They include the middle Coteau, and the outer Coteau. The middle Coteau is a landscape of rolling moraine ridges of late-Wisconsin drift mantled with loess 1-3 feet thick. The outer Coteau, a series of terminal and end moraines separated by ground moraines, ranges from gently undulating to steeply rolling and hilly. A steep escarpment marks the northeast edge of the unit. It is cut by several streams, which occupy narrow, straight ravines. This escarpment fades to the southeast and becomes indistinct on the Iowa border.

**Inner Coteau**

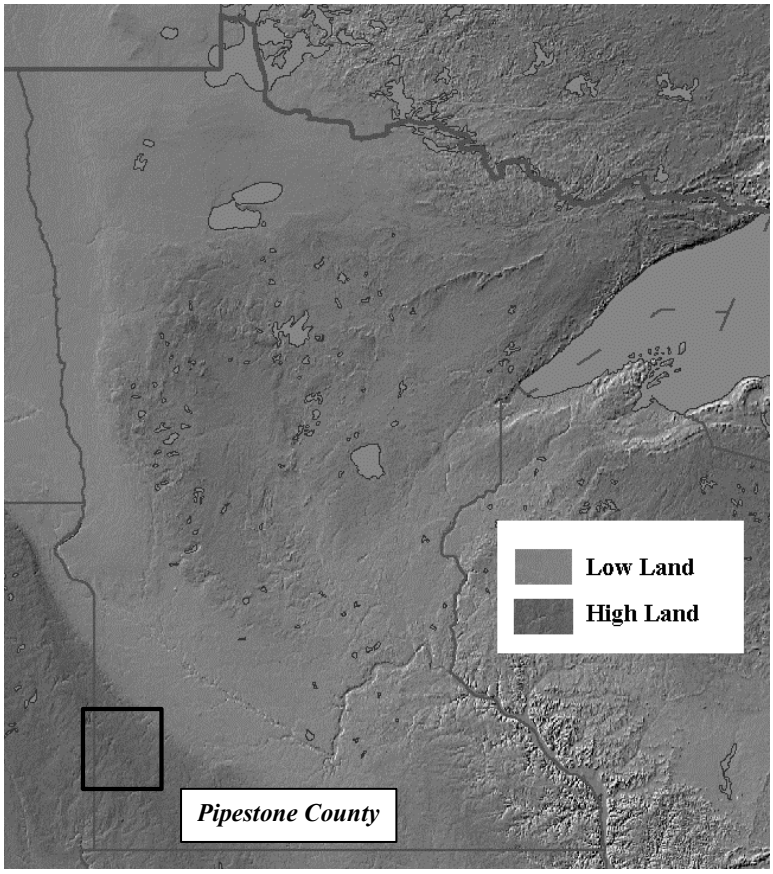


The boundary of this subsection coincides with the highest portion of the whole coteau complex. The northern boundary (with the Coteau Moraines) is a transition between areas of thick loess deposits and thinner deposits over glacial till. This subsection is a unique area occupying southwestern Minnesota, southeastern South Dakota and northwestern Iowa. It is a high glacial landform, topped by the Buffalo Ridge (1995 feet ASL) in northern Pipestone County. This high elevation is caused by thick deposits of pre-Wisconsin age glacial till (up to 800 feet thick). The Inner Coteau consists of highly dissected moraines of pre-Wisconsin drift, capped by thick (6 to 15 feet) wind-blown silt (loess) deposits.

Bedrock is covered by up to 800 feet of glacial till through most of the subsection. There are exposures of bedrock in Rock and Pipestone counties. A massive outcrop of red Upper Precambrian quartzite is located in these counties.

Pipestone County's topography can also be shown through an aerial photograph taken of Minnesota (downloaded from www.dnr.state.mn.us and revised). Figure 2A shows that Pipestone County is located on higher ground than much of southern Minnesota. This topography results in Pipestone County having more streams than lakes.

**Figure 2A:**
**Minnesota's Topographic Relief**




**Wind Turbines (partially recreated from http://www.pipestonestar.com/)**

The region has been involved in the wind industry since 1986, when NSP began a test site near Holland in Pipestone County with three wind turbines. Average wind speeds along the summit of the ridge total about 16.1 miles per hour, making it Minnesota's windiest region. This area of Minnesota is bisected by what locals call Buffalo Ridge. Points along the ridge are several hundred feet higher than other parts of the state. The Pipestone County Wind Project began in 1997 when Lake Benton Power Partners (a subsidiary of Enron Wind Corporation) signed a contract with Northern States Power Company (NSP) to supply non-polluting wind-generated electricity. The contract will supply NSP customers with 20 years of clean electricity. In 2002, this generated nearly $400,000 (roughly 10%) in county tax revenues.

One of the problems that has stemmed from the success of wind turbines in Pipestone County is deciding the proper placement of additional turbines (and transfer stations). It is important that operating wind turbines not interfere with the performance of one another. The distance between individual turbines at along Buffalo Ridge is approximately 552 feet. With the footprint of each turbine only 20 feet, the entire hardware for the project uses only two percent of the land

involved. The Pipestone project uses 128 Zond Z-750 kilowatt wind turbines, largest made in the United States. Each wind tower or turbine stands about 257 feet at its highest tip and weighs nearly 200,000 lbs. One 750 KW wind turbine can supply the annual electricity needs of 250 average homes. Each turbine foundation is a 37x37x3-ft. slab of concrete, buried underground, with a 15.5x15.5x6 foot pier, extending four feet out of the ground. During construction the wind turbine towers are bolted to the concrete pier. Each foundation uses 415 tons of concrete and four tons of rebar. Each tower has three blades, 82 feet long and 5,566 lbs. each. With blades assembled the diameter is 165 feet per tower. The tower is a 168-foot tube and weighs about 125,000 lbs.

Another concern that has developed is the need for the County to maintain a data base of where the wind and other towers are located along with detailed info of each site.

***Proactively Addressing Wind Turbines:*** One of the County's policy guidelines found in Chapter Six is to revise the County's Zoning Ordinance to properly address the long-term needs of wind turbines (i.e., placement, spacing, road access, etc.). Specifically, the following policy guidelines were established by the Comprehensive Planning Task Force:

- ✓ The placement and impacts of wind turbines (and transfer stations) should be examined for multiple purposes, including the protection of scenic and cultural landscapes (Ch. 6, Pg. 16, Objective A, Guideline 15).

- ✓ The County should maintain a database of wind turbine locations (Ch. 6, Pg. 17, Objective A, Guideline 5).

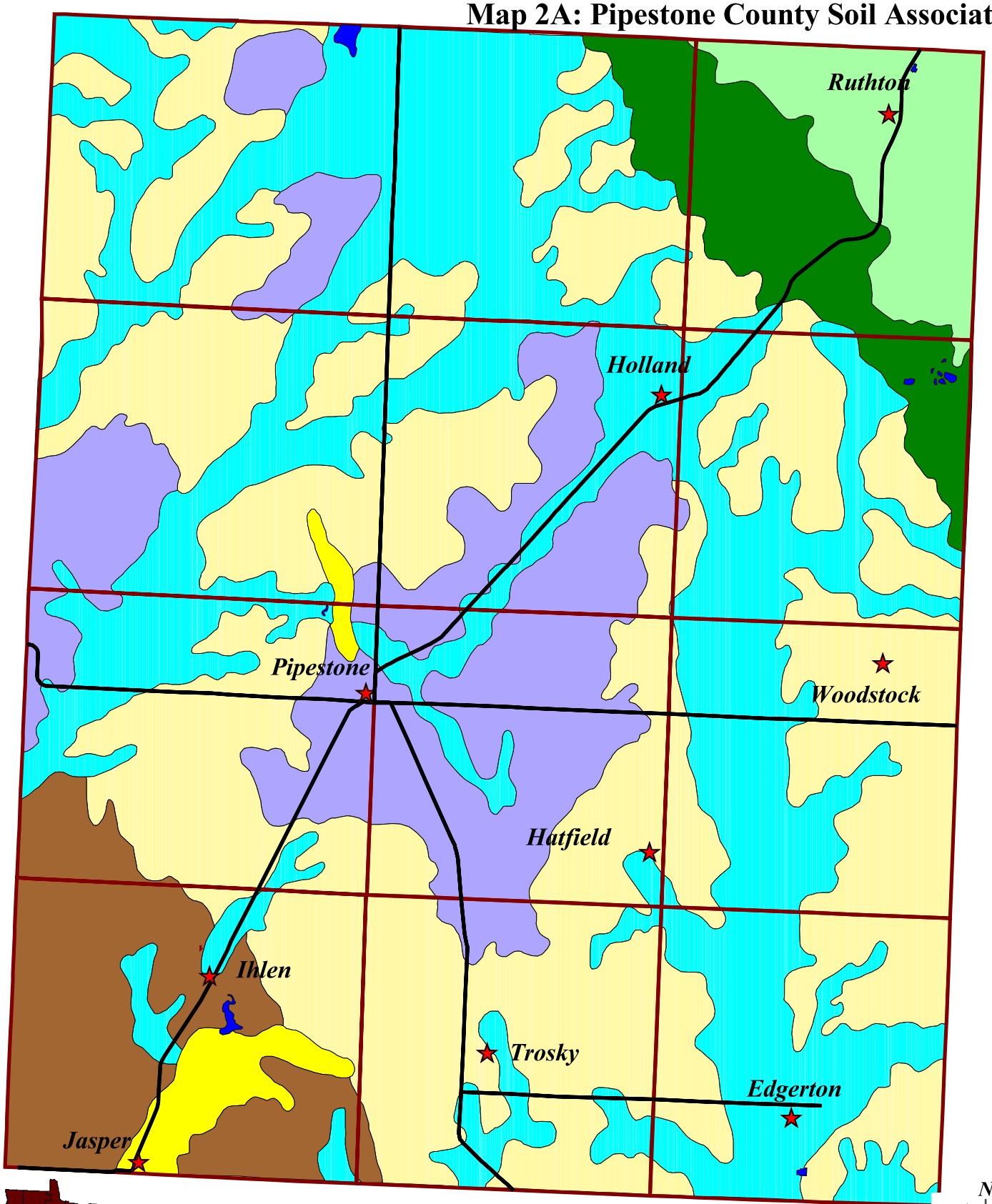
## Pipestone County's Soils

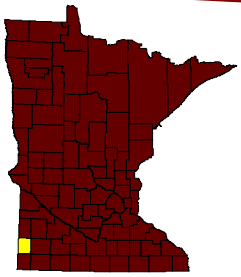
The soils of Pipestone County have been divided into seven major soil associations (See Map 2A). The following is a brief description of each. More detailed information can be found in the Soil Survey of Pipestone County (currently being updated by NRCS).

***Estelline-Lamoure Association -*** Soils in this association occur mainly along the streams and creeks covering about 27 percent of the County. Primarily, the soils are located along the Rock River and Pipestone Creek. Estelline soils have reduced water holding capacity and are subject to drought, while wetness and flooding are the main problems with the Lamoure soils.

***Brookings-Hidewood Association -*** About 13 percent of the County is covered by this association containing soils of nearly level moraine covered by a mantle of loess. Brookings soils are on slight rises and on the lower parts of side slopes. Hidewood soils are in drainage ways and on wet flats. This association is suited for intensive farming having a nearly ideal slope and soil characteristics for cultivated crops. Wetness is a limitation of Hidewood soils, whereas Brookings soils have no major limitations. In some areas containing this association, however, where underlying glacial till is composed of heavy clay, septic tank drain fields do not function properly.

# Map 2A: Pipestone County Soil Associations



**Soil Associations**

- Barnes-Buse
- Barnes-Flom
- Brookings-Hidewood
- Estelline-Lamoure
- Ihlen-Rock outcrop
- Kranzburg-Vienna
- Moody-Trent-Whitewood

- Major Roads
- Lakes
- Townships
- Municipalities

N
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S

Source:
MN DNR Data Deli &
MN Planning CBP Data Sets

1 0 Miles 1 2

***Kranzburg-Vienna Association -*** This association consists of broad ridgetops and side slopes that end in drainage ways and covers about 41 percent of the County. Most areas are covered by a thin mantle of loess that overlie glacial till. The slopes are long, smooth and gentle. Erosion is the major limitation of soils in this association; the long smooth slopes make them well-suited to contour farming.

***Barnes-Buse Association -*** This association consists of a rolling to hilly moraine known locally as the "Buffalo Ridge" (Coteau des Prairies) and covers about five percent of the County. Much of the acreage of the association is in pasture or range due to its susceptibility to erosion.

***Barnes-Flom Association -*** About four percent of the County is covered by soils in this association. They are well to poorly drained, deep loamy soils formed in glacial till on uplands. The major soil hazards in this association are erosion of Barnes soils on the undulating slopes and wetness of the Flom soils in the level drainage ways.

***Ihlen-Rock Outcrop Association -*** This association has a nearly level to gently sloping landscape covering only about one percent of the County. Rock outcrops are numerous and quartzite bedrock is at a depth of less than three feet below the land surface in most places. The majority of the association is around Ihlen, Jasper and the Pipestone National Monument. The soils are used predominantly for pasture and range.

***Moody-Trent-Whitewood Association*** - Soils of this association are found in the southwestern portion of the County. The slopes are long, smooth and gentle and most of the association is under cultivation. Erosion is the major limitation for Moody soils; Trent soils have no serious limitations; and, wetness is a limitation with Whitehead soils.

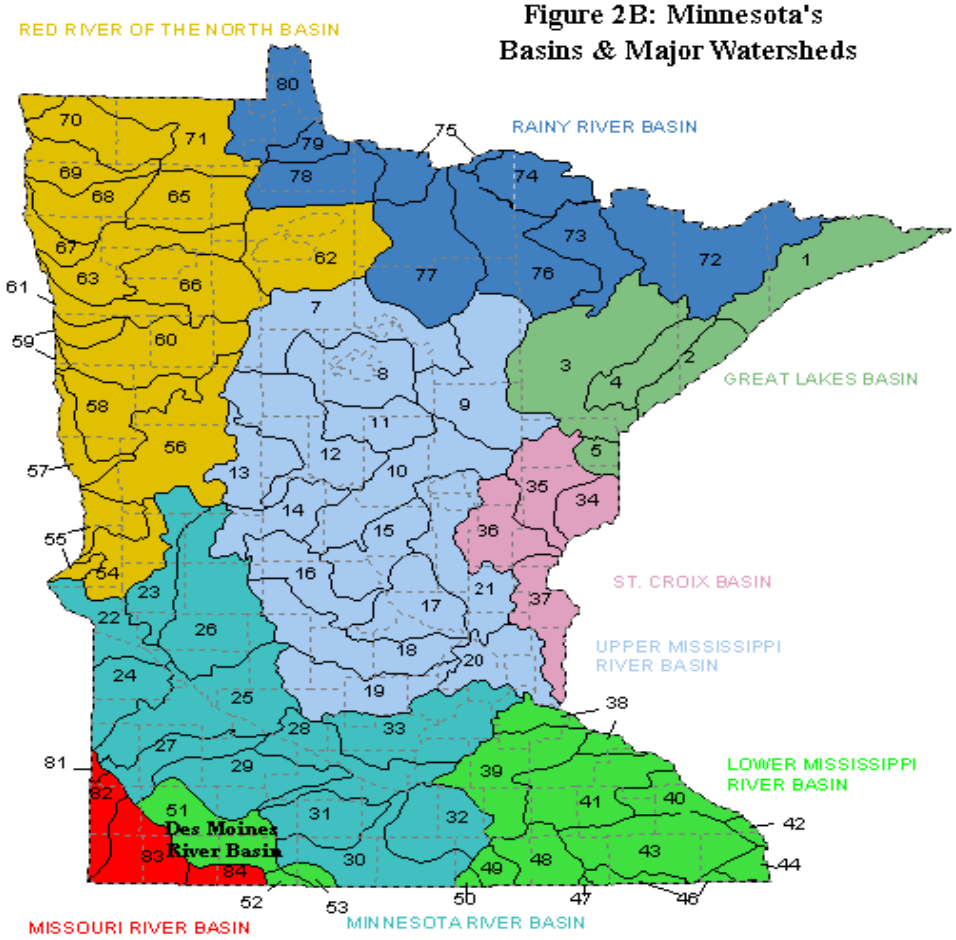
***Proactively Addressing Soils:*** There are numerous policy guidelines found in Chapter Six that relate to protecting the County's soils. Most of these are discussed in Section Four (Reducing Priority Pollutants) beginning on page 27 of this Chapter under the wind and water erosion subtopics.

## Section Two:
## Surface Water Profile

### Basins and Watersheds

A basin (or drainage basin) is the area of land drained by a river or lake and its tributaries. Minnesota has 10 major drainage basins (see Figure 2B). According to Figure 2B, Pipestone County is located within three of Minnesota's drainage basins. The majority of the County is located in the Missouri River Basin, with portions of the Minnesota River and Des Moines River Basins in the northeastern part of the County. Each basin is also broken down into its major surface-water watersheds, commonly referred to as major watersheds. Furthermore, each major watershed is broken down into minor watersheds. Figure 2B and Map 2B shows that Pipestone County has four major watersheds. The Redwood River Major Watershed (number 27 below) is located in the Minnesota River Basin. The West Fork Des Moines – Head Watershed (number 51) is located in the Des Moines River Basin. Finally, the Big Sioux – Pipestone (number 82) and the Rock River (number 83) Watersheds are both located in the Missouri River Basin. Map 2B also shows the location of the County's minor watersheds (with their corresponding five digit identification number).

**Figure 2B: Minnesota's Basins & Major Watersheds**



**The Big Sioux River Watershed** – is a branch of the Missouri River, it is the largest watershed in Pipestone County. The total land area in the watershed is 263.4 square miles. The Big Sioux is made up of five minor watersheds, they include the Spring Creek, Flandueau Creek, Pipestone Creek, Lower Pipestone Creek, and Split Rock Creek. The watershed predominately consists of the Kranzburg-Vienna Soil associations, with some areas of Estelline-Lamour and Brookings-Hidewood associations. Slopes are long smooth and gentle throughout most areas, this is because most irregularities in the glacial till have been filled in and leveled off by wind-deposited silty material. Slopes range from 0 - 4% with a seasonal high water table of 5 - 10 feet. Area is mostly cropped and suitable for all crops grown in the county. Soil loss limits range throughout the watershed but are approximately 5 - 10 tons per acre per year through much of the watershed. The Pipestone National Monument (see Ch. 3, Pg. 6) is located in this Watershed and occasionally is a recipient of flooding that sometimes takes its toll on bridges and railings. In addition, a good deal of debris moves into the Monument during these events.

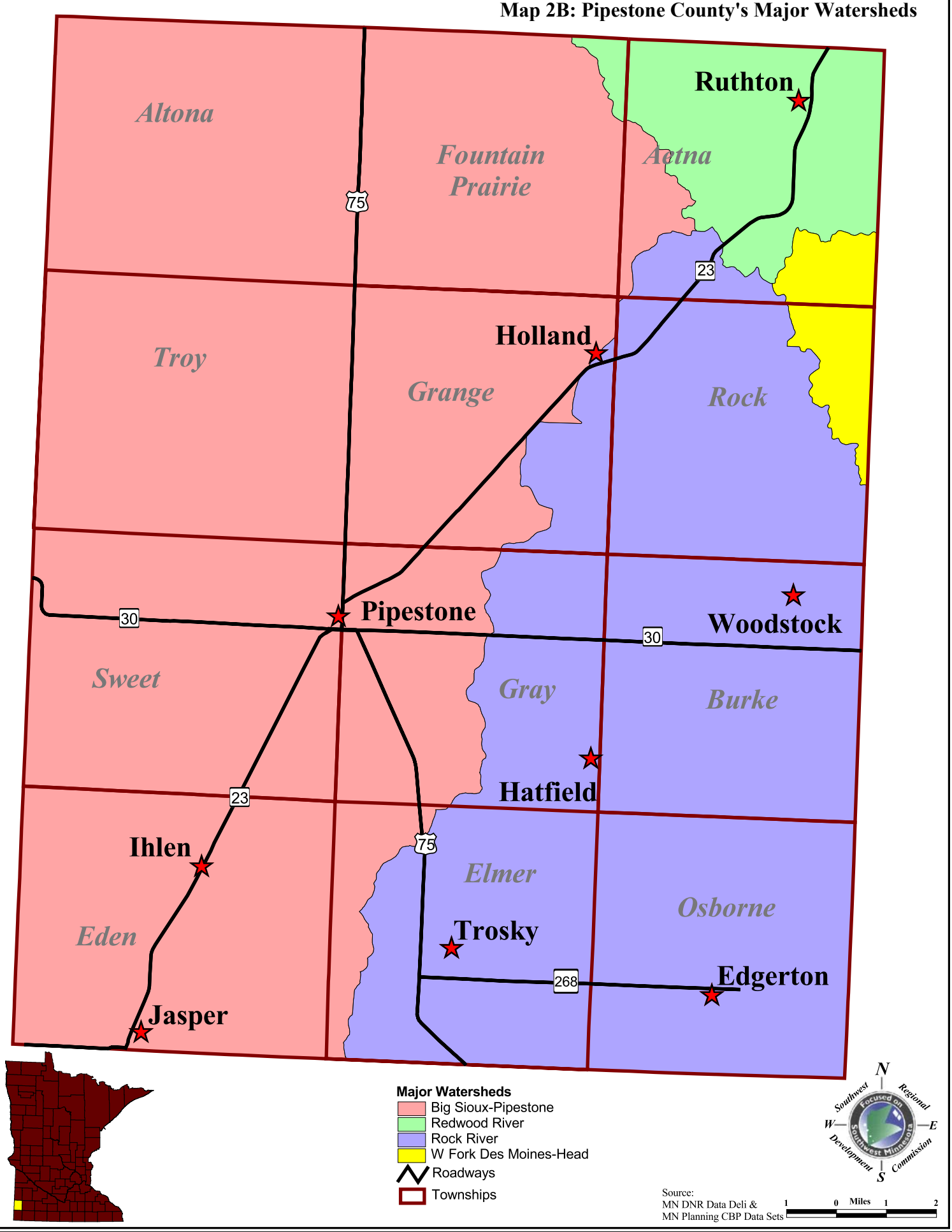
**The Rock River Watershed** – is located in the eastern part of the county and is a branch of the Missouri River Watershed. The watershed consists of 166.2 square miles and has five minor watershed. They are the Upper Rock River, Polar Creek, Chanarambie Creek, Rock River, and Hardwick. There are two soil associations within the watershed, there is Esteline-Lamoure soils which boarders the river. These soils are well-drained to poorly drained. They were formed under prairie vegetation in moderately fine textured wind-blown or water-laid material over calcareous sand and gravel. Seasonal water table may be at or near the surface in spring and during periods of wetness for lamoure soils and 5 - 10 feet for Esteline soils. Slopes are generally flat and range from about 0 - 2%. There are also Kranzburg-Vienna soil associations throughout the remainder of the watershed. Slopes are long smooth and gentle throughout most areas. This is due to irregularities in the glacial till being filled in and leveled off by wind-deposited silty material. Slopes range from 0 - 4% with a seasonal high water table of 5 - 10 feet. The watershed is mostly cropped and suitable for all crops grown in the county. Soil loss limits range throughout the watershed but are approximately 5 - 10 tons per acre per year through much of the watershed. Along the river banks there are some areas that are eroding at a much higher rate and may need some type of bank stabilization plan.

In the past there have been reports of high fecal coliform bacteria being found in water tests of surface waters. Feedlots that discharge pollutants into surface waters may be a large portion of this problem, or it may be caused from septic systems which are not installed or functioning properly.

**The Minnesota River Watershed** – is located in the northeastern part of the county surrounding the City of Ruthton. There are two minor watersheds within the Minnesota River Watershed, they are; the Tyler Watershed, which flows into Lincoln County and the Redwood River Watershed which flows northeasterly.

Soils throughout the watershed are predominately Barnes-Flom Associations. Barnes series are well-drained, gently undulating to moderately steep soils on glacial uplands, with seasonal high water table of about 5 - 10 feet. Flom series consists of poorly drained, nearly level soils in

## Map 2B: Pipestone County's Major Watersheds



drainage ways, at the base of steep slopes, around the edges of depressions, and in low-lying, somewhat wet, flat areas. Seasonal high water table is located within 2 feet or less of the surface. These soils were formed under prairie vegetation in medium-textured glacial till.

The Redwood Cottonwood Rivers Control Association is working throughout the Redwood River Watershed to reduce sediments and contaminants from entering the river. Through various state and federal grants it has been possible for RCRCA to increase staffing and programs. At this time installation of conservation practices, public awareness, and water testing within the watershed is being done.

In 1989 several federal, state and local agencies began a four-year comprehensive study of the Minnesota River basin. This cooperative effort, the Minnesota River Assessment Project (MRAP), was designed to evaluate how pollution is entering the Minnesota River and how the river is affected by pollution. The purpose of the study was to examine the water chemistry, the biological communities and the land uses that characterize the Minnesota River Basin. The river was found to be one of the State's most highly polluted waters, particularly from nonpoint sources of pollution. High levels of fecal coliform bacteria's are often present in the river, feedlots and inadequately treated sewage may be large contributors of this problem. Sedimentation of silt size or smaller was found to be passing through the river in Mankato at a rate of 2700 tons per day.

In 1995, the Minnesota River Basin Joint Powers Board was formed. This board consists of one delegate from each member county's Board of County Commissioners. At the same time a Minnesota River Basin Joint Powers Board, Technical Advisory Committee (TAC) was formed. The TAC was formed to advise the Board on technical decisions.

Land use within the watershed is used primarily for crop production. At this time approximately 6% of the watershed has been enrolled into the CRP program. In 1988 the Minett-Krantz Reservoir was constructed in section 23 of Aetna Township. The reservoir has a drainage area of 1,890 acres, a pool size of 10 acres and a depth of 23 feet. The reservoir was constructed for the following purposes; flood control, fishing and recreation.

**The Des Moines River Watershed** – consists of 8.7 square miles, it is located towards the northeast portion of the county, just to the south of the Minnesota River Watershed. The Beaver Creek is the only minor watershed.

Soils throughout the watershed are predominately Barnes-Flom Associations. Barnes series are well-drained, gently undulating to moderately steep soils on glacial uplands, with seasonal high water table of about 5 - 10 feet. Flom series consists of poorly drained, nearly level soils in drainage ways, at the base of steep slopes, around the edges of depressions, and in low-lying, somewhat wet, flat areas. Seasonal high water table is located within 2 feet or less of the surface. These soils were formed under prairie vegetation in medium-textured glacial till. Land use within the watershed is used primarily for crop production.

## Wetlands

There are three major sources of wetland inventory maps for Pipestone County, including the U.S. Fish and Wildlife Service (USFWS), Natural Resource Conservation Service (NRCS) and Minnesota Department of Natural Resources (DNR). The USFWS has identified wetlands through its National Wetlands Inventory. Wetlands located within cropland have been inventoried by the NRCS. Finally, the Minnesota DNR has identified wetlands as part of the Protected Waters Inventory.

Map 2C displays the USFWS National Wetlands Inventory for Pipestone County (along with the County's other major water features). This Inventory classifies the wetlands into eight "wetland types". Wetlands are differentiated by depth of water, vegetation and seasonal life-span. The U.S. Fish and Wildlife Service's wetland categories are defined as follows:

**Type 1: Seasonally Flooded Basins or Flats:** Soil is covered with water or is waterlogged during variable seasonal periods, but usually is well drained during much of the growing season. Vegetation varies greatly according to season and duration of flooding.

**Type 2: Inland Fresh Meadows:** Soil is usually without standing water during most of the growing season, but is waterlogged within at least a few inches of the surface. Vegetation includes grasses, sedges, rushes and various broad-leaf plants. Meadow may fill shallow basins, sloughs, or farmland sags, or these meadows may border shallow marshes on the landward side.

**Type 3: Inland Shallow Fresh Marshes:** Soil is usually waterlogged early during growing season; often covered with as much as six inches or more of water. Vegetation includes grasses, bullrushes, spike rushes and various other plants such as cattails, arrowheads, and smartweed. These marshes may nearly fill shallow lake basins or sloughs, or may border deep marshes on the landward side.

**Type 4: Inland Deep Fresh Marshes:** Soil is usually covered with six inches to three feet or more of water during the growing season. Vegetation includes cattails, reeds, bullrushes, etc. Deep marshes may completely fill shallow lake basins, potholes, limestone sinks and sloughs, or may border open water in such depressions.

**Type 5: Inland Open Fresh Water:** Shallow ponds and reservoirs are included in this type. Water is usually less than ten feet deep and fringed by a border of emergent vegetation similar to open areas of Type 4 Wetlands.

**Type 6: Shrub Swamps:** Soil is usually waterlogged during the growing season and is often covered with as much as six inches of water. Vegetation usually includes alders, willows, dogwood, etc. Swamps occur mostly along sluggish streams and occasionally on floodplains.

**Type 7: Wooded Swamps:** Soil is waterlogged within a few inches of the surface during the growing season and is often covered with as much as one foot of water.

**Type 8: Bogs:** Soil is usually waterlogged and supports a spongy covering of moss. Vegetation is woody, herbaceous or both.

Wetlands are regulated by Federal, State and local agencies. At the Federal level, the U.S. Army Corps of Engineers (USACE) and the U.S. Department of Agriculture's Natural Resource Conservation Service (USDA-NRCS) have regulatory responsibilities. The Federal Farm Bill's "Swamp Buster" provision provides that a landowner who alters a wetland for agricultural purposes can lose eligibility for many USDA benefits, such as price support programs.

In 1991, the State Legislature passed the ***Wetlands Conservation Act (WCA)*** in order to establish a no-net-loss of wetlands policy for the State. The WCA requires anyone proposing to drain or fill a wetland must first try to avoid disturbing the wetland; second, to try to minimize any impact on the wetland; and finally, to replace any lost wetland acres, functions and values (this process is called sequencing in the law). Certain wetland activities are exempt from the Act, allowing projects with minimal impact or projects located on land where certain pre-established land uses are present to proceed without regulation. Pipestone County is the responsible agency for the administration of WCA, although the Pipestone County Soil and Water Conservation District has been officially delegated all administrative activities. The program is administered statewide by the Minnesota Board of Water and Soil Resources. WCA protects any wetland, regardless of its status on the National Wetland Inventory.

Minnesota law also provides two regulatory schemes for wetlands. Larger and deeper wetlands (type 3, 4 and 5 wetlands greater than 10 acres in rural areas and greater than 2.5 acres within municipalities) have been identified and cataloged as protected waters and wetlands. These basins were designated in the late 1970s and are regulated through the Department of Natural Resources, Division of Waters Protected Waters Program. The Protected Waters Program affords a high degree of protection to these basins, however, only wetland basins that are listed on the protected waters inventory are regulated under this program. This is regardless of whether they now meet the size and type requirements. Protected waters maps are available through the Pipestone County Planning and Zoning Office.

Wetlands provide many benefits to humans including the reduction of flooding by means of storage during high flows, filtration of pollutants and sediment, groundwater and aquifer recharge, wildlife habitat and aesthetic appeal. Much of the drainage of wetlands within the County occurred prior to the 1980s, when policies were enacted to prevent future wetland loss. For more information on wetlands, visit the following websites:

***The U.S. Fish and Wildlife Service at:*** http://www.fws.gov/

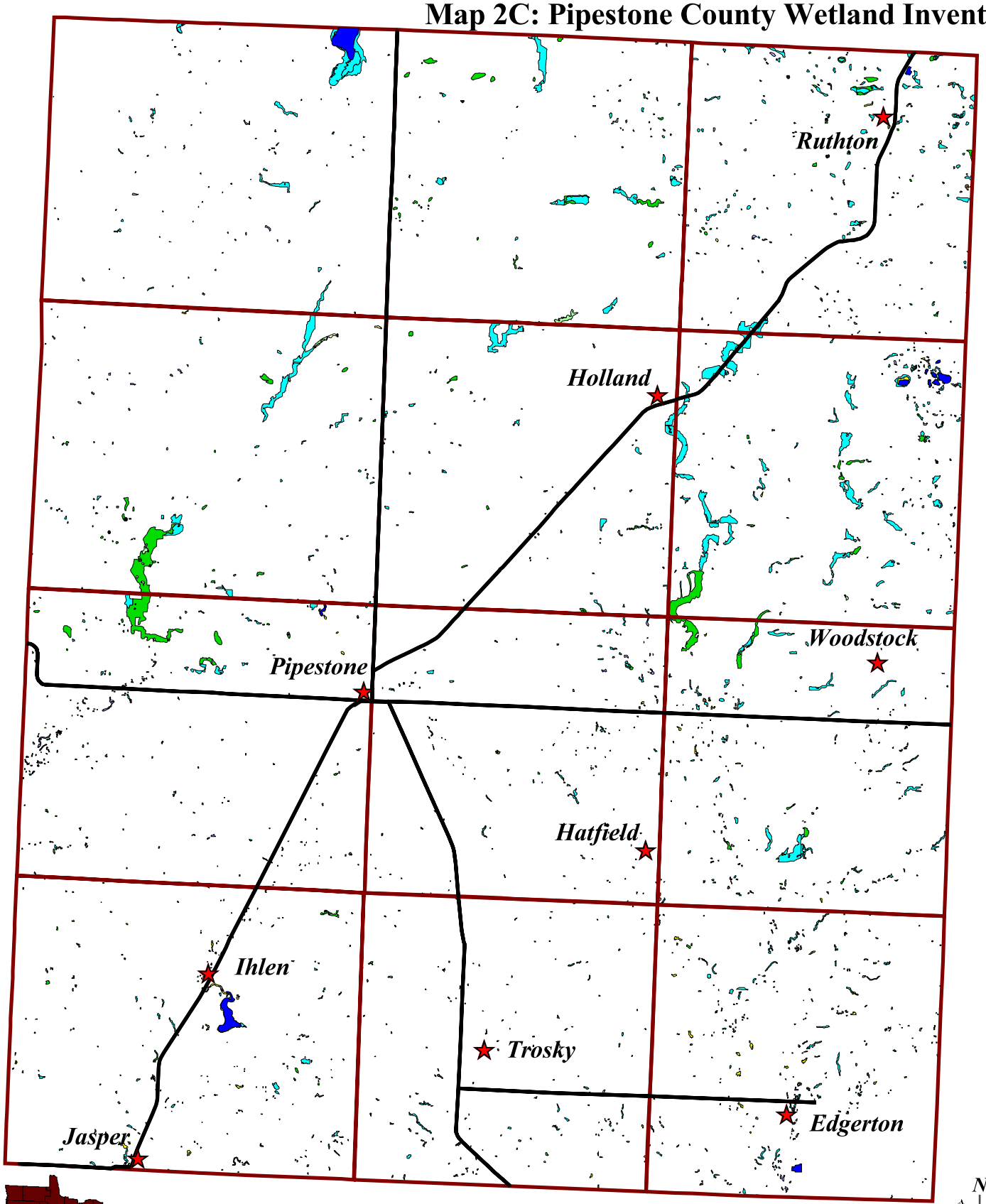
***The Natural Resources Conservation Service at:*** http://www.nrcs.usda.gov/

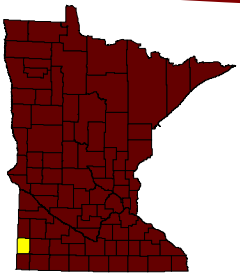
***Board on Water and Soil Resources at:*** http://www.bwsr.state.mn.us/wetlands/index.html

***Proactively Addressing Wetlands:*** There are numerous wetland-related goals, objectives and policy guidelines found in Chapter Six of this Plan. The following policy guidelines summarize the County's most important wetland commitments:

- ✓ Ordinances should be implemented that regulate land use near surface water, wellhead protection areas, wetlands and in flood plains (Ch. 6, Pg, 8, Objective C, Guideline 1).

# Map 2C: Pipestone County Wetland Inventory



National Wetland Inventory
- Seasonally Flooded Basin or Flat
- Wet Meadow
- Shallow Marsh
- Deep Marsh
- Shallow Open Water (Shallow Lakes)
- Shrub Swamps
- Wooded Swamps

- Major Roads
- Lakes
- Townships
- Municipalities

Source:
MN DNR Data Deli &
MN Planning CBP Data Sets

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Southwest Regional Development Commission
Focused on Southwest Minnesota

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- ✓ Wetland preservation activities should be encouraged in response to a demonstrated need and as a part of a complete natural resource management effort which considers water conservation, recreation and preservation of wildlife habitat (Ch. 6, Pg, 8, Objective C, Guideline 7).

- ✓ The entire County should be designated as a high priority wetland area for the consideration of grants and the implementation of various programs (Ch. 6, Pg, 8, Objective C, Guideline 10).

- ✓ Encourage the restoration of drained wetlands by willing landowners (Ch. 6, Pg, 8, Objective C, Guideline 11).

**Drainage**

Pipestone County has one public drainage ditch resulting from the channelization of Pipestone Creek during the early 1900s. This area of channelization extends from Holland to Winnewissa Falls in the Pipestone National Monument and is known as Judicial Ditch #1. A small branch also extends southeast of the City of Pipestone. The total distance of the Judicial Ditch is 13.9 miles. The drainage issue in Pipestone County is extremely important, since much of the County is already drained. In addition, new tiling occurs without much regulation on where outlets can be located. This can sometimes cause problems either "downstream" or in the surrounding area and should be systematically addressed by the County. This could be addressed if the County ever adopts a drainage ordinance.

***Proactively Addressing Drainage:*** In response to the drainage issue, the Comprehensive Planning Task Force created an objective to "***continue and support the maintenance of a Countywide ditch system***." The Task Force then created the following drainage-related policy guidelines (Chapter 6, Objective D, Page 18):

- ✓ The ditch system should be maintained so that it effectively manages the movement of water using best management practices to minimize pollution and sediment (Ch. 6., Pg. 18, Objective D, Guideline 1).

- ✓ The installation of filter strips should be enforced where appropriate and encouraged elsewhere (Ch. 6., Pg. 18, Objective D, Guideline 2).

- ✓ The replacement of needed ditch tile should be evaluated and planned accordingly (Ch. 6., Pg. 18, Objective D, Guideline 3).

- ✓ The County should appoint a task force to examine the development of a drainage ordinance (Ch. 6., Pg. 18, Objective D, Guideline 4).

**Floodplains**

The Flood Insurance Rate Map for the County of Pipestone dated July, 1986, developed by the Federal Emergency Management Agency (FEMA), was adopted by reference as the official Floodplain Zoning District Map and made part of the County zoning ordinance. A complete set of the FEMA maps are available for reference at the Pipestone County Courthouse.

Presently, floodplain ordinances have been adopted by the municipalities of Pipestone, Jasper, and Edgerton. Nonstructural measures to address problems associated with flooding may include floodplain acquisition, flood proofing, relocation, and flood warning systems. In addition, ordinances may be used to restrict certain activities within the floodplain such as construction. Personal flood insurance to protect against property loss is an option for municipal residents, especially those in Jasper, Edgerton, and Pipestone.

Significant flooding problems in Pipestone County are confined to Pipestone Creek, the Pipestone National Monument, Judicial Ditch #1 and the Rock River in the southeastern portion of the County. The Pipestone County Soil and Water Conservation District estimates there are 74,700 acres in the County prone to flooding. Virtually all of this land is agricultural except for the northern part of the City of Pipestone. Other flooding problems occur in the northeastern portion of the county where the water drains in a northeasterly direction to the Minnesota River. This area is actually the headwaters of the Redwood River basin where severe flood damages occur downstream in the counties of Lyon and Redwood.

To assist in reduction of flood damages in those neighboring counties, a flood control reservoir was constructed in 1987. The Minett-Krantz Reservoir is located two miles south and one-half mile east of Ruthton within the Redwood River watershed. Other more recent attempts to reduce flood damages include the installation of road retention projects which consist of downsizing culverts. This technology reverses the trend of replacing culverts with larger sized culverts, which only transfer additional water downstream.

***Proactively Addressing Flooding:*** The key to minimizing flooding is to focus efforts on restoring upland storage areas. This can sometimes mean restoring wetlands and/or making improvements to the County's tiling system. Specifically, the County identified the following actions:

- ✓ The County should work with willing landowners on restoring natural water management resources, where appropriate (Ch. 6, Pg. 8, Objective C, Guideline 6).
- ✓ Water retarding and flood control structures and practices should be encouraged and implemented (Ch. 6, Pg. 8, Objective C, Guideline 2).
- ✓ Encourage the restoration of drained wetlands by willing landowners (Ch. 6, Pg. 8, Objective C, Guideline 10).
- ✓ Flood control benefits should be incorporated into future road and bridge enhancements, when feasible (Ch. 6, Pg. 8, Objective A, Guideline 8).

## Section Three:
## Groundwater Profile

### Regional Hydrogeologic Assessment

Pipestone County was included in a Regional Hydrogeologic Assessment (RHA) in 1997, along with Murray, Nobles and Rock Counties and portions of Cottonwood, Jackson, Lincoln, Lyon, and Redwood Counties. A Regional Hydrogeologic Assessment is a formal study of an area's geology and groundwater resources, emphasizing the investigation of shallow geologic, groundwater and pollution sensitivity conditions (RHA's should not be confused with County Geologic Atlases, which investigate the properties and distribution of rocks and unconsolidated earth materials beneath the land surface). Each Regional Hydrogeologic Assessment or County Geologic Atlas produces a series of information and products, including the following:

* County Well Index Database
* Geology Maps
* Interpretive Reports Maps
* Pollution Sensitivity Maps
* Geographic Information System Files
* Water Chemistry and Groundwater

For more information on Pipestone County's Regional Hydrogeologic Assessment, visit the following website:

**http://www.dnr.state.mn.us/waters/programs/gw_section/mapping/platesum/swrha.html**

### Ground and Surface Water Appropriations

A listing of Minnesota DNR issued Water Appropriation Permits for Pipestone County surface and groundwater is provided in Appendix B (The first page of Appendix C describes how to use the information). Water Appropriation Permits are required by the Minnesota DNR for withdrawals greater than 10,000 gallons per day or one million gallons per year. There are several exemptions from the permit requirements, including domestic uses serving less than 25 persons for general residential purposes, test pumping, reuse of water already authorized by a permit and certain agricultural drainage systems. All active water appropriation permit holders are required to measure monthly water use with an approved measuring device to an accuracy of 10% and report water use yearly. For more information on water appropriation permits, visit the DNR at the following website:

**http://www.dnr.state.mn.us/waters/watermgmt_section/appropriations/index.html**

## Wellhead Protection[1]

The protection of ground and surface water from which all of us get our drinking water from is an important health issue. Approximately 10 percent of Minnesota's 2,400 community supply wells show at least some contamination resulting from human activities. Fortunately, most contaminant levels are below safe drinking water limits.

Land use activities and farming practices can have significant impacts on vulnerable aquifers. Homeowners in cities and towns can also have an impact on their drinking water supply. Protecting public water supply wells from contamination involves the cooperation of public water suppliers, state and local agencies, property owners, farmers, businesses, and the general public. In order to have a practical and effective plan, cooperation and involvement from all of these groups is important. Wellhead Protection activities prevent well contamination by managing potential contaminant sources in the land area that contributes water to the well. Public water suppliers are required to develop Wellhead Protection Plans as stated in the Minnesota Groundwater Protection Act and the federal Safe Drinking Water Act. The Minnesota Department of Health is responsible for assuring the compliance of community water supply systems with the federal Safe Drinking Water Act. Components of Wellhead Protection plans include:

- Isolation distances from contamination sources.
- A map of the wellhead protection area.
- A vulnerability assessment of the well and the protection area.
- An inventory of potential contamination sources.
- A plan to manage and monitor existing contamination sources.
- An emergency response plan.

The Minnesota Department of Agriculture (MDA) is the lead agency for all aspects of pesticide and fertilizer environmental and regulatory functions. They have developed a number of resource materials to assist planners in managing potential agricultural contamination sources. These educational resources can assist Wellhead Protection planners to develop strategies that protect their water resources from potential non-point source contamination from fertilizer and pesticides.

The maps displayed in Appendix B +outline the County's three wellhead protection areas. For more information about wellhead protection, visit the following Minnesota Department of Health website:

**http://www.health.state.mn.us/divs/eh/water/swp/swa/**

[1] Recreated with information form http://www.mda.state.mn.us/appd/waterprotect.htm and the Minnesota Department of Health.

***Proactively Addressing Wellhead Protection:***

- ✓ Point and non-point pollution sources should be identified and abated, especially in wellhead protection areas (Ch. 6, Pg 6, Objective B, Guideline 1).

- ✓ Ordinances should be implemented that regulate land use near surface water, wellhead protection areas, wetlands and in flood plains (Ch. 6, Pg. 8, Objective C, Guideline 1).

- ✓ The County should continue to assist with the development of wellhead protection plans (Ch. 6, Pg. 8, Objective D, Guideline 2).

- ✓ The County should promote wellhead protection on all private wells and assist with implementation for those who are interested (Ch. 6, Pg. 8, Objective D, Guideline 3).

**Pipestone County Holland Wellfield Survey**

Water quality in Southwest Minnesota is a significant concern to both private well users and public water suppliers. Aquifers in this region are often shallow and have a high potential of contamination from nitrate leaching. Deeper aquifers in this area may not be suitable for water supplies due to natural occurring contaminants, such as sulfur, or because of slow well recharge. In September 1997, a steering committee was formed to address water quality problems in Southwest Minnesota. Agencies participating in this effort included the Department of Health, Department of Natural Resources, Board of Water and Soil Resources, Pollution Control Agency and the Department of Agriculture. The steering committee then developed a technical committee to determine sources of pollution in ground water, specifically nitrate, and to determine possible solutions or preventive actions.

One of the first actions of the technical committee was to address specific nitrate problems with the Lincoln-Pipestone Rural Water. This system serves over 10,000 individuals in Southwest Minnesota. During the summer of 1997, water supplied to some of its customers exceeded 10 PPM nitrate-N (the U. S. Environmental Protection Agency recommended allowable limit for nitrate in drinking water). Lincoln-Pipestone Rural Water pumps water from three major wellfields: the Holland wellfield located between Lake Benton and Pipestone; the Verdi wellfield, located west of Verdi; and the Burr wellfield, located west of Canby. Some customers receiving water from the Holland wellfield were notified in 1997 that the water they received exceeded the limit for nitrate and could be dangerous to infants under six months of age.

One of the first steps taken was to coordinate interviews with farmers in the potential recharge area of the wellfields. Twenty-eight farms, covering about 10,000 acres, participated in the FArm Nutrient Management Assessment Program (FANMAP) with staff from the Minnesota Department of Agriculture. Producers volunteered 2-4 hours of their time to share information about their farming operation. The overall purpose of the program was to develop a clear understanding of current farm practices regarding agricultural nutrients and utilize this knowledge for future water quality educational programs.

There were some very positive findings from this study. There is strong evidence that producers are voluntarily adopting the educational materials and strategies developed by the UM. Fall application of Nitrate was very limited in the Holland watershed. Most manure was fall applied and most of the manure was incorporated. It is also evident that promotional activities need to continue and be specifically targeted to deliver the most recent technology and recommendations. Soybean and manure crediting are areas where there is a strong need for more education in this study area. Strong similarities exist in all existing FANMAP projects: producers are generally managing commercial Nitrate inputs successfully (although frequently using outdated recommendations) but continually under-estimate the Nitrate credits associated with manure and legume inputs.

For more information on the Holland Wellfield Survey, visit the following website or contact the Minnesota Department of Agriculture (Denton Bruening) at 651-297-4400.

**http://www.mda.state.mn.us/appd/ace/fanmapholland.pdf**

**Observation Wells**

The Minnesota Department of Natural Resources monitors the use of the State's water and allocates resources to assure there is sufficient quality and quantity to supply the needs for future generations. Under the Observation Well Program, groundwater levels are routinely measured in 700 wells statewide. The primary objectives of the observation well network are to:

- ✓ Place wells in areas of future or present high groundwater use while considering variations in geologic and other environmental conditions.
- ✓ Identify long-term trends in groundwater levels and detect significant changes.
- ✓ Provide data to resolve allocation problems.
- ✓ Identify target areas that need further hydrogeologic investigation, water conservation measures, or remedial action.

For more information on observation wells, visit the DNR website at:

**http://www.dnr.state.mn.us/waters/groundwater_section/obwell/index.html**

**Abandoned Wells**

The Minnesota Groundwater Protection Act requires that the status and location of wells on a property be disclosed upon property sale to both the buyer and the Minnesota Department of Health (MDH). The Act applies to all types of wells, including wells used for drinking water, irrigation, commercial or industrial processing, heating or cooling, or monitoring. These wells include drive-point (sand point) wells, drilled wells and dug wells.

Well disclosure is a particularly useful tool in identifying unused or "abandoned" wells. Unused wells that have not been properly sealed can be a source of groundwater contamination, allowing surface water, contaminated water and improperly disposed of waste to reach sensitive aquifers below ground. In addition to being a potential pollution hazard, unused wells also pose a potential safety hazard for children and animals and a potential liability for the property owner. Before signing an agreement to sell or transfer real property the seller must provide the buyer with a Well Disclosure Statement. The Statement must include the following information:

- ✓ The legal description of the property and County;
- ✓ A map showing the location of each well; and
- ✓ Whether each well is in use, not in use, or sealed.

A well is "in use" if the well is functioning for some purpose. A well is "not in use" if the well is not functioning or is not capable of functioning, such as when the well pump on the well is disconnected, or when the well is no longer connected to a power supply. A well is "sealed" if the well has been filled with an approved sealing material by a licensed well contractor or a licensed well sealing contractor and the MDH has received a Well and Boring Sealing Record.

At the time of closing of the sale, the information on the Well Disclosure Statement, the name and mailing address of the buyer, and the quarter, section, township, and range of the property must be provided on a Well Disclosure Certificate. This form is available from many realtors, county recorders or district offices of the MDH. The seller or person authorized to act on behalf of the seller signs the certificate. In the absence of the seller's signature, the certificate is prepared and signed by the buyer or person authorized to act on behalf of the buyer. In the case of a contract-for-deed sale, the certificate is prepared and signed by the seller (grantor) or person authorized to act on behalf of the seller (grantor), if the contract is recorded at the beginning of the contract. When the contract is recorded at the fulfillment of the contract, the certificate is prepared and signed by the buyer (grantee) or person authorized to act on behalf of the buyer (grantee). Once completed, the Well Disclosure Certificate is filed along with the property deed at the County Recorders office. If a well is not in use, the property owner has three options:

- ✓ The well can be put back into use;
- ✓ The well can be sealed by a licensed well contractor, or a licensed well sealing contractor; or
- ✓ The property owner can apply for a maintenance permit.

Pipestone SWCD has had an active well sealing program since 1991 when the water plan started. Funds are appropriated annually to assist producers in the cost of sealing abandoned well. Since conception, there has been approximately 500 abandoned wells sealed. For more information on abandoned wells, including a list of sealed wells in Pipestone County, contact the Pipestone County Land and Resource Management Office at (320-269-6231).

***Proactively Addressing Abandoned Wells:*** In Chapter Six, the County committed to continue cost-sharing the proper sealing of abandoned wells by 50% with a maximum payment of $300 (Ch. 6, Pg. 8, Objective D, Guideline 4). This initiative will be reviewed annually.

## Section Four:
## Reducing Priority Pollutants

### Total Maximum Daily Loads

The Federal Clean Water Act requires states to adopt water-quality standards to protect the nation's waters. These standards define how much of a pollutant can be in surface and/or groundwater, while still allowing it to meet its designated uses (such as drinking water, fishing, swimming, irrigation or industrial purposes). Minnesota's statewide water quality standards and other provisions that protect water quality are found in Minnesota Rules Chapter 7050. Standards are broken down based upon water use classifications.

Many of Minnesota's water resources cannot currently meet their designated uses because of pollution problems from a combination of point and nonpoint sources. For each pollutant that causes a water body to fail to meet State water-quality standards, the Clean Water Act requires the states to conduct a Total Maximum Daily Load (TMDL) study. A TMDL study identifies all point and nonpoint sources of each pollutant in a water body, which fails to meet water-quality standards. Water-quality sampling and computer modeling determine how much each pollutant source must reduce its contributions to assure the standard is met in that water body. Rivers and streams may have several TMDLs, each one determining the limit for a different pollutant.

Section 303 (d) of the Clean Water Act requires states to publish, every two years, an updated list of streams and lakes that are not meeting their designated uses because of excess pollutants. The list, known as the Section 303 (d) List of Impaired Waters, is based on violations of TMDL standards. The Pipestone County waters on the current list (July 2002) are as follows:

- Split Rock Lake (southwest) – aquatic life is impacted by high mercury levels;
- Redwood River (northeast) – aquatic life is impacted (biota) and bioaccumulative toxics are present
- Pipestone Creek (west-central) – Aquatic Life and Recreation is impacted by fecal coliform and turbidity. Bioaccumulative toxics are also present.
- Spilt Rock Creek (southwest ) – Aquatic Life is impacted by low oxygen;
- Rock River (southeast) – Bioaccumulative toxics are also present.

***Proactively Addressing TMDLs:*** The County committed to proactively participate in getting waters off the MPCA's Total Maximum Daily Load (TMDL) listing of impaired waters (Ch. 6, Pg. 7, Objective B, Guideline 18). This is anticipated to be ongoing and cost approximately $100,000 by the County over the life of this Plan. In addition, most of the other policy guidelines identified in Chapter Six will contribute to getting the identified waters off the TMDL listing.

**Feedlots – General Information**

The Minnesota Pollution Control Agency (MPCA) regulates the collection, transportation, storage, processing and disposal of animal manure. The Feedlot Program implements rules governing these activities, and provides assistance to counties and the livestock industry. The feedlot rules apply to all aspects of livestock waste management including the location, design, construction, operation and management of feedlots and manure handling facilities. Examples of livestock operations subject to the rules include swine and dairy confinement facilities, pasture and winter-grazing operations, poultry facilities and composting sites.

In October 2000 a major revision of the feedlot rule (Minnesota Rules, Chapter 7020) went into effect. In the more than twenty years since the last revision, much has changed in the livestock industry. Production techniques and practices have changed dramatically. There have been new discoveries and understandings regarding agriculture and the environment. The MPCA and its partner counties have also gained much experience administering the feedlot program. The MPCA's goals for the new rules are to:

**Program statistics**
- 29,000 registered feedlots in 2002
- 455 NPDES (1,000+ animal units) permits since revised rules (October 2000)
- 55 delegated counties
- 527 feedlot inspections Jan.-Sept. 2002

- focus on animal feedlots and manure storage areas that have the greatest potential for environmental impact;
- expand the role of delegated counties in the feedlot program;
- increase agency and delegated-county staff field presence; and
- achieve the desired environmental outcomes with existing agency and county resources.

During the rule revision process, the legislature and the Governor's office were very sensitive to the needs of the agriculture industry. The MPCA sought to provide the most environmentally protective and economical solutions. The MPCA used the Feedlot Manure Management Advisory Committee, a team of agribusiness people, University experts, environmentalists, and local government officials, to review proposed rule changes and recommend changes.

**Delegated County Program –** In 55 counties the feedlot program is conducted through a cooperative arrangement between the MPCA and county government. County feedlot programs have responsibility for implementing state feedlot regulations for facilities with fewer than 1,000 animal units (AU). These responsibilities include:

- registration
- permitting
- inspections
- education and assistance
- complaint follow-up

In 2002, the delegated counties received a total of about $2 million, or an average of about $36,000 each, to help fund their programs. Funds are awarded based on the number of feedlots in the county with more than 10 animal units and the level of inspection completed.

**Registration** – the revised feedlot rule required all feedlots with more than 50 animal units (10 in shoreland areas) to register by January 2002. About 29,000 feedlots have been registered. Permits authorize larger feedlots to operate under specific conditions in order to comply with the federal Clean Water Act. State and federal regulations require all feedlot owners with 1,000 or more animal units to have a National Pollutant Discharge Elimination System permit and/or a State Disposal System permit. The MPCA with the assistance of FMMAC developed a General NPDES permit. This permit provides one public comment period to address many facilities rather than each facility being placed on public notice separately. Use of the general permit reduced the amount of time needed to issue NPDES permits to producers. Delegated counties issue permits for operations under 1,000 animal units. The MPCA issues permits in non-delegated counties and all permits over 1,000 animal units. For more information on feedlot regulations in Minnesota, contact the MPCA (Marshall Office) at 507-537-6382 or visit the following PCA websites:

http://www.pca.state.mn.us/hot/feedlot-publications.html#rules

**Feedlots In Pipestone County**

Feedlots are a very important industry in Pipestone County. On August 13, 1980 a resolution was passed by the County Board of Commissioners for the establishment of a County Animal Feedlot Program. The County has completed a Level One Inventory (feedlot locations) and a Level Two Inventory (size, type of manure storage, etc.). According to the inventory, Pipestone County has 584 feedlots (refer to Table 2B and Figure 2C).

***Definition of an Animal Unit***
A standardized measure to compare differences in the production of animal manure for an animal feedlot or manure storage area. A mature cow of about 1000 pounds (455 kg.) is the standard unit.

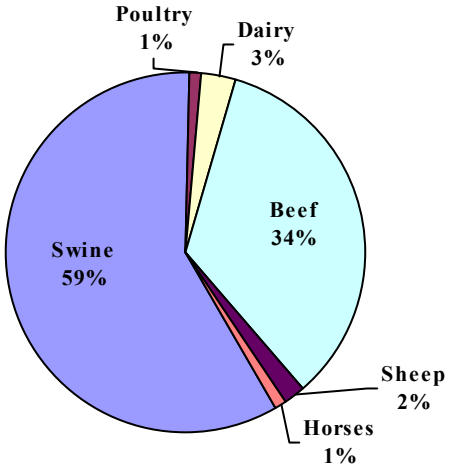
**Table 2B:**
**Pipestone County Level I Feedlot Results**

| | |
|---|---|
| Number of feedlots with 10 - 49 Animal Units: | 153 |
| Number of feedlots with 50 - 99 Animal Units: | 138 |
| Number of feedlots with 100 - 299 Animal Units: | 189 |
| Number of feedlots with 300 - 999 Animal Units: | 85 |
| Number of feedlots with more than 1000 Animal Units: | 19 |
| **Total Number of Feedlots:** | **584** |

There has been much controversy in Pipestone County in the past on how big feedlots should be and where they should be located. In 1998, the County updated the ordinance but was unable to have the townships come to an agreement on proper setback distances, so the county choose a setback somewhat in the middle. As a result, a few townships established their own setbacks.

The County intends on periodically reviewing these provisions of the Zoning Ordinance and making adjustments as needed. The County is currently in the process of conducting compliance inspections on all feedlot to determine if feedlots are following Minnesota Rules Chapter 7020. This is anticipated to take until approximately 2009. In 2003, there were a total of 36 openlot agreements signed. Feedlot construction at this time has been minimal where most construction occurred in the mid 90's. Manure management is also an important issue in the County. The basic need to make sure farmers have a good handle on which nutrients are available, how much is being applied, and the impacts on surface and ground water quality.

**Figure 2C:**
**Pipestone County Feedlots by Animal Unit Type**




***Proactively Addressing Feedlots:*** In addition to the commitment to periodically examine the County's feedlot regulations, the County committed to the following policy guidelines in Chapter Six:

- ✓ The County should assist with developing manure application plans (Ch. 6, Pg. 7, Objective B, Guideline 7).
- ✓ Feedlot compliance inspections should be conducted annually (Ch. 6, Pg. 8, Objective B, Guideline 22).
- ✓ Pursue funds to complete four high priority feedlot runoff plans annually (Ch. 6. Pg. 8, Objective B, Guideline 23).

**Nutrient Management**

The nutrient management (manure and fertilizers) overall is one of rural Minnesota's number one resource concern. It is important to apply the correct amount of agriculture waste or commercial fertilizer as the excess will escape over time. The Minnesota Department of Agriculture (MDA) is the lead state agency for all aspects of pesticide and fertilizer environmental and regulatory functions. For more information, visit the following website:

http://www.mda.state.mn.us/APPD/ace/nutmgmt.htm

***Proactively Addressing Nutrient Management:*** The Planning Task force decided to address nutrient management through educational efforts, by promoting manure management, nutrient management and residue management plans (Ch. 6, Pg. 20, Objective B, Guideline 9).

## Water Erosion

Water erosion results from soil being moved from its original location by the force of water to the convex lower slopes and flats. Average tolerable soil loss for the County is three to five tons per acre per year. Erosion types are classified as sheet and rill, ephemeral and gully. Soil erosion affects cropland, urban areas, roadsides, lakeshores, stream banks and drainage systems. Water erosion impacts the water quality of the County's water bodies, as well as develops detrimental conditions in the uplands and steeper slopes of the soil associations with erosion prone characteristics. Water erosion in Pipestone County generally occurs the most between the months of April and June, when fields have been tilled and planted, but a crop canopy has not developed to protect the surface. The USDA developed the Universal Soil Loss Equation (now replaced by RUSLE) to effectively predict the average rate of soil loss by sheet and rill erosion in tons per acre per year. One of the six factors used in the equation, erosion factor K, indicates the susceptibility of a soil to sheet and rill erosion. Values of K range from 0.02 to 0.69. The higher the value, the more susceptible the soil is to sheet and rill erosion.

## Wind Erosion

The potential for wind erosion occurs when wind velocities increase above 12 miles per hour. Wind speeds above this mark overcome the force of gravity and dislodge soil particles. Soil is most vulnerable when unprotected by vegetative cover. Soils with fine granulated structure are most susceptible to erosion, including sandy loam, loamy sand and sand. November through June is the worst time for wind erosion, when field surfaces are normally dry and strong northwest winds are prevalent. The USDA has classified soils into Wind Erodibility Groups, according to their susceptibility to wind erosion in cultivated areas. Wind Erodibility Groups range from 1-8. The lower the group number, the higher the vulnerability to wind erosion. Groups 4L or less are classified as highly susceptible to wind erosion. For administration of the State Cost-Share Program by the Pipestone County Soil and Water Conservation District the following definitions apply:

> **High Priority Erosion Problems** – "High priority erosion problems" means areas where erosion from wind or water is occurring equal to, or in excess of, 2 x T tons per acre per year or is occurring on any area that exhibits active gully erosion or is identified as high priority in the comprehensive local water plan or the conservation district's comprehensive plan.
>
> **High Priority Water Quality Problems** – "High priority water quality problems" means areas where sediment, nutrients, chemicals, or other pollutants discharge to Department of Natural Resources designated protected waters or to any high priority waters as identified in a comprehensive local water plan or the conservation district's comprehensive plan, or discharge to a sinkhole or groundwater. The pollutant delivery rate to the water source is in amounts that will impair the quality or usefulness of the water resource.

## Residue Management Transect Survey

The cropland roadside transect survey method is designed to gather information on tillage and crop residue management systems by rating the percentage of cropland meeting residue targets. Conservation tillage is an indicator of environmentally friendly systems being used on cropland

and is a component of the Natural Resource Conservation Service (NRCS) Performance Reporting Management System (PRMS). One of the NRCS strategic goals is to have 50% of the cropland managed to enhance soil quality. The following data display's Pipestone County's transect survey results from 1995 to 1999.

**Table 2C:**
**Percent of Cropland Meeting Residue Targets**

| | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|
| **Pipestone County** | 28% | 15% | 27% | 23% | 17% |
| **State Average** | 37% | 39% | 50% | 41% | 31% |

Table 2C reveals that Pipestone County had less cropland meeting residue targets than the Statewide average in all five years surveyed. This presents an opportunity for the Soil and Water Conservation District to enhance educational efforts on the importance of cropland residue. For more information on transect surveys and residue management, contact the local Conservation and Zoning Office at (507) 825-6765 or visit the NRCS online at:

**http://www.mo.nrcs.usda.gov/**

***Proactively Addressing Erosion:*** Much of what the County's Soil and Water Conservation District performs on a day-to-day basis is address soil erosion. Realizing this, the County's Comprehensive Planning Task Force identified a number of policy guidelines to assist with this effort. The following guidelines are a few examples found under the County's Objective of "Reduce[ing] priority pollutants to acceptable levels (i.e., soil erosion, storm water, wastewater, etc.):

- ✓ Construction sites should be protected with temporary and permanent erosion control measures (Ch. 6, Pg. 7, Objective B, Guideline 9).
- ✓ Residue Management Transect Survey should be completed annually in order to log tillage trends and estimate erosion rates (Ch. 6, Pg. 7, Objective B, Guideline 10).
- ✓ All projects should be held accountable for minimizing water runoff and soil erosion (Ch. 6, Pg. 7, Objective B, Guideline 12).
- ✓ Land use practices should be implemented that minimizes runoff (Ch. 6, Pg. 7, Objective B, Guideline 13).
- ✓ The County should provide incentives to landowners to plant trees and shrubs that will provide protection from blowing and drifting snow (Ch. 6, Pg. 7, Objective B, Guideline 14).

**Individual Septic Treatment Systems (ISTS) – General Information**

Individual Sewage Treatment Systems are used for the treatment and disposal of wastewater from individual homes, clusters of homes, isolated communities, industries or institutional facilities. When properly functioning, ISTSs are an effective means of treating wastewater. However, if improperly designed, installed or maintained, ISTSs have the potential to adversely impact water quality. Human waste contains high concentrations of microorganisms and many chemicals, including carbon, nitrogen, phosphorus and salts. These pollutants not only represent a public health concern, but also can significantly degrade the quality of the environment.

The first State law addressing failing ISTSs went into effect in 1994. This legislation is known as the ISTS Act (Minnesota Rules, Chapter 7080). Chapter 7080 requires that all new construction and replacement of ISTSs meet minimum statewide standards. It also puts into place a method to systematically address the adequacy of existing systems through requiring upgrading of failing existing systems before construction of an additional bedroom. The following are the State's objectives in regulating sewage systems through Chapter 7080:

- Keep inadequately treated sewage away from human contact to prevent disease;
- Reduce levels of pathogenic bacteria and viruses discharged to the environment;
- Reasonably and cost-effectively prevent ground-water contamination;
- Develop clear direction for design, construction and maintenance of sewage-treatment facilities;
- Strive for cost-effective methods of sewage treatment to maintain or improve property values;
- Encourage personal responsibility for treating sewage; and
- Require all counties to adopt an ISTS ordinance.

**Pipestone County's ISTS**

There are approximately 1200 ISTSs in Pipestone County with and estimated 80% in noncompliance (according to the Conservation and Zoning Office). As a result, the County is currently discussing requiring ISTS upgrades on land transfers and possible any type of addition (not just bedrooms since many times when an addition is done the room added could or would allow another room to be used as a bedroom). For more information on ISTS rules and regulations, contact the Pipestone County Conservation and Zoning Office at (507-825-6765).

***Proactively Addressing ISTS:*** The Comprehensive Planning Task Force realized that properly addressing the County's ISTS needs is an extremely important and monumental task. As a result, the Task Force identified the following two ISTS-related policy guidelines:

- ✓ The County should cooperate to inventory and prioritize potential contaminant sources, such as conducting a Level III Feedlot Inventory, ISTS inspections, etc. (Ch. 6, Pg.8, Objective B, Guideline 20).

- ✓ The County should explore requiring ISTS upgrades on land transfers and housing additions (Ch. 6, Pg.8, Objective B, Guideline 21).

**Unsewered Communities**

The County is working with the City of Hatfield on permitting and overseeing the construction of a sewage treatment system (by 2007). Likewise, the County intends on working with the City of Trosky on completing ISTS or cluster system upgrades with noncompliant residents (by 2010). These are Pipestone Counties last two unsewered communities (Ch. 6., Pg. 8).

**Water Resource and Related Easements**

Easements, whether short-term or perpetual, are commonly used to protect water quality, reduce soil erosion, and enhance fish and wildlife habitat. There are a variety of programs offered through local, State and Federal governmental agencies (see Appendix B for Pipestone County's Conservation Lands Summary). Among the most common programs offered are the Conservation Reserve Program (CRP), Conservation Reserve Enhancement Program (CREP), Reinvest in Minnesota (RIM) Reserve Program, Wetland Reserve Program (WRP) and U.S. Fish and Wildlife Service easements. A brief discuss on each of these programs is provided below. For more information, contact the local Board of Water and Soils Resources' Board Conservationist (currently at 507-537-7260) or visit the following website:

**http://www.bwsr.state.mn.us/easements/index.html**

**Conservation Reserve Program (10-15 Year Contracts)**

The Conservation Reserve Program (CRP) offers landowners, operators and tenants the opportunity to voluntarily convert land with high erosion rates and other environmentally sensitive land to permanent vegetative cover. Permanent cover options include grasses and legumes, tree plantings and wildlife habitat. The program goals are to: reduce soil erosion, enhance fish and wildlife habitat, improve water quality, protect the soils on the nation's cropland base, demonstrate good land stewardship and improve rural aesthetics.

Eligible owners or operators may place highly erodible or environmentally sensitive land into a 10 to 15 year contract. The participant, in return for annual payments, agrees to implement a conservation plan approved by the local conservation district for converting highly erodible cropland or environmentally sensitive land to a less intensive use (i.e., cropland must be planted with a vegetative cover, such as perennial grasses, legumes, forbs, shrubs, or trees). The cropland must be owned or operated for at least 12 months prior to the close of the annual sign-up period, unless the land was acquired by will or succession or the Farm Service Agency (FSA) determines that ownership was not acquired for the purpose of placing the land in the conservation reserve. According to Appendix B, Pipestone County had 8,270 acres in CRP as of December 31, 2002.

**Conservation Reserve Enhancement Program (Perpetual/Limited)**

The Conservation Reserve Enhancement Program (CREP) is a unique combination of the State's RIM Program and the Federal CRP Program. CREP aims to improve the water quality of the Minnesota River, which in large part is degraded by runoff from marginal agricultural lands, floodplains, riparian areas and drained wetlands. CREP provides a unique opportunity for landowners along the Minnesota River to voluntarily remove these lands from agricultural production. Through CREP, farmers are given an upfront State "bonus" payment, plus up to 15 years of guaranteed USDA annual payments, based on the value of the land. Funding for the program comes through a match of State and Federal dollars. According to Appendix B, Pipestone County had 217 acres in CREP as of December 31, 2002.

**Reinvest in Minnesota Reserve Program (Perpetual/Limited)**

The Reinvest in Minnesota (RIM) Reserve Program, administered by local SWCDs and BWSR, was one of the first State programs of its kind in the nation. RIM allows landowners to sell perpetual/limited easements for riparian lands, sensitive groundwater areas, wetland restoration areas (drained wetlands), marginal cropland and land for living snow fences. The payment rate for the program is based on 90% of the average market value of tillable land in the township. In addition, RIM Reserve provides cost share funds, often times 100%, for establishing appropriate conservation and wildlife habitat practices on easement lands.

Since its inception in 1986, funding for the program has been erratic, ranging from a high of $51 million, to a low of $3 million. Since it began, RIM Reserve has enrolled approximately 3,927 easements statewide, covering 126,567 acres, including 43,401 acres of wetland restoration and adjacent upland. The program has historically fostered partnerships with private organizations including Pheasants Forever, Ducks Unlimited and the Minnesota Waterfowl Association, as well as other government agencies, including the U.S. Fish and Wildlife Service (USFWS) and the Minnesota Department of Natural Resources (DNR). According to Appendix B, Pipestone County has approximately 401 acres enrolled the RIM Program.

**Wetland Reserve Program (Perpetual/ Limited)**

The Wetland Reserve Program (WRP) is a voluntary program through the USDA to restore and protect wetlands on private property. It provides an opportunity for landowners to receive financial incentives to restore or enhance wetlands on their property. Landowners can enroll in the WRP by one of the following three means:

- ✓ Permanent Easement. USDA will pay up to the appraised market value for the land and 100% of the cost of restoring wetlands and seeding of upland areas into native cover.
- ✓ 30-Year Easement. USDA will pay 75% of the appraised market value for the land and 75% of the cost associated with wetland restorations and upland native grass seeding.
- ✓ Restoration Cost-Share Agreement. USDA will pay 75% of the cost of restoring a wetland in exchange for a minimum ten-year agreement to maintain the restoration. No land use payment is provided.

Any type of land that can be restored to a wetland at a reasonable cost is eligible for WRP, except for wetlands drained in violation of Swampbuster or land established to trees under the Conservation Reserve Program. Cost-share is available to restore:

- ✓ Wetlands cleared and/or drained for farming, pasture, or timber production;
- ✓ Upland areas around a restored wetland and;
- ✓ Drained wooded wetlands where hydrology will be restored.

Through the WRP the landowner continues to control access to the land and may lease the land for hunting, fishing, and other compatible recreational activities. As of December 2002, no wetlands were enrolled in this program in Pipestone County (see Appendix B).

**U.S. Fish and Wildlife Service Easements (Perpetual)**

The U.S. Fish and Wildlife Service (USFWS) manages land enrolled in two types of conservation easement programs: the Farmer's Home Administration Program (FmHA) and Wetland Easement Program. Under FmHA, when a landowner defaults on a loan, and that property contains wetlands, those wetlands receive protection. Protection may come in the form of a perpetual conservation easement or fee title transfer to a Federal or State fish and wildlife agency for management. As of December 31, 2002, Pipestone County did not have any acres enrolled in these types of easements. At the same time, there were 250,856 acres enrolled statewide.

**Wildlife Management Areas**

The State Wildlife Management Area (WMA) Program was established as an attempt to preserve wildlife habitat areas, primarily wetlands that were being destroyed by development and agricultural land uses. WMAs were incorporated as components of the Minnesota outdoor recreation system, which was established by the Minnesota Outdoor Recreation Act of 1975. The Act establishes an outdoor recreation system that will: 1) preserve an accurate representation of Minnesota's natural and historical heritage for public understanding and enjoyment; and 2) provide an adequate supply of scenic, accessible and useable lands and waters to accommodate the outdoor recreation needs of Minnesota's citizens. WMAs are managed for wildlife production and are open to public hunting and wildlife watching. According to Appendix B, Pipestone County has approximately 2,101 acres of MWAs (as of January 31, 2002).

**Wastewater, Storm Water and NPDES Permits[2]**

The National Pollution Discharge Elimination System (NPDES) is a Federal program established under the Clean Water Act, aimed at protecting the nation's waterways from point and nonpoint sources of pollution. In Minnesota, the NPDES program is administered by the Minnesota Pollution Control Agency (MPCA), under delegation from the U.S. Environmental Protection

[2] Recreated from http://www.pca.state.mn.us/publications/wq-strm1-02.pdf

Agency (EPA). Under the program, any industrial, municipal or private-entity point source that proposes to discharge treated wastewater to surface waters of the state must apply for a permit. As part of the permitting process, NPDES permit applicants are required to submit information to the MPCA on design flows of the facility, the route that treated wastewater will travel to a surface-water body and a description of the existing treatment system of the system to be built.

Since the passage and implementation of the Federal Clean Water Act and various Minnesota laws and rules, the quality of our State's waters has improved. However, degraded and impaired waters still exist. A leading source of this impairment is polluted and sediment filled storm-water runoff. Runoff can change both water quality and quantity affecting our water resources physically, chemically and biologically. Runoff from land modified by human activities changes natural hydrologic patterns, accelerates stream flows, modifies stream channels and destroys aquatic habitat. Polluted runoff containing oil, grease, chemicals, nutrients, metals, litter, and pathogens, can severely reduce water quality. If left unmanaged, runoff stresses our streams, ages our lakes, and degrades and eliminates our wetlands.

The Minnesota Pollution Control Agency's (MPCA) Storm-water Program is designed to reduce the pollution and damage caused by runoff from construction sites, industrial facilities and municipal separate storm sewer systems (MS4s).

A 1987 amendment to the federal Clean Water Act required implementation of a two-phase comprehensive national program to address storm-water runoff. Since the early 1990s, Phase I regulated large construction sites, 10 categories of industrial facilities, and major metropolitan MS4s. On March 10, 2003 the program broadened to include smaller construction sites, municipally owned or operated industrial activity, and many more municipalities. Phase II is designed to further reduce adverse impacts to water quality and puts controls on runoff that have the greatest likelihood of causing continued environmental degradation.

Storm-water regulations are part of the National Pollutant Discharge Elimination System (NPDES) permit program. The U.S. Environmental Protection Agency (EPA) delegated permitting authority for Minnesota's NPDES program to the MPCA.

The State of Minnesota regulates the disposal of storm water by a State Disposal System (SDS) permit. The Minnesota Pollution Control Agency (MPCA) administers both NPDES and SDS permits in Minnesota and issues combined NPDES/SDS storm-water permits.
Storm-water permits require permittees to control polluted discharges. As with most MPCA programs, citizens, regulated parties and other stakeholders have the opportunity to comment on the permits and rule changes. Regulated parties must develop storm-water pollution prevention plans to address their storm-water discharges. Each regulated party determines the appropriate pollution prevention practices or "best management practices" to minimize pollution for their specific site. The three permit types - construction, industrial, MS4 - each have distinct requirements and some regulated parties may require more than one permit.

**Construction Permits** – Construction sites rank among the most significant sources of sediment affecting our waterways. They can also contribute a variety of pollutants to runoff.
Under Phase I, operators of large construction activity, resulting in the disturbance of five or more acres of land, were required to obtain general permit coverage. Some activities requiring a permit included clearing, grading, excavating, road building, construction of houses and office buildings, landfills, airports, feedlots, and industrial or commercial buildings.
Phase II was expanded to include small construction activity that results in the disturbance of equal to or greater than one acre and less than five acres. Like the Phase I program, owners and operators of small construction sites need to obtain permit coverage and implement practices to minimize pollutant runoff from construction sites.

**Industrial Permits -** Storm water at industrial sites may come into contact with any number of harmful pollutants including toxic metals, oil, grease, de-icing salts, and other chemicals. Activities such as storage and material handling can also add pollution to runoff. Under Phase I, facilities with Standard Industrial Classification codes in 10 categories were regulated. They were identified as either mandatory (issued a permit with no exceptions) or discretionary facilities (may or may not be issued a permit). Some discretionary facilities whose industrial materials or activities were not exposed to storm water were not required to obtain permit coverage. Under Phase II, no new categories of industrial activity were added to the program. However, since March 10, 2003 many small municipalities (populations of less than 100,000) that had previously been exempted had to obtain permit coverage for their industrial activity. The new general industrial permit is under development. The MPCA anticipates 1,700 new industrial permitees and that approximately one third of the 3,900 facilities under this program will apply for the revised conditional no-exposure provision that is also under development. See the MPCA Web site for more information.

**Municipal Permits -** Impervious surfaces such as rooftops, roads, parking lots, and driveways don't allow rainfall to soak into the ground and changes natural drainage patterns. Runoff in urbanized areas also contributes a variety of pollutants to our waters. Urban storm-water runoff finds its way into our waterways directly or through municipal storm drains. Under Phase I, Minneapolis and St. Paul obtained individual permits and designed and implemented storm-water programs. Since March 10, 2003, approximately 250 operators of small MS4s in urbanized areas applied for general permits and began or expanded existing programs and practices to control polluted storm-water runoff (non in Pipestone County were obligated to under the statutes).

For more information, please contact the MPCA's Customer Assistance Center at 800-646-6247 or visit the following websites:

www.pca.state.mn.us/water/stormwater/index.html
http://cfpub.epa.gov/npdes/stormwater/swppp.cfm

**Household Hazardous Waste**

Pipestone County is currently pursuing the development of a County Household Hazardous Waste Facility along with an improved and more economical method of collection, processing and disposal of solid waste and recyclable materials (waste to energy facility). This facility is planned to be funded by $20,000 from the Lyon County Regional Landfill (which Pipestone County is a member); $80,000 to $100,000 in Pipestone County money; and the rest through the Minnesota Office of Environmental Assistance (OEA). For more information on household hazardous wastes, visit OEA's website at:

http://www.moea.state.mn.us/hhw/index.cfm

***Proactively Addressing Household Hazardous Waste:*** The main policy guideline regarding this issue is for the County to continue pursuing the development of a Household Hazardous Waste Facility. This is expected to be completed by 2008 and cost at least $200,000. (Ch. 6, Pg. 8, Objective B, Guideline 19).

## Section Five:
## Raising Public Awareness

**Biological Surveys**

The Minnesota County Biological Survey (MCBS) began in 1987 as a systematic survey of rare biological features. The goal of the Survey is to identify significant natural areas and to collect and interpret data on the distribution and ecology of rare plants, rare animals and native plant communities. Native habitats surveyed by MCBS contribute to a sustainable economy and society because they:

- ✓ Provide reservoirs of genetic materials potentially useful in agriculture and medicine;
- ✓ Provide ecological services that contribute to the quality of air, soil and water;
- ✓ Provide opportunities for research and monitoring on landscapes, native plant communities, plants, animals and their relationships within the range of natural variation;
- ✓ Serve as benchmarks for comparison of the effects of resource management activities; and
- ✓ Are part of natural ecosystems that represent Minnesota's natural heritage and are sources of recreation, beauty and inspiration.

To date, the MCBS has added 13,414 new records of rare plants and animals to the Rare Features Database, Natural Heritage Information System (NHIS). Work for the Survey has been completed in 56 of Minnesota's 87 counties. Pipestone County, however, has not been mapped at this time. For more information on the MCBS, visit the following website:

**http://www.dnr.state.mn.us/ecological_services/mcbs/index.html**

**Unique and Rare Features/Species** (www.dnr.state.mn.us/ets/index.html)

The Federal Endangered Species Act of 1973 requires the U.S. Department of the Interior to identify species as endangered or threatened, according to a separate set of definitions, and imposes a separate set of restrictions pertaining to those species. Definitions for endangered, threatened and species of special concern are provided as follows:

- **Endangered Species -** A species is considered endangered if the species is threatened with extinction throughout all or a significant portion of its range within Minnesota.

- **Threatened Species -** A species is considered threatened if the species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range within Minnesota.

- **Species of Special Concern -** A species is considered a species of special concern if, although the species is not endangered or threatened, it is extremely uncommon in Minnesota, or has unique or highly specific habitat requirements and deserves careful monitoring of its status. Species on the periphery of their range that are not listed as threatened may be included in this category along with those species that were once threatened or endangered but now have increasing or protected, stable populations.

Minnesota's Endangered Species Statute requires the Minnesota DNR to adopt rules designating species meeting the statutory definitions of endangered, threatened, or species of special concern. The resulting list of endangered, threatened and species of special concern is codified as Minnesota Rules, Chapter 6134. The Endangered Species Statute also authorizes the DNR to adopt rules that regulate treatment of species designated as endangered and threatened. Minnesota's Endangered Species Statute and the associated Rules impose a variety of regulations pertaining to species designated as endangered or threatened. Under State regulations, a person may not take, import, transport, or sell any portion of an endangered or threatened species. However, these acts may be allowed through the issuance of a DNR permit. In addition, certain exemptions exist for agricultural lands and for the accidental, unknowing destruction of designated plants. Minnesota's Endangered Species Statute or associated Rules do not protect species of special concern. ***Pipestone County has the following four species officially listed under the Endangered Species Act (each is briefly described):***

**The Topeka Shiner** (*Notropis Topeka*)[3]–
The U.S. Fish and Wildlife Service determines the Topeka shiner to be an endangered species under the authority of the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 et seq.). The Topeka shiner is a small fish presently known from small tributary streams in the Kansas and Cottonwood river basins in Kansas; the Missouri, Grand, Lamine, Chariton, and Des Moines river basins in Missouri; the North Raccoon and Rock river basins in Iowa; the James, Big Sioux and Vermillion river watersheds in South Dakota; and, the Rock and Big Sioux river watersheds in Minnesota. The Topeka shiner is threatened by habitat destruction, degradation, modification, and fragmentation resulting from siltation (the build up of silt), reduced water quality, tributary impoundment, stream channelization, and stream dewatering. The species also is impacted by introduced predaceous fishes.

The Topeka shiner (Notropis Topeka) is a small minnow, less than three inches in total length. It is an overall silvery color, with a well defined dark stripe along its side, and a dark wedge-shaped spot at the base of the tail fin. Males develop additional reddish coloration in all other fins during the breeding season. The Topeka shiner occurs primarily in small prairie (or former prairie) streams in pools containing clear, clean water. Most Topeka shiner streams are perennial (flow year-round), but some are small enough to stop flowing during dry summer months. In these circumstances, water levels must be maintained by groundwater seepage for the fish to survive. Topeka shiner streams generally have clean gravel, rock, or sand bottoms.

The historical distribution of the Topeka shiner included portions of Iowa, Kansas, Minnesota, Missouri, Nebraska, and South Dakota. The species is now primarily restricted to a few scattered tributaries to the Missouri and Mississippi rivers, and the Flint Hills region of Kansas. Many populations have become very reduced in numbers, and are now geographically isolated from the next nearest population, eliminating the possibility for genetic transfer between populations.

[3] Recreated from http://www.r6.fws.gov/endspp/shiner/facts.htm and the Federal Register: December 15, 1998 (Volume 63, Number 240)]

The Topeka shiner is susceptible to water quality changes within its habitat, and has disappeared from several sites because of increased sedimentation resulting from accelerated soil runoff. Any activity which removes the natural protective vegetation covering within a stream's watershed may contribute to this factor, including agricultural cropping, urban development, and highway construction. Additionally, construction of stock watering ponds and watershed impoundments on streams containing Topeka shiners has been shown to eliminate this species from those stream reaches. This is a widespread practice in some areas of Topeka shiner occurrence.

The Topeka shiner is adapted to prairie streams with high water quality, often in association with spring and seep flows. Due to its characteristic dependence on high quality aquatic habitats, this species serves as an indicator of the general health of the aquatic ecosystems within which it occurs, which of course carries implications for the quality of water available for human consumption and use. Additionally, Topeka Shiner streams are often associated with high quality recreational experiences, including fishing and swimming; are some of the most aesthetically appealing streams remaining in the Midwest.

***Pipestone County may soon be selected for a DNR pilot study on the Topeka Shiner. The streams being considered include Chanarambie Creek, Poplar Creek and an unnamed tributary to the Rock River just north of the aforementioned creeks.***

**Dakota Skipper** *(Hesperia dacotae)* –


The Dakota skipper is a small butterfly with a 1-inch wingspan. Like other skippers, they have a thick body and a faster and more powerful flight than most butterflies. The upper side of the male's wings range from tawny-orange to brown with a prominent mark on the forewing; the lower surface is dusty yellow-orange. The upper side of the female's wing is darker brown with tawny-orange spots and a few white spots on the margin of the forewing; the lower side is gray-brown with a faint white spot band across the middle of the wing. Dakota skipper pupae are reddish-brown and the larvae (caterpillars) are light brown with a black collar and dark brown head.

The Dakota skipper is a candidate for listing under the Endangered Species Act. Candidate species are those for which U.S. Fish and Wildlife Service (Service) has sufficient information to list as threatened or endangered. Scientists have recorded Dakota skippers from northeast Illinois to southern Saskatchewan. Their historical range is not known precisely because extensive destruction of native prairie preceded widespread biological surveys in central North America. Dakota skippers now occur no further east than western Minnesota and scientists presume that the species no longer exists in Illinois and Iowa. The Service and the states have been working with private landowners and other partners in North Dakota, South Dakota, and Minnesota to conserve the Dakota skipper's native prairie habitat. With cooperation from landowners, we are able to survey for and study Dakota skippers and have entered into cooperative agreements to conserve the species. The conservation of Dakota skipper depends on private landowners. For more information, visit the following website:

***http://midwest.fws.gov/Endangered/insects/dask.html***

**Western Prairie Fringed Orchid** *(Platanthera praeclara*) –

The eastern and western prairie fringed orchids are considered to be *threatened species*. The orchids produce flower stalks up to 47 inches tall. Each stalk has up to 40 white flowers about an inch long. The eastern prairie fringed orchid occurs mostly east of the Mississippi River in fewer than 60 sites in Illinois, Iowa, Maine, Michigan, Ohio, Virginia, Wisconsin, and in Ontario. The western prairie fringed orchid is restricted to west of the Mississippi River and is known from about 75 sites in Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, Oklahoma, and in Manitoba.

Both orchids occur most often in mesic to wet unplowed tallgrass prairies and meadows but have been found in old fields and roadside ditches. The nocturnally fragrant flowers of these perennial orchids attract hawkmoths that feed on nectar and transfer pollen from flower to flower and plant to plant. Seed germination and proper plant growth depend on a symbiotic relationship between the plants' reduced root systems and a soil-inhabiting fungus for proper water uptake and nutrition. The greatest threat to the prairie fringed orchids is habitat loss, mostly through conversion to cropland. Competition with introduced alien plants, filling of wetlands, intensive hay mowing, fire suppression, and overgrazing also threatens these species. The prairie fringed orchids also depend on hawkmoths for pollination. Any threat to these insects, such as the use of insecticides, is a threat to the prairie fringed orchids. The prairie fringed orchids were added to the U.S. List of Endangered and Threatened Wildlife and Plants on September 28, 1989. The U.S. Fish and Wildlife Service is developing recovery plans that describes actions needed to help this plant survive. Where possible, the orchids' habitat is being protected and habitat is improved with a variety of management techniques. In Illinois, seed was dispersed on some public lands that had good habitat but no orchids. Subsequently, orchids bloomed on at least one of those sites. Private landowners, government agencies, and conservation organizations are helping conserve these species. Public education programs have also been developed to raise awareness of the orchids' plight.

**Blandings Turtle**

The Blanding's Turtle Northwestern range ends near Pipestone County. The turtle is classified as a *threatened species* by the State. The turtle is a medium sized turtle with an average shell length of approximately seven to nine inches and a maximum length of 10 inches. A distinguishing feature of this turtle is the bright yellow chin and throat. The carapace, or upper shell, is domed, but slightly flattened along the midline, and is oblong when viewed from above. The carapace is speckled with numerous yellow or light-colored flecks or streaks on a dark background. The plastron, or lower shell, is yellow with dark blotches symmetrically arranged. The head and legs are dark, and usually speckled or mottled with yellow. The Blanding's turtle is also called the "semi-box" turtle, for although the plastron is hinged, the plastral lobes do not shut as tight as the box turtle's.

***Proactively Addressing Threatened & Endangered Species:*** The County identified in Chapter Six the desire to with the DNR and other agencies on projects related to learning more about or providing public education on the County's threatened or endangered species (Ch. 6, Pg. 20, Objective B, Guideline 14).

**The DNR Nongame Wildlife Program**

This program has more than 80 conservation projects underway in Minnesota to help wildlife, including a study of the Blanding's Turtle in Pipestone County. Some of these species are in jeopardy because of habitat loss, illegal killing or other environmental threats. Examples are protection and management of peregrine falcons, trumpeter swans, bald eagles and loons, improving and protecting nesting sites for endangered and rare wildlife species; providing wildlife ecology lesson plans to schools through Project WILD; and providing the public with information on how to help wildlife from plans to build nest boxes to birdhouses, to landscaping and lakescaping for wildlife, to tips on birdwatching and bird feeding. This program is funded primarily by citizens who donate to the Nongame Wildlife Checkoff on Minnesota's income tax and property tax forms. Private citizen involvement is essential to the program, not only as a funding source but as a partnership in conservation that involves habitat protection and citizen involvement in surveys and observation reports on rare wildlife species. For more information on the DNR Nongame Wildlife Program, visit the following website:

http://www.dnr.state.mn.us/ecological_services/nongame/index.html

***Proactively Addressing Nongame Wildlife Needs:*** In Chapter Six, the County identified interest in the promotion of wildlife and bird watching with assistance from the Minnesota DNR Nongame Wildlife Program (Ch. 6, Pg. 5, Objective C, Guideline 8).

**The Natural Heritage Information System (NHIS)**

The Natural Heritage Information System provides information on Minnesota's rare plants, animals, native plant communities, and other rare features. The NHIS is continually updated as new information becomes available, and is the most complete source of data on Minnesota's rare or otherwise significant species, natural communities, and other natural features. Its purpose is to foster better understanding and conservation of these features.

The most commonly used component of the system is the Rare Features Database. The Database began as a compilation of historical records from museum collections and published information. This has been supplemented with data from years of field work on Minnesota's rare features. Since 1986, our knowledge of Minnesota's rare features has increased substantially with the progress of the Minnesota County Biological Survey. Information from the Rare Features Database can be provided for review of land-use plans, impacts of specific development projects, research projects, and for other legitimate uses. The publication of exact locational information, however, may threaten the continued existence of some rare species.

For more information on Minnesota Threatened and Endangered Species, contact the Department of Natural Resources at the following website:

http://www.dnr.state.mn.us/ecological_services/rare.html

**Prairie Coteau Scenic and Natural Area**

> ***Size***: 329 Acres
> ***Location:*** 10 miles NE of Pipestone on MN Hwy 23.
> ***Type:*** Prairie Grasslands

Prairie Coteau is one of the most important and stunning prairies in southwestern Minnesota. It occupies an area of steep slopes and valleys which cut through the Bemis glacial moraine. George Catlin called this area the Couteaus des Prairies, or highland of the prairies. Deep stony till deposited from 18,000 to 12,000 years ago lies exposed on eroded slopes, while the flat ridge tops are covered by loess. Despite former grazing, two rare communities--the southwestern dry hill prairie and dry sand-gravel prairie--survive here. The rolling topography bears dry prairie vegetation on the higher elevations, while wet prairie species flourish in the lowlands. Rare animal species inhabiting this prairie include the Dakota skipper and Ottoe skipper, among at least 40 other butterfly species. More than 60 species of grasses, sedges, and rushes can be found here, with over 200 wildflower species. Disturbed areas of this SNA are being actively managed to reduce the presence of non-native species and to convert old fields to native vegetation. For more information, visit the following website:

**http://www.dnr.state.mn.us/snas/sna01026/index.html**

**The Pipestone National Monument**

The National Monument (also see Ch. 3, Pg. 6) also supports a globally rate plant community, the Sioux Quartzite Prairie (SQP). The Nature Conservancy has designated this as endangered. More than 1.75 billion years ago, through a slow process of erosion and waves when this area was covered by small streams, many layers of sand were laid down. The rocks very slowly changed because of heat, pressure, and silica cement that bonded the individual sand grains. Some of the rocks are marked by grooves, striations, and chattermarks created when glacial ice scraped across them. During the Wisconsin glacier, which was ***over a mile thick***, the sediment left by other glaciers was removed and some of the beautiful Sioux Quartzite was exposed. The Quartzite was cross-cut by shallow, wind-eroded grooves when sustained, high-velocity winds blew, leaving behind a smooth polished surface. Composed of almost 100 percent quartz, it is very resistant to erosion. In addition, the Sioux Quartzite Prairie supports five State-listed threatened plant species.

# Pipestone County's
# Key Water & Natural Resource Planning Partners

## The Pipestone County Soil and Water Conservation District

**Soil and Water Conservation Districts (SWCDs)** are political subdivisions of the State established under Minnesota Statute 103C. Each SWCD is governed by a board of five elected supervisors. State funding appropriations for SWCDs and their programs are administered through the Minnesota Board of Water and Soil Resources (BWSR). SWCDs work to reduce ***non-point source pollution*** to make Minnesota's lakes and rivers fishable and swimable. Non-point source (NPS) pollution is a term for polluted runoff. Water washing over the land, whether from rain, car washing, or the watering of crops or lawns, picks up an array of contaminants, including oil and sand from roadways, agricultural chemicals from farmland, and nutrients and toxic materials from urban and suburban areas. This runoff finds its way into our waterways, either directly or through storm drain collection systems. The term non-point is used to distinguish this type of diffuse pollution from point source pollution, which comes from specific sources, such as sewage treatment plants or industrial facilities.

The Pipestone County SWCD performs a variety of duties, conservation practice planning and implementation; environmental education; nutrient and residue management planning; water related issues; qualifying and quantifying wetlands; tree and seeding programs, State and Federal programs enrollment; and assisting with the County's zoning and recycling programs. For more information, contact the Pipestone County SWCD at the following address:

***Pipestone County Conservation and Zoning Office***
119 2nd Avenue SW, Suite 13
Pipestone, MN 56164
(507) 825-5478

For more information on Soil and Water Conservation Districts, visit the Minnesota Association of Soil and Watershed Districts' website at:

**http://www.maswcd.org/**

## Board of Water and Soil Resources (BWSR)

The Minnesota Board of Water and Soil Resources is the state's administrative agency for 91 soil and water conservation districts, 43 watershed districts, 27 metropolitan watersheds, and 80 county water management organizations. The agency's purpose, working through local government, is to protect and enhance the state's irreplaceable soil and water resources by implementing the state's soil and water conservation policy, comprehensive local water management, and the Wetland Conservation Act as it relates to the 41.7 million acres of private land in Minnesota. For more information, visit BWSR's website at:

**http://www.bwsr.state.mn.us/**

**Area II Minnesota River Basin Projects, Inc. (Area II)**

The Area II Minnesota River Basin Project was a joint powers board created in 1978 by statute to provide cost-share and technical assistance for the implementation of flood retarding and retention projects. Members include Brown, Cottonwood, Lac qui Parle, Lincoln, Lyon, Murray, Pipestone, Redwood and Yellow Medicine counties in southwestern Minnesota. For more information, contact Kerry Netzke, Area II Coordinator, at 1400 East Lyon Street (P.O. Box 267), Marshall, MN 56258-0267 (Phone: 507- 537-6369 or visit the following website:

**http://www.bwsr.state.mn.us/outreach/engineering/areaII.html**

**Redwood-Cottonwood Rivers Control Area (RCRCA)**

The Redwood-Cottonwood Rivers Control Area (RCRCA) represents the interest of local units of government through a joint powers agreement. Organized in 1983 to protect and enhance the Redwood and Cottonwood Rivers, RCRCA works with local, state, and federal agencies, as well as private foundations to finance and administer programs of benefit to the two watersheds. For more information, contact RCRCA at:

***Redwood-Cottonwood Rivers Control Area (RCRCA)***
1241 East Bridge Street
Redwood Falls, MN 56283
Phone: 507-637-2142 Ext. 4
Website: www.rcrca.com

**Minnesota Rural Water Association**

The Minnesota Rural Water Association was formed in 1978. They are a non-profit association governed by a Board of Directors with 16 full-time personnel trained to offer professional technical assistance and training to water and wastewater system personnel in operation and maintenance as well as wellhead protection. MRWA is funded through grants and membership money to allow us to offer our services to municipalities, rural water and wastewater districts with populations under 10,000 to no charge. They also provide assistance to newly forming non-profit rural water and wastewater districts. For more information, visit MRWA's website at:

**http://www.mrwa.com/**

**The Lincoln-Pipestone Rural Water System**

The Lincoln Pipestone Rural Water System (LPRW) celebrated the opening of their new water treatment plant at the Holland Well Field with a ribbon cutting ceremony on May 26, 2000. The Lincoln Pipestone Rural Water System operates three well fields (Burr, Holland and Verdi) and one backup well near Edgerton in western Minnesota. Some 26 communities and over 2,800 farms receive their water from LPRW. Total population served by LPRW is over 15,000. The

system covers approximately 2600 square miles, runs a length of about 100 miles north to south and about 40 miles east to west. It encompasses all or portion of eight counties.
High nitrates were identified in the Holland Well Field in late 1997 and LPRW choose to install an Osmonics Membrane Filtration system as well as an iron and manganese removal system, bringing the nitrate level into compliance and serving the area customers with excellent treated water. LPRW is also working with the Department of Agriculture, Minnesota Department of Health and local property owners to define and protect the wellhead delineation area. Through proper land use and fertilizer application both farming and providing high quality water to customers can take place in the same area. A good quality water source in southwestern Minnesota has always been a concern. The LPRW Board of Directors and staff have an excellent system that is working daily to deliver high quality water to its customers. For more information, contact Lincoln-Pipestone Rural Water at:

***Lincoln-Pipestone Rural Water***
East Highway 14, Box 188
Lake Benton, MN 56149
Phone: (507) 368-4248

**Lewis & Clark Rural Water System**

Through regional planning, the tri-state water systems took a collective approach to finding a new source of water. The Lewis & Clark Rural Water System was formed to provide clean and plentiful water to over 200,000 people who haven't known real stability in their water resources. The Lewis & Clark project will develop alternative water supplies for these people who have very few options with their current water source.

The Lewis & Clark Rural Water System was formally organized in Sioux Falls, South Dakota on April 18, 1990. Several communities from Eastern South Dakota met to establish an organization that would develop alternative water supplies for the benefit of its membership. As the water system plan developed, representatives from communities and rural water systems in Minnesota and Iowa joined the project, and with South Dakota, have overseen development of the Lewis & Clark water plan. The Missouri River, through careful engineering analyses, was determined to be the most viable and clean water source for the public water systems which make up the Lewis & Clark Rural Water System. For more information, contact them at:

**Lewis & Clark Rural Water System Inc**
401 East 8th Street, Sioux Falls, SD 57103
Phone: (605) 336-8688

**Minnesota Department of Agriculture** (visit http://www.mda.state.mn.us/)

In 1993, the Minnesota Department of Agriculture developed a "walk-in" style of water testing clinic with the goal of increasing public awareness of nitrates in rural drinking and livestock water supplies (referred to as the MDA Nitrate Water Testing Program). Results from the testing not only educate the participants, but may also provide some broad information on the occurrence of nitrate 'hotspots' across the State; this could eventually aid in justifying nitrate monitoring networks and programs. The clinic concept revolves around a number of simple principles: local participation is critical; testing is free to the public with immediate results; the overall program needs to be inexpensive; a non-regulatory atmosphere is important and well owners may remain anonymous; and the staff's most important goal is to provide the required technical assistance across a diverse audience of well owners.

**The Minnesota Pollution Control Agency** (visit http://www.pca.state.mn.us)

In 1989, the Minnesota Pollution Control Agency (MPCA) received a grant from the Legislative Commission on Minnesota Resources to redesign Minnesota's ambient groundwater monitoring program. The resulting program was called the Groundwater Monitoring and Assessment Program (GWMAP). GWMAP's primary objective was to meet statewide and local groundwater quality information needs. For over a decade the program endeavored to answer five basic questions about Minnesota groundwater quality:

- ✓ What are background concentrations of chemicals in Minnesota's groundwater?
- ✓ Where is the groundwater impacted by human activities?
- ✓ What is the nature and severity of the impact?
- ✓ Why is the groundwater impacted?
- ✓ What can be done to minimize groundwater impacts?

Three components were created to facilitate answering these questions. The first component was a statewide baseline assessment of water quality in Minnesota's principal aquifers, conducted between 1990 to 1996. The second component involved conducting groundwater trend studies. The staff of GWMAP conducted a series of discussions and determined that changes in land use could be linked to trends in water quality. Consequently, GWMAP designed and conducted a variety of land use studies between 1996 and 2001. Groundwater studies were conducted throughout the State to evaluate impacts from different land use management strategies. The third and final component of GWMAP was the development of regional cooperatives. Between 1992 and 2001, GWMAP staff provided groundwater data and information to a variety of people and groups, as well as technical support to local groups conducting groundwater monitoring

The GWMAP program was discontinued in the summer of 2001, however, the Minnesota Pollution Control Agency continues to provide information on the program. For best results, visit their website at:

**http://www.pca.state.mn.us/water/groundwater/gwmap/**

**The Prairie Ecology Bus Center (http://www.ecologybus.org/)**

The Prairie Ecology Bus Center (PEBC) is based in the southwestern Minnesota town of Lakefield. It is the home of the Prairie Schooler Ecology Bus, a state-of-the-art school, mobile scientific laboratory, and classroom designed to educate school children and adults about the environmental and natural sciences. The Ecology Bus is the only one of its kind in North America and is modeled after a similar bus and program in Sweden. The "Prairie Schooler" Ecology Bus brings its programs to schools, organizations, and public gatherings throughout southwestern Minnesota and northern Iowa. Programs are designed for pre-kindergarten through adult learners with classes offered year-round.

The Ecology Bus can seat up to 32 students, taking them to outdoor learning sites and providing them with the tools they need to conduct scientific investigation. It carries insect sweep nets, water dip nets, rubber boots, binoculars, chemical test kits, soil corers, microscopes, a macroscope, snowshoes, a VCR and three onboard video monitors, a laptop computer, and other equipment. It runs on alternative soy diesel fuel and is handicapped-accessible to accommodate special needs learners.

PEBC programs offer distinct advantages over those at traditional fixed-site environmental learning centers. The Ecology Bus transports students to nearby outdoor learning areas. Once there, they spend the day exploring, observing, experimenting with, analyzing, and interpreting the area's ecology of the area. They leave with a clearer sense of the uniqueness and value of the area's natural resources. This assists students in gaining an awareness of their role as Earth's caretakers and in taking an interest in protecting their local environment.

PEBC also offers In-School Assemblies, Naturalist-in-Residence Programs, Educator Training Workshops, and numerous public programs. It is affiliated with other environmental education programs such Project Wet, Project Bluestem, and the Leopold Education Project.

**Funding**
Contributions are very important as the PEBC is ***NOT*** tax supported. Rather, it is funded through program fees, memberships, donations and grants.

***Member Benefits***

- Quarterly *PEBC Express* Newsletter
- Free or reduced rates for public programs
- Tax deductible contributions
- Invitation to annual Open House
- Satisfaction of supporting a valuable and unique regional asset

For more information, call or write the Prairie Ecology Bus Center at:
507.662.5064
(Fax: 507.662.6168)
P.O. Box 429
Lakefield, Minnesota 56150
Website: www.ecologybus.org
E-mail: ecologybus@lakefieldmn.come

# Chapter Three:
# Pipestone County's Current Land Use

One of the main functions of this comprehensive plan is to guide community leaders when they make land use decisions. This Chapter is intended to provide background information on Pipestone County's current land use.

Over the years, Pipestone County's economy has remained largely agriculturally based. While recent areas of development include wind power and tourism, the County's location within Minnesota has provided it with land that is very conducive to corn and soybean farming. Some of the more undulating lands, however, are more suitable for pasture. Agricultural land uses during the last 20 years have remained productive at the same time little unincorporated urban growth has taken place.

## Key Land Use Issues

The Pipestone County Planning Commission and Comprehensive Planning Task force hosted a kickoff meeting to discuss the format of the planning process and to identify preliminary planning issues. The meeting took place on April 16, 2003, at the Pipestone County Courthouse (at 6 p.m.) and had 18 participants. The following issues were discussed:

1. Proximity to Sioux Falls provides an advantage and a disadvantage for Pipestone County (located approximately 30 miles from Jasper in Pipestone County).

    - Advantage – Sioux Falls provides jobs from Pipestone County residents
    - Disadvantage – a lot of commercial business leaves the County for Sioux Falls
    - Advantage – Jasper retaining households and population as a bedroom community for Sioux Falls
    - Advantage – Jasper might develop an industrial park
    - Advantage – Jasper and Pipestone have a potential for growth by providing workers to Sioux Falls

2. Problems with empty farm places in Pipestone County
    - More and more being abandoned all the time
    - Need for maintenance on all township roads, regardless of little population
    - Becoming sites for hog confinement development

3. Split Rock State Park
    - Are there any boundary issues? The proposed boundary expansion before the 2004 legislature is 617 acres.

4. County Parks
    - Lack of County parks
    - Need for recreation?
    - Veterans park is just a rest area – should the County add to it?

5. Trail Development
    - Casey Jones
    - Working with DNR
    - Trails could occur along highway corridors
    - Issues have been raised with garbage pickup, horses, ATV use
    - Major Road crossings are an issue

6. Law Enforcement
    - Drugs and Methane development a concern in rural areas
    - Need for identifying key issues from Law Enforcement (facility issues too)
    - Incarceration population

7. Wind Transmission Lines
    - Lack of transmission capacity is a major issue

8. Mining
    - Gravel pit issues
    - Issues with permitting new areas
    - Issues with dealing with old ones

9. Rural Residences
    - Standard 1 per 40 needs to be reviewed
    - Agricultural Zoning must be discussed

10. Renewable Energy
    - Zoning a key issue
    - Includes: Bio-Mass, Ethanol, Methane Digesters, etc.

11. Small Business out in Rural Areas
    - Need to examine and avoid "spot zoning"
    - Should small businesses be allowed or not?
    - Potential Solution – level I and level II home occupation
    - County attorney interpretation is key

12. Pipestone National Monument
    - Viewsheds and scenic vistas critical to the protection of cultural and ethnographic landscapes
    - Exotic vegetation encroachment
    - Flooding and hydrologic issues arising outside the Monument's boundry

## Section One:
## Pipestone County's Zoning

Pipestone County's current Zoning Ordinance has been administered since 1979. The preamble to the Zoning Ordinance reads as follows:

*An ordinance requiring permits for building, structures and the uses thereof; for land uses; establishing minimum lot sizes, setbacks and side yards; providing for parking and other requirements; and imposing penalties.*

The Zoning Ordinance establishes nine separate zoning districts that regulate land use. The following provides a brief description of the intent of each zoning district in Pipestone County. Map 3A displays each of the County's zoning districts.

### *Flood Plain District (F)*

The intent of this district is to encompass all of the properties within Pipestone County that lie within areas prone to flooding. These areas require special regulations, as they are necessary for the minimum protection of the public health and safety, and of property and improvements from hazards and damage resulting from floodwaters.

### *Agriculture District (A)*

The purpose of this district is to maintain, conserve and enhance agriculture land within the County. This land has a history of being tilled and used for agricultural purposes. The Agriculture District protects this land from unnecessary urban encroachment.

### *Urban Expansion District (A-1)*

The primary purpose of this district is to conserve for a period of time, land for farming and other open space land uses located adjacent to or within close proximity of existing incorporated urban centers within Pipestone County. It is the intention of this district to defer urban development in such areas until public utilities and services can be economically and financially reasonable to install. It is also intended that the appropriate planning bodies jointly review the status of all areas within this district once per calendar year. At this time, it shall be determined whether or not any or all of any part of these areas should be transferred to some other appropriate land use.

### *Rural Residential District (R-A)*

It is the intent of this district to provide suitable areas of low density residential development in areas of existing development which occurs in unincorporated areas and where municipal (sewer and water) utilities or an approved community utility system is available or as substantially relates to the urban development pattern set forth in the Land Use Plan for Pipestone County.

### *Natural Environment Shoreland (NES)*

The purpose of this district is to preserve and enhance shoreland areas, retain high quality water standards, protect these areas from pollution, to protect shorelands which are unsuitable for development, to maintain a low density of development, and to maintain high standards of quality for permitted development.

### *Special Protection Shoreland District (SP)*

The intent of this district is to guide the development and utilization of shorelands of public waters for the preservation of water quality, natural characteristics, economic values, and the general health, safety, and welfare of all public waters in the unincorporated areas of the County. Further, the purpose of this district is to manage areas unsuitable for development due to wet soils, steep slopes, or large areas of exposed bedrock; and to manage areas of unique natural and biological characteristics in accordance with compatible uses.

### *Recreation Commercial District (RC)*

This district is intended to provide suitable locations for, and to encourage the development of commercial recreation facilities in these areas of the County which benefit the recreational needs of both residents and tourists, will avoid land use conflicts with residential areas, and restrict incompatible commercial and industrial uses.

### *Highway Commercial District (HC)*

The purpose of this district is to provide a district that allows for a wide range of services and goods in a compact and convenient limited highway-oriented business closely related to existing urban areas or major transportation routes. Such developments are to be developed at standards that will not impair the traffic-carrying capabilities of abutting roads and highways.

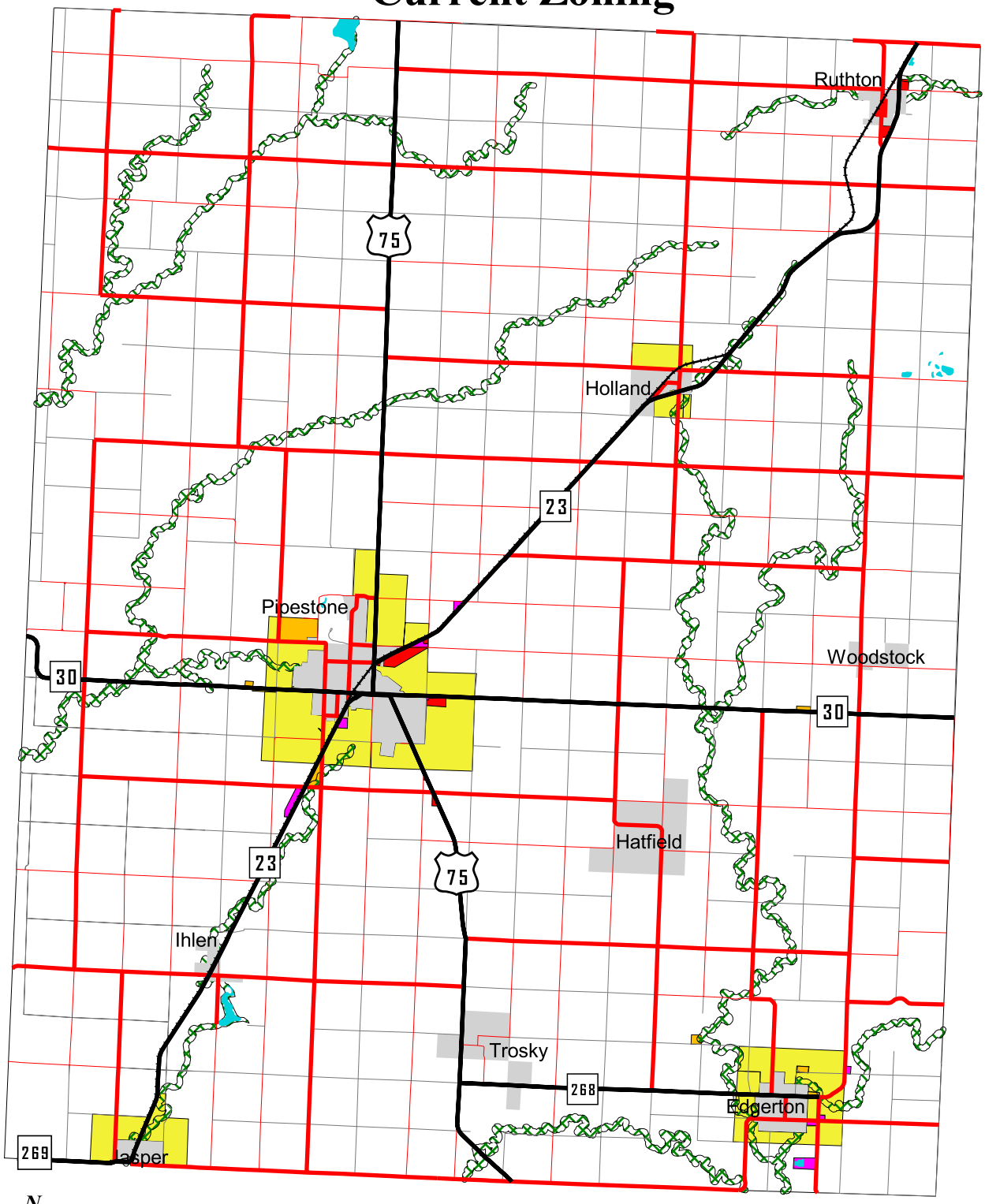
### *Industry District (I)*

The intent of this district is to provide a district that will allow compact, convenient industry adjacent to existing urban areas in the County and will do so at standards that will not impair traffic-carrying capabilities of abutting roads and highways. This district will provide locations for industry that provide both adequate and essential utilities and insure a functional relationship among various types of land use.

**Zoning Maps**

*Map 3A shows the location of each zoning district in Pipestone County, however, a 8½ by 11 zoning map is too small to effectively read. Chapter Five contains zoning maps for each township.*

# Map 3A: Pipestone County
# Current Zoning




N
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Southwest Regional Development Commission
Focused on Southwest Minnesota

2 0 2 4 Miles

Current Zoning Districts

Lakes & Wetlands
Municipalities
Pipestone County Zoning Districts
A - Agriculture
A1 - Urban Expansion
RA - Rural Residential
HC - Highway Commercial
I - Industry
Special Protection (overlay)

Railroad
US/State Highways
County State Aid Highways
County Roads
Township Roads

Note: This map is a representation of zoning in place in 2004. Contact Pipestone County Planning/Zoning Administrator for current official zoning district boundaries.

## Section Two:
## Parks and Trails

Typical county park systems contain three major components: county parks, county/regional trails, and special recreational areas. Pipestone County does not, however, currently possess any County owned parkland with the exception of Veteran's Park, which is considered a wayside rest area. Because of this, the County could attempt to create a diversified group of natural resources and work towards creating a system (all parks) large enough to support a range of recreational activities. Regional trails also have an impact and can be defined as "linear parks" that provide for recreational opportunities and travel that follow natural or man-made features. The Pipestone National Monument, however, serves as the County's largest tourism and recreation activity.

### Split Rock State Park

(Park information acquired from www.wildernessinquiry.org)

Pipestone County is home to Split Rock State Park. The park is located 6 miles south of Pipestone on State Highway 23 while the main access point to the park is from Pipestone County Road 20. The park is open year around and has a daily admission pass of $7 or an annual pass of $25. Split Rock Creek is a somewhat secluded park area that is very family oriented. The park possesses a large improved campground site with a fairly modern restroom/shower facility and does include one designated accessible site located near it. In addition, there is a small group camp adjacent to the main campground and a swimming beach and picnic area at the southern end of the park. Finally, there is an accessible fishing pier and vault toilets. New management plans calls for an expansion of the campground by 8 to 10 more sites.

### Pipestone National Monument

***Visit http://www.cr.nps.gov/NR/travel/pipestone/pnm.htm or www.nps.gov/pipe/history.htm***

Pipestone National Monument, created by an act of Congress in 1937, is an area of ethnological, archeological and historical significance that preserves the pipestone quarries in a natural prairie setting. For centuries American Indians have come to this site to quarry the red stone called pipestone. Through the years pipes carved from pipestone have been used for many purposes: to show intention for war or peace, to seal agreements and treaties, for trade, and for religious ceremonies. Today, only American Indians may remove the soft red stone from the area. The entire Monument is approximately 282 acres and has 54 active quarries. In 2003, the Monuments had approximately 83,000 visitors.

***Purpose*** – The legislative purpose of Pipestone National Monument is threefold:

- To administer and protect the pipestone quarries, reserving the quarrying of pipestone for Indians of all tribes.
- To protect cultural and natural resources within the monument boundaries.
- To provide for the enjoyment and benefit of all people.

**Significance** – Pipestone National Monument is a culturally significant site as the location of red pipestone also known as Catlinite, quarried by American Indians from prehistoric times to the present. In addition, the National Monument is significant in the following ways:

- The national monument is significant as a sacred site for American Indian spiritual and cultural activities.

- Pipestone National Monument is significant for its history of American and European-American Indian relations; including European exploration in the early 1800s, specific quarrying rights reserved by the Treaty of 1858 and later expanded to Indians of all tribes in 1937, and the Pipestone Indian School (1892-1953).

- Pipestone National Monument protects a significant ethnographic landscape consisting of tallgrass prairie, unique geologic features, federally threatened and endangered species, and rare habitats.

A visitor study for the National Monument was completed in 2002. A few the of study's highlights are listed below. The complete results can be viewed at the following website:

**http://www.nps.gov/pipe/Pipestone.pdf**

- United States visitors were from Minnesota (29%), South Dakota (6%), Nebraska (6%), California (6%), 36 other states and Washington, D.C. Four percent of all visitors were international, with Canada (21%), Israel (18%) and Norway (15%) as the countries most often represented.

- Most visitors (81%) were visiting Pipestone NM for the first time during the past 5 years. Ninetyfive percent of the visitors spent less than one day in the monument. Forty-one percent of visitors stayed overnight away from home within 25 miles of Pipestone NM.

- In and outside the monument, the average visitor group expenditure during this visit was $106. The median visitor group expenditure (50% of groups spent more and 50% of groups spent less) was $60. The average per capita expenditure was $44.

**A Monumental Planning Process…**

The Pipestone National Monument is in the process of developing a General Management Plan that will outline the purpose and direction of park actions for the next 15-20 years. A draft of the General Management Plan and associated Environmental Impact Statement will be available for public review and comment by late Fall 2004. For more information, call 507-825-2046.

## Trails

Presently, Pipestone County has all or part of five trail systems. These trails include the following:

- **Pipestone Walking Trail**
  This is a one mile paved trail on the right of way connecting the north edge of Pipestone to Minnesota West Community and Technical College and the Good Samaritan Village Retirement Center.

- **Pipestone National Monument Trail**
  This trail is a three-quarter mile paved walking trail at the National Monument.

- **Split Rock Creek State Park Trail**
  This trail consists of miles of grass walking trails within the boundaries of the State Park.

  During the public review process of developing this plan, the DNR added the following comments:

  > "Part of the Split Rock Creek State Park management plan is to develop a horse camp and day use area with trail in the park. An extension to the Casey Jones Trail to the park would provide horse riders with much greater access to an extended trail system for recreational opportunities."

- **Casey Jones Trail**
  This trail includes 10 miles of DNR owned railroad bed from Pipestone to Woodstock. This property is clear of fence and is occasionally groomed for use by the Snow Blazers Snowmobile Club. The Casey Jones State Trail was the first legislatively authorized State Trail. Thirteen miles of abandoned railroad grade were acquired in 1967. Because of the trail's railroad heritage, it was given the name of renowned American railroad engineer – Casey Jones. Trail users travel up and over a significant landscape feature, Buffalo Ridge while the location of the trail is home to a large amount of native prairie remnants. The Casey Jones State Trail legislative authorization was extended during a 2002 session to include the following segments: a connection from Lake Shetek State Park northeast to Walnut Grove; an existing asphalt loop trail from Lake Shetek State Park to Currie and End-O-Line Park; and Pipestone to Split Rock Creek State Park.

  During the public review process of developing this plan, the DNR added the following comments:

  > "The Casey Jones Trail development is proceeding, part of the trail system is to connect Split Rock Creek State Park with the trail. This would increase the recreational opportunities for visitors to the park and the region. Part of the problem is that there are no abandoned railroad tracks between Pipestone and Spilt Rock Creek State Park."

- **Kiwanis Fitness Trail**
  This is a paved walking trail that is complete with exercise stations located in Pipestone City's Westview Park.

The Southwest Minnesota Regional Trails Plan (2000) identified recent studies that show the use of outdoor trail systems is on the rise. According to a 1990 Harris poll, it was estimated that 73 percent of adults in the US walked outdoors, most notably for exercise. It is also believed that local economies receive stimulation when communities respond to the needs of trail users. Pipestone County should encourage the development of trails and trail heads within its borders, as well as trail connections with those of neighboring counties. Potential trailheads that were identified in the Regional Trails Plan are also shown and include the following (an asterisk indicates an existing trail):

- Downtown Pipestone*
- Edgerton
- Jasper Quarry
- Split Rock State Park*
- Woodstock
- Pipestone National Monument*

During the public review process of developing this plan, the DNR added the following comments regarding the Split Rock State Park:

> "As more of the land owned by the state is converted back into prairies and the current grazing leases run out, the management plan calls for the development of more hiking and horse trails within the boundary of the park."

The Southwest Minnesota Regional Trails Plan did not identify potential future trail developments for Pipestone County. However, there were potential corridors for pedestrian and bicycle or multiuse trails and routes identified in the 1999 planning process and in the January 2000 comment period of the Regional Trails Plan. These included:

- Pipestone/National Monument to Woodstock to Murray County Boundary
- Pipestone/National Monument to Lake Benton/Hole in the Mountain Park
- Along the Wind Turbine Corridor
- Pipestone/National Monument to Split Rock State Park

During the public review process of developing this plan, the DNR added the following comments regarding the creation of a trail between Pipestone and the State Park:

> "A trail that connects Pipestone with Split Rock Creek State Park would be a great benefit to the park. It would increase day use at the park and would provide visitor to the region with greater access to recreational opportunities."

## Section Three:
## Pipestone County's Housing

According to population projections illustrated in Chapter One, Pipestone County is likely to continue to losing population for the next couple of decades. Conversely, the County could see an increase in the number of households in the future. The need for more housing despite a loss of population is best explained by a national trend of smaller families, households without children, an increase in teen parenting, and an increase in the rate of divorce – meaning that while there are fewer people, those fewer people are actually occupying more households. In addition, the County continues to remain proactive in terms of economic development, this will continue to bring added employment to the county and hence, a greater need for affordable housing. To adequately address these needs, the County should focus residential land use efforts on a wide variety of housing stock for all income and age groups. The completion of housing studies every five years that identify the location and type of housing needs should be encouraged.

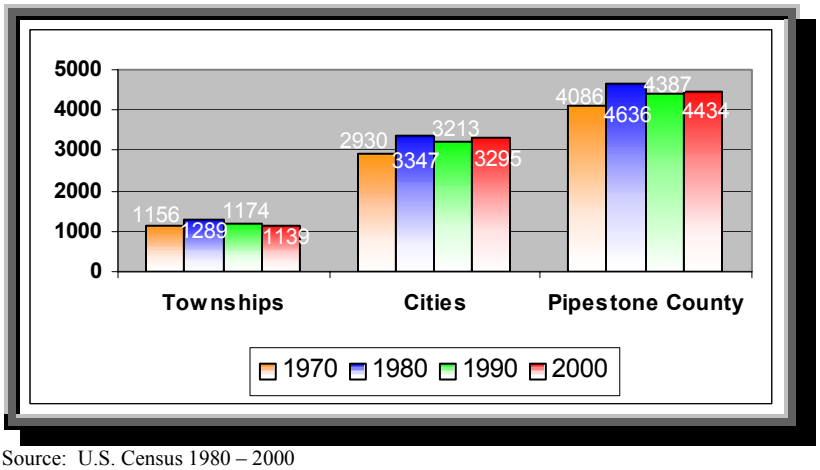
### Existing Housing

**Difference Between Housing Units and Households**

The U.S. Census reports statistics for both total housing units and households. Housing units are the total number of liveable dwellings that are available. Households refer to the total number of occupied units.

Census 2000 provides the most current count of housing within Pipestone County. The Census reported that there were 4,434 housing units in Pipestone County in 2000; this includes all housing units (single family units, mobile homes, rental units and vacant dwellings). The 1970 Census reported that there were 4,086 housing units in Pipestone County. The 1980 Census reported 4,636 housing units and the 1990 Census reported 4,387 units. This means the County lost 249 housing units from 1980 to 1990 (-5.4%) but gained 47 housing units from 1990 to 2000 (1.1%). Overall, the number of housing units increased by 348 since 1970, but declined by 202 units (-4.4%) from 1980 to 2000. Chart 3A: compares the total number of housing units for all of Pipestone County townships, cities, and the whole County from 1970 to 2000.

**Chart 3A:**
**Total Housing Units – Townships, Cities, County (1970 – 2000)**




Source: U.S. Census 1980 – 2000

Chart 3A illustrates that far more housing units were located within the municipalities than in the townships during all three decades. The number of housing units in all Pipestone County townships decreased by 150 total units (-11.6%) from 1980 to 2000. In comparison, the number of housing units in all of Pipestone County's communities decreased by 52 total units (-1.6%) – but note that there was an increase in total units from 1990 to 2000. One factor contributing to the higher numbers of housing units within the communities as opposed to the townships could be the lack of developable lakes, wetlands, and forest areas within the County. Often times, these types of natural features are attractive areas to build homes.

**Table 3A:**
**1970 to 2000 Housing Unit Growth (Pipestone Communities)**

| City | 1970 | 1980 | 1990 | 2000 | Change | Percent |
|---|---|---|---|---|---|---|
| Edgerton | 368 | 442 | 460 | 477 | 109 | 29.62% |
| Hatfield | 29 | 31 | 26 | 25 | -4 | -13.79% |
| Holland | 107 | 111 | 113 | 112 | 5 | 4.67% |
| Ihlen | 43 | 50 | 45 | 44 | 1 | 2.33% |
| Jasper | 284 | 277 | 249 | 275 | -9 | -3.17% |
| Pipestone | 1826 | 2156 | 2055 | 2097 | 271 | 14.84% |
| Ruthton | 152 | 156 | 143 | 145 | -7 | -4.61% |
| Trosky | 41 | 47 | 45 | 48 | 7 | 17.07% |
| Woodstock | 80 | 77 | 77 | 72 | -8 | -10.00% |
| **Totals** | **2,930** | **3,347** | **3,213** | **3,295** | **365** | **12.46%** |

Source: U.S. Census 1970 - 2000

**Table 3B:**
**1970 to 2000 Housing Unit Growth (Pipestone Townships)**

| Township | 1970 | 1980 | 1990 | 2000 | Change | Percent |
|---|---|---|---|---|---|---|
| Aetna | 93 | 107 | 90 | 81 | -12 | -12.90% |
| Altona | 86 | 88 | 79 | 69 | -17 | -19.77% |
| Burke | 79 | 98 | 89 | 88 | 9 | 11.39% |
| Eden | 114 | 125 | 113 | 103 | -11 | -9.65% |
| Elmer | 103 | 107 | 107 | 92 | -11 | -10.68% |
| Fountain Prairie | 83 | 92 | 77 | 73 | -10 | -12.05% |
| Grange | 91 | 95 | 91 | 92 | 1 | 1.10% |
| Gray | 101 | 96 | 96 | 92 | -9 | -8.91% |
| Osborne | 102 | 132 | 116 | 127 | 25 | 24.51% |
| Rock | 79 | 87 | 75 | 74 | -5 | -6.33% |
| Sweet | 116 | 136 | 130 | 134 | 18 | 15.52% |
| Troy | 109 | 126 | 111 | 114 | 5 | 4.59% |
| **Totals** | **1156** | **1289** | **1174** | **1139** | **-17** | **-1.47%** |

Source: U.S. Census 1970 – 2000

Tables 3A and 3B provide a breakdown of the number of housing units from 1970 to 2000 in each of the individual townships and cities in Pipestone County (refer to Map 1A in the Executive Summary to find the location of each city and township).

According to Tables 3A and 3B, there were many increases and decreases in total housing units per jurisdiction during this time span. The two communities that experienced the largest housing growth were Pipestone and Edgerton while the fastest growing were Edgerton (29.62%) and Trosky (17.07%) increasing by 109 units and 7 units respectively. The average housing growth was 12.46 percent for all communities as 365 units were added from 1970 to 2000. Likewise, the largest increases within the townships occurred in Osborne and Sweet. These two also had the fastest increases in housing units, increasing by 25 units (24.51%) and 18 units (15.52%) respectively. The Pipestone County townships decreased in total units on average at a rate of 1.47 percent losing 17 total units. It should be noted that in some cases, large percents occur because the total numbers are relatively small.

In 2000, 92 percent of the total housing units in Pipestone County were occupied (leaving 8 percent vacant). Of the 4,069 units being occupied in 2000, 72 percent were owner occupied while 20 percent were renter occupied. Based on data provided from the 2000 Census, single-family housing made up approximately 84 percent of the total housing stock in Pipestone County. Table 3C compares these and other housing characteristics for Pipestone County and the State of Minnesota based on the 2000 Census. As previously stated, 72 percent of the housing stock in Pipestone County was Owner Occupied while 84 percent were single family units. In comparison, the State had 68 percent owner occupied units and 68 percent single-family units.

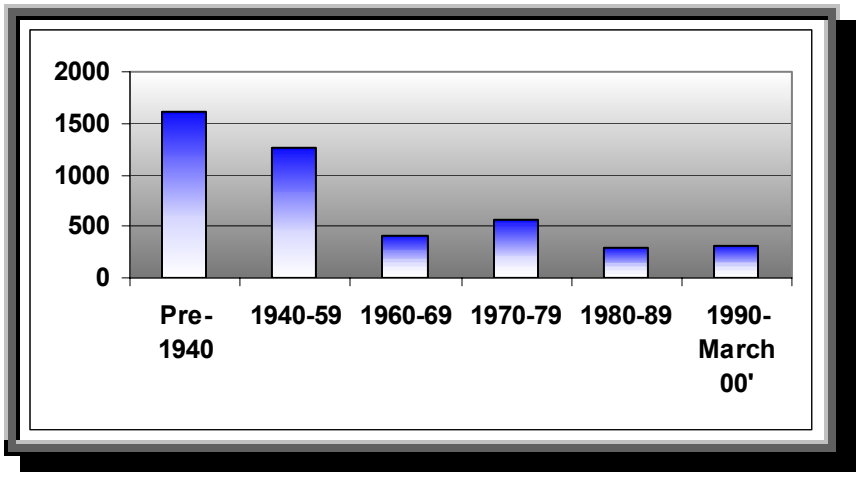
**Table 3C:**
**Housing Characteristics (2000)**

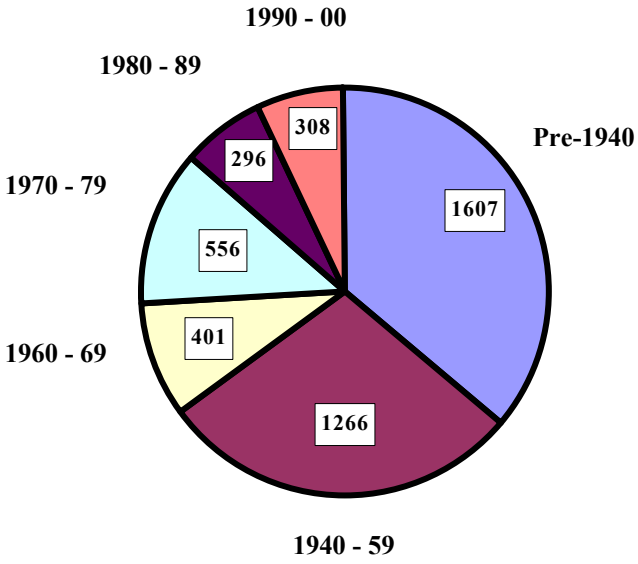
| | Pipestone | | Minnesota | |
|---|---|---|---|---|
| **Characteristic** | **Number** | **Percent** | **Number** | **Percent** |
| Occupancy | | | | |
| Occupied Units | 4,069 | 92% | 1,895,127 | 92% |
| Vacant Units | 365 | 8% | 170,819 | 8% |
| Occupancy Status | | | | |
| Owner Occupied Units | 3,173 | 72% | 1,412,865 | 68% |
| Renter Occupied Units | 896 | 20% | 482,262 | 23% |
| Type of Unit | | | | |
| 1-unit, detached | 3,724 | 84% | 1,399,993 | 68% |
| 1-unit, attached | 67 | 2% | 107,385 | 5% |
| 2 units | 71 | 2% | 62,137 | 3% |
| 3 or 4 units | 99 | 2% | 48,235 | 2% |
| 5 to 9 units | 106 | 2% | 49,307 | 2% |
| 10 to 19 units | 81 | 2% | 79,019 | 4% |
| 20 or more units | 138 | 3% | 220,976 | 11% |
| Mobile Home | 148 | 3% | 93,618 | 5% |
| Boat, RV, van, etc. | 0 | 0% | 5,276 | 0% |

Source: 2000 Census

Chart 3B illustrates housing construction by decade for Pipestone County. As the Chart illustrates, a large portion of Pipestone housing was built before 1940 (36 percent of total housing units) and during the time period from 1940 to 1959 (a 20-year period comprising 29 percent of total housing units). The same information is also printed in the form of a pie chart.

**Chart 3B:**
**Pipestone County Construction by Decade**
**Through 2000 (line graph and pie chart)**




Increases in community housing units and decreases in township housing units are going to have a continued impact on the County's overall land use patterns. Tables 3D and 3E compare housing unit densities for all of Pipestone County's communities and townships and Pipestone County as a whole from 1970 to 2000. The densities were determined by dividing the total number of housing units for each entity by the land area in square miles for each political subdivision. The land area used to determine the housing unit densities was based on the square miles of each entity in 1990 (the most recent data available). It should be noted that the actual size in square miles for some cities and townships may have changed between 1970 and 2000.

The use of the 1990 land area size in square miles for each city and township should, however, help identify where the highest concentrations of housing are located throughout the County.

**Table 3D:**
**1970 to 2000 Housing Density Comparison (Pipestone Cities)**

| City (1990 Land Area in Square Miles) | Housing Units Per Square Mile | | | | Change | |
|---|---|---|---|---|---|---|
| | 1970 | 1980 | 1990 | 2000 | Number | Percent |
| Edgerton (1.1) | 335 | 402 | 418 | 434 | 99 | 29.55% |
| Hatfield (2.8) | 10 | 11 | 9 | 9 | -1 | -10.00% |
| Holland (.9) | 119 | 123 | 126 | 124 | 5 | 4.20% |
| Ihlen (.4) | 108 | 125 | 113 | 110 | 2 | 1.85% |
| Jasper (1) | 284 | 277 | 249 | 275 | -9 | -3.17% |
| Pipestone (4.6) | 397 | 469 | 447 | 456 | 59 | 14.86% |
| Ruthton (.7) | 217 | 223 | 204 | 207 | -10 | -4.61% |
| Trosky (1.7) | 24 | 28 | 26 | 28 | 4 | 16.67% |
| Woodstock (.6) | 133 | 128 | 128 | 120 | -13 | -9.77% |
| **City Average** | **181** | **198** | **191** | **196** | **15** | **8.36%** |

Source: U.S. Census 1970 - 2000

**Table 3E:**
**1970 to 2000 Housing Density Comparison (Pipestone Townships)**

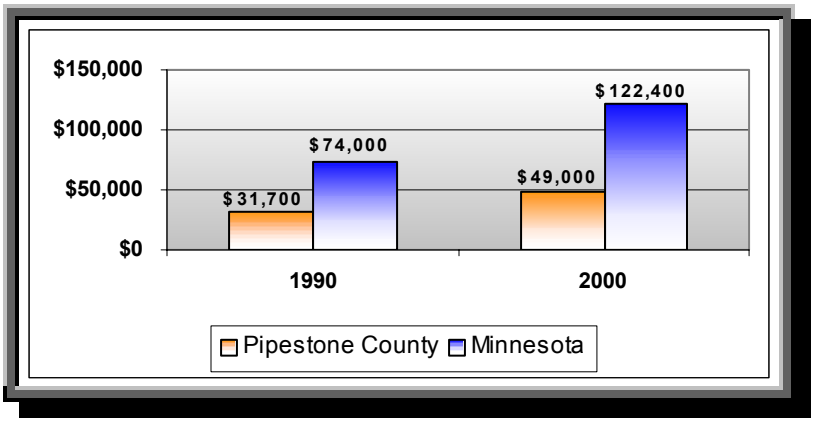
| Township (1990 Land Area in Square Miles) | Housing Units Per Square Mile | | | | Change | |
|---|---|---|---|---|---|---|
| | 1970 | 1980 | 1990 | 2000 | Number | Percent |
| Aetna (43.04) | 2.2 | 2.5 | 2.1 | 1.9 | -0.3 | -14% |
| Altona (35.40) | 2.4 | 2.5 | 2.2 | 1.9 | -0.5 | -21% |
| Burke (34.59) | 1.8 | 2.3 | 2.1 | 2.0 | 0.2 | 11% |
| Eden (43) | 2.7 | 2.9 | 2.6 | 2.4 | -0.3 | -13% |
| Elmer (35.23) | 2.9 | 3.0 | 3.0 | 2.6 | -0.3 | -10% |
| Fountain Prairie (37.09) | 2.2 | 2.5 | 2.1 | 2.0 | -0.2 | -9% |
| Grange (36.14) | 2.5 | 2.6 | 2.5 | 2.5 | 0.0 | 0% |
| Gray (33.10) | 3.1 | 2.9 | 2.9 | 2.8 | -0.3 | -10% |
| Osborne (34.98) | 2.9 | 3.8 | 3.3 | 3.6 | 0.7 | 24% |
| Rock (35.9) | 2.2 | 2.4 | 2.1 | 2.1 | -0.1 | -5% |
| Sweet (41.52) | 2.8 | 3.3 | 3.1 | 3.2 | 0.4 | 14% |
| Troy (43.66) | 2.5 | 2.9 | 2.5 | 2.6 | 0.1 | 4% |
| **Township Average** | **2.5** | **2.8** | **2.5** | **2.5** | **0.0** | **0%** |

Source: U.S. Census 1970 - 2000

Tables 3D and 3E reveal that, from 1970 to 2000, Pipestone County's communities experienced an 8.36 percent increase in housing unit density, while the townships remained stable. The largest increase in housing unit development in the communities was found in the county's two largest communities of Pipestone and Edgerton. The lack of substantial changes in the number of total units within the County's townships indicate that no major land use changes should have been required as a result of an increased or a decreased number of housing units (however, changes may have occurred in relation to increased animal confinement buildings or feedlots where housing unit densities were already low).

Chart 3C shows the median housing values for owner occupied housing within Pipestone County as well as the State of Minnesota for the years 1990 and 2000. The median value of housing in Pipestone County increased from 1990 to 2000 by $17,300 (54.6%) while the median value for housing in Minnesota increased by $48,400 (65.4%). The 2000 median value of housing in the County was 40 percent of the State's median value, down from 42.8 percent in 1990.

**Chart 3C:**
**1990 – 2000 Pipestone/Minnesota Housing Values**




U.S. Census: 1990 and 2000

## Section Four:
## Economic Development

Within the realms of both city and county government, the responsibility of courting and retaining successful commercial or industrial enterprises is perhaps one of the most difficult types of tasks either form of government will have to face. These developments are so coveted because they not only bring jobs and people to an area, but they provide a much-needed increase to the local tax base both directly and indirectly. As such, economic development can be best defined as those actions and activities that bring additional monies into the area.

***Employment Data***

During the recorded time span used for this analysis, Pipestone County generally realized decreasing unemployment rates. Table 3F represents employment trends in Pipestone County during the first part of the 2000's. Steady decreases in unemployment were realized until the beginning of 2003 when the County experienced a rise of 83 unemployed persons, an increase of 1.7 percent in the unemployment rate. The prosperous beginning to the decade could have been attributed to the new wind farm developments occurring within the County. The sudden downturn within the economy is not unique to Pipestone County, as the National economy has been stagnant for the past year and a half.

**Table 3F:**
**Employment Trends (2000 – 2003)**

| Year | Labor Force | No. Employed | No. Unemployed | Pipestone | Unemployment Rates | |
|---|---|---|---|---|---|---|
| | | | | | MN | US |
| 2000 | 5,146 | 4,943 | 202 | 3.90% | 3.30% | 4.00% |
| 2001 | 5,246 | 5,066 | 181 | 3.40% | 3.70% | 4.70% |
| 2002 | 5,379 | 5,222 | 157 | 2.90% | 4.40% | 5.80% |
| 2003 (Jan.)* | 5,215 | 4,975 | 240 | 4.60% | 5.10% | 6.50% |
| **Change** | | | | | | |
| 2000-2001 | 100 | 123 | -21 | -0.50% | 0.40% | 0.70% |
| 2001-2002 | 133 | 156 | -24 | -0.50% | 0.70% | 1.10% |
| 2000-2002 | 233 | 279 | -45 | -1.00% | 1.10% | 1.80% |
| 2002-2003 | -164 | -247 | 83 | 1.70% | 0.70% | 0.70% |

Source: Minnesota Department of Economic Security
*The years 2000 – 2002 are annual averages; the year 2003 is for the month of January only.

Table 3G shows employment by industry from 1996 through 2000. This information represents the number of jobs within Pipestone County regardless of where the employees live. This is regarded as place of work data. Covered employment excludes some categories of workers such as self-employed persons, railroad workers, persons employed in very small farming operations, and some others.

Covered employment includes private sector employees as well as state, county and municipal government employees. The data from each year represents an annual average. From 1996 through 2000, the only declines occurred in the retail trade and government sectors, which decreased by 48 persons (-6%) and 15 persons (-2%) respectively. The largest growth in terms of new workers added occurred in the wholesale trade and manufacturing sectors, which grew by 110 persons (47%) and 51 persons (6%) respectively.

**Table 3G:**
**Employment by Industry (1996 – 2000)**

| Industry | 1996 | 1997 | 1998 | 1999 | 2000 | 1996-1998 | | 1998-2000 | | 1996-2000 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | # | % | # | % | # | % |
| Ag, Forestry, Fishing, Mining | nd | nd | nd | nd | 189 | nd | nd | nd | nd | nd | nd |
| Construction | 135 | 143 | 161 | 164 | 164 | 26 | 19% | 3 | 2% | 29 | 21% |
| Manufacturing | 809 | 773 | 822 | 783 | 860 | 13 | 2% | 38 | 5% | 51 | 6% |
| TCPU* | 141 | 155 | 155 | 158 | 162 | 14 | 10% | 7 | 5% | 21 | 15% |
| Wholesale Trade | 234 | 249 | 224 | 228 | 344 | -10 | -4% | 120 | 54% | 110 | 47% |
| Retail Trade | 840 | 815 | 818 | 786 | 792 | -22 | -3% | -26 | -3% | -48 | -6% |
| FIRE** | 163 | 178 | 183 | 169 | 167 | 20 | 12% | -16 | -9% | 4 | 2% |
| Services | 609 | 622 | 657 | 654 | 655 | 48 | 8% | -2 | 0% | 46 | 8% |
| Government | 876 | 875 | 854 | 846 | 861 | -22 | -3% | 7 | 1% | -15 | -2% |
| **All Industries** | **3,807** | **3,810** | **3,874** | **3,788** | **4,194** | **67** | **2%** | **320** | **8%** | **387** | **10%** |

*TCPU includes Transportation, Communication, and Public Utilities
**FIRE includes Finance, Insurance, and Real Estate
Source: Minnesota Department of Economic Security

Between 1996 and 1998, the total number of jobs increased by 67 positions, an increase of 2 percent. The largest number of jobs was added in the services and construction sectors, which increased by 48 employees and 26 employees respectively. The largest percentage increases can be found in the construction and FIRE sectors, which increased by 19 percent and 12 percent respectively. The largest employment declines were found in the retail trade and government sectors, which decreased by 22 positions each (-3 percent for each).

Employment growth continued from 1998 to 2000. Overall, 320 new jobs were added, however, the numbers are slightly skewed here because year 2000 was the only year in which the "Ag, Forestry, Fishing, and Mining" sector had retrievable data. Taking this sector out of the equation, 131 new jobs were added during this time. The largest increase came in the wholesale trade sector, which increased by 120 jobs (an increase of 54 percent). The largest decrease came in the retail trade sector, which decreased by 26 positions. The largest percentage decrease came in the finance, insurance, and real estate (FIRE) sector, which decreased by 9 percent.

The data collected from the entire time span (1996 to 2000) shows that Pipestone County increased in total employment by 198 positions (387 counting the positions in the Ag sector), this was a growth rate of approximately 5.2 percent (10 percent counting the positions in the Ag sector) over the 4 year period. The largest total gains came in the wholesale trade sector, which increased by 110 positions, a growth rate of 47 percent. The largest decrease came in the retail trade sector, which lost 48 positions, a decline of 6 percent. The only other sector to lose positions was the government sector, which lost 15, a decline of 2 percent.

The change in dependence on different industrial sectors has been difficult for most rural areas in southwest Minnesota due to continual population declines. The rural workforce as a whole is growing, but many counties lag state averages in terms of job growth. Table 3H shows the number of people employed within the southwest region and compares that to the Twin Cities Metropolitan Area, the state of Minnesota and the U.S.

**Table 3H:**
**Employment and Establishments (1998)**

| Area | Employment | Establishments |
|---|---|---|
| Southwest | 120,432 | 8,197 |
| Twin Cities | 1,518,653 | 76,909 |
| MN | 2,493,478 | 141,784 |
| U.S. | 124,150,723 | 7,379,399 |

Source: Department of Trade and Economic Development

Table 3I shows employment in several sectors for the southwest region and its growth rates from 1990 to 1998. It also compares these growth rates to that of the metro area, the state of Minnesota, and the Nation.

**Table 3I:**
**Employment and Growth Rates**
**by Sector (1990 – 1998)**

| Sector | Employment: | Employment Growth Rate, 1990 - 1998 | | | |
|---|---|---|---|---|---|
| | Southwest | Southwest | Twin Cities | MN | US |
| Services | 37,382 | 129.60% | 58.40% | 29.80% | 72.80% |
| Manufacturing | 30,291 | 34.90% | 2.40% | 10.40% | -1.50% |
| Retail Trade | 21,582 | 11.40% | 14.40% | 16.80% | 13.70% |
| Wholesale Trade | 7,454 | 8.80% | 18.60% | 20.50% | 9.80% |
| Construction | 5,361 | 33.20% | 27.90% | 26.70% | 21.30% |
| Transportation | 4,698 | 72.70% | 38.70% | 18.90% | 41.20% |
| Finance | 4,553 | 24% | 27.10% | 25.50% | 10.70% |
| Public Admin. | 4,394 | N/A | N/A | 8.30% | N/A |
| Agriculture | 1,905 | N/A | N/A | 37.80% | 24.30% |
| Mining | 15 | -11.80% | 33.50% | N/A | -17.30% |

Source: Department of Trade and Economic Development

Despite the problems of decreased employment and agricultural dependence, there are various opportunities for economic growth in Minnesota's rural areas, and Pipestone County.

**Table 3J:**
**Fastest-Growing Industries**
**(1990 – 1998)**

| Industry | Southwest | Employment Growth Rate | | | |
|---|---|---|---|---|---|
| | Employment | Southwest | Twin Cities | MN | U.S. |
| Plastics Products | 308 | 450% | 27% | 34% | 14% |
| Livestock | 1,503 | 78% | -38% | 61% | 22% |
| Agricultural Services | 714 | 74% | 31% | 35% | 38% |
| Lumber Products | 1,104 | 73% | -48% | 23% | 11% |
| Social Services | 4,004 | 68% | 39% | 40% | 72% |
| Business Services | 1,462 | 67% | 70% | 74% | 65% |
| Misc. Repair Services | 447 | 66% | -17% | -5% | -2% |
| Local/Suburb Transp. | 709 | 62% | 19% | 28% | 87% |
| Real Estate | 575 | 47% | 14% | 21% | 16% |
| Membership Org. | 1,220 | 42% | 8% | 18% | 16% |

Source: Department of Trade and Economic Development

According to Minnesota Planning, total employment in Minnesota is expected to increase from approximately 2.7 million in 2000 to nearly 3.4 million in 2030, an increase of 26 percent (see Table 3K). Pipestone County on the other hand is expected to lose 9 percent of its workforce (477 workers) during the same time period. Meanwhile, Minnesota Planning has predicted that Region 8 (counties of Cottonwood, Jackson, Lincoln, Lyon, Murray, Nobles, Pipestone, Redwood and Rock) will increase its workforce 2.78 percent during the next 30 years, a growth of 1,757 workers.

**Table 3K:**
**Labor Force Projections (2000 – 2030)**

| Area | 2000 | 2005 | 2010 | 2015 | 2020 | 2025 | 2030 | % Change |
|---|---|---|---|---|---|---|---|---|
| Pipestone | 5,077 | 5,020 | 4,990 | 4,890 | 4,770 | 4,700 | 4,600 | -9.00% |
| Region 8 | 63,203 | 65,060 | 66,390 | 66,650 | 66,090 | 65,340 | 64,960 | 2.78% |
| Minnesota | 2,691,709 | 2,925,900 | 3,112,800 | 3,225,100 | 3,287,100 | 3,329,500 | 3,385,200 | 26.00% |

Source: MN Planning

Income information provided by the U.S. Census is a good indicator of a County's economic condition. Per capita income is the mean income computed for every person in a specified geographic area. For household income, the median is based on the distribution of the total number of housing units, including those occupants that have no income. Table 3L shows that according to the 1990 Census, Pipestone County compared slightly less favorably than the Region 8 average. In all three categories listed, median household income, per capita income, and median family income, Pipestone County ranked lower than the Region 8 average.

**Table 3L:**
**Comparative County Income Levels (1990 – 2000)**

| County | 1990 Median Household Income | 2000 Median Household Income | 1990 Per Capita Income | 2000 Per Capita Income | 1990 Median Family Income | 2000 Median Family Income |
|---|---|---|---|---|---|---|
| Cottonwood | $21,661 | $31,943 | $10,335 | $16,647 | $26,756 | $40,237 |
| Jackson | $23,157 | $36,746 | $11,287 | $17,499 | $28,370 | $43,426 |
| Lincoln | $19,211 | $31,607 | $9,616 | $16,009 | $24,286 | $38,605 |
| Lyon | $24,689 | $38,996 | $11,121 | $18,013 | $30,582 | $48,512 |
| Murray | $22,673 | $34,966 | $10,871 | $17,936 | $26,889 | $40,893 |
| Nobles | $22,942 | $35,684 | $10,860 | $16,987 | $28,427 | $43,076 |
| Pipestone | $20,737 | $31,909 | $10,050 | $16,450 | $26,995 | $40,133 |
| Redwood | $22,827 | $37,352 | $10,489 | $18,903 | $27,182 | $46,250 |
| Rock | $24,483 | $38,102 | $11,383 | $17,411 | $28,811 | $44,296 |
| **Region 8 Avg.** | **$22,487** | **$35,256** | **$10,668** | **$17,317** | **$27,589** | **$42,825** |

Source: 1990 and 2000 U.S. Census

According to Census 2000, Pipestone County did not fare much better when compared to the Region 8 average. Pipestone County again ranked lower than the average in every category. In terms of average weekly wages in the year 2000, Pipestone County ranks fairly well as it has the 4th highest average weekly wage in Region 8 (only Lyon, Nobles and Redwood Counties have higher average weekly wages).

It should be noted that wages are typically higher in rural counties that surround the metropolitan area and in the northern and eastern parts of the state where a greater amount of economic diversification has occurred. During the 1980's, the rural areas of Minnesota were not only decreasing in terms of economic potential, but they were losing population and a skilled workforce.

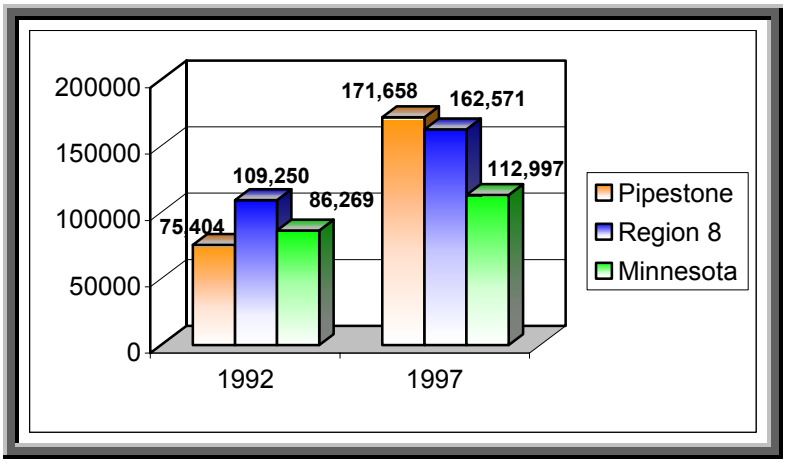
Although Pipestone County is still experiencing a decreasing population, other rural areas adjacent to Pipestone are experiencing population increases and job growth. Pipestone County can continue to offer a supply of qualified workers and will be able to sustain employment in various industrial and economic sectors both within the County and in neighboring counties. By continuing to improve telecommunications and information technology, economic growth will have a greater chance of progressing forward and Pipestone County can continue to move towards a sustainable economic future.

## Section Five:
## Agriculture

The economy of Pipestone County remains heavily dependent upon agriculture. While the County does have a large portion of prime farmland, this dependence can be a problem for the County, as agriculture no longer supports as many jobs as it once did due to a variety of factors. Employment within the agriculture sector has decreased over the last few decades and this trend will likely continue in the future. Farmers remain a unique group of laborers who actually produce a product incurring retail costs but sell the product they produce at wholesale prices. To remedy this, government programs/incentives typically encourage farmers to produce more, further lowering the value of their commodity. In an attempt to spread costs, farmers continually strive for more and more land. In terms of economies of scale, this makes it virtually impossible for the medium sized farmer to compete without having an "off-farm" income. Small-scale "hobby farms" are able to stay in operation usually due to a special "niche market" (i.e. organic farming, vegetables for the local farmers market, or Christmas trees, etc) or also because of a significant amount of off-farm income.

According to figures from the U.S. Department of Agriculture, the total market value of Pipestone County Ag products sold in 1997 exceeded a $170,000 average per farm. In comparison, the average total per farm for all nine counties in Region 8 was just over $160,000 while the average total per farm for all of the counties in Minnesota was just over $110,000. Chart 3D compares the average change in market value of Ag products sold per farm for Pipestone County, Region 8, and Minnesota from 1992 to 1997. The chart illustrates that the average market value of products sold from Pipestone County increased by $96,254 (an increase of 128 percent!) from 1992 to 1997. The chart also shows that the average market value of products sold per farm from Region 8 increased by $53,321 (an increase of 49 percent) while the average for all Minnesota farms was an increase of $26,728 (a 31 percent increase) during the same time span.

**Chart 3D:**
**Value of Agricultural Products Sold**
**1992 - 1997**



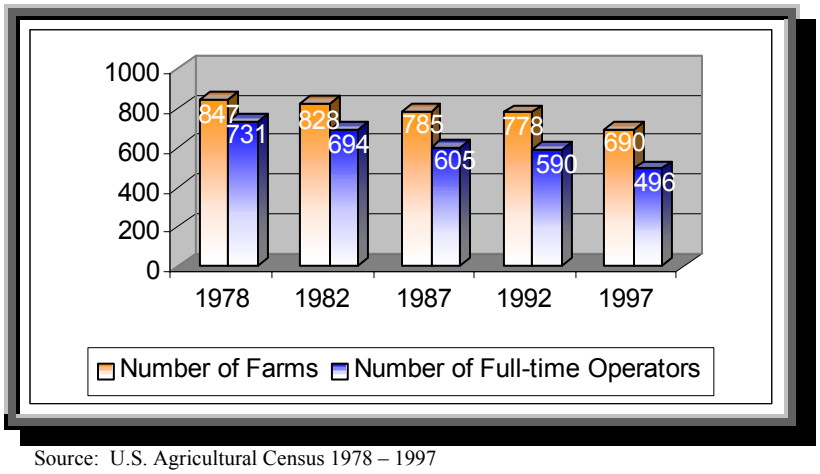

Source: U.S. Agricultural Census 1992 – 1997

In 1997, cropland sales accounted for 30 percent of the market value of Pipestone County agricultural products sold while livestock sales accounted for 70 percent. In comparison, 51

percent of agricultural products sold in Minnesota were from cropland while 49 percent was from livestock. The higher percentage of livestock sales in Pipestone County in comparison to Minnesota indicates that animal feedlots are an important part of the agricultural activity in the County.

As previously mentioned, agriculture remains a primary part of the Pipestone economy, however, the number of people the Ag industry supports and the total number of farms operating within the County is declining. Chart 3E illustrates that between 1978 and 1997, the number of farms decreased from 847 to 690 (a loss of 18.5 percent). In addition to the reduction in the number of farms in Pipestone County, the number of full-time farm operators has decreased from 731 in 1978 to 496 in 1997 (a decrease of 32 percent).

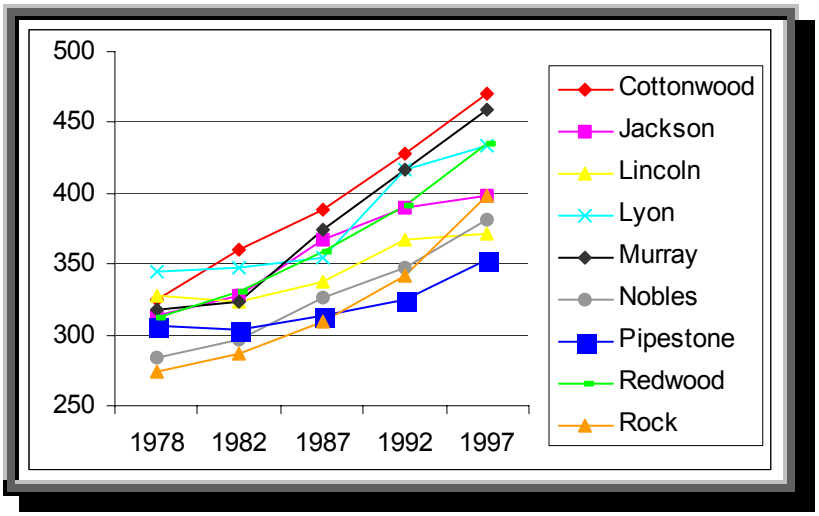
**Chart 3E:**
**Total Farms and Farm Operators (1978 – 1997)**




Source: U.S. Agricultural Census 1978 – 1997

The loss of farms and farm operators is a common trend and concern across Minnesota as well as all rural areas in the Midwest. The loss of farmers within Pipestone County is generally due to a changing agricultural industry. Farming operations have generally seen a trend towards increasing specialization and falling away from diversity. With the dependence on government payments, farmers are basically encouraged to farm as much land as possible, thereby increasing their government payments and spreading out the costs of inputs and machinery over more acres. This displaces families away from rural areas as the younger populations move off the farm to look for educational or employment opportunities elsewhere. With the lack of demand for farmers, comes an increased strain on municipalities. Not only are there less total people around to support local businesses, but also some farmers need to find a supplemental income and look for employment within nearby municipalities increasing competition for available jobs.

**Chart 3F:**
**Average Farm Size in Acres (1978 – 1997)**




Source: U.S. Agricultural Census, 1978 – 1997

Through the decrease in the number of operators, the average farm size within Pipestone County continues to increase. The average farm size per operator increased from 306 in 1978 to 353 in 1997. Chart 3F illustrates the change in farm sizes for Pipestone County as well as the rest of the counties in Region 8 from 1978 to 1997.

This increase in average size farms is most highly attributable to the loss of midsize farm operators as well as mid size farmers consolidating or adding land to their current operations. Small-scale farms (farm operators) are able to stay in business because they are, in most cases, living off of an "off farm" income. These small-scale operations are typically called hobby farms. For mid-sized farms to compete with larger operations they either must acquire more land, greatly increase efficiency (if possible), or forego raising a "commodity" and start raising a "brand". Commodities have no customer loyalty. Brands generally feature value-added (higher) pricing and a higher perceived value. The key with specialty crops is to find farmers that have a passion for the product they are promoting. An example of this effort would be Columbian coffee growers who developed the Juan Valdez promotional effort to promote "100 percent Columbian coffee."

Table 3M shows the size of farms (in acres) for Pipestone County in 1987 – 1997. Notice that the blue boxes highlight large decreases in the numbers of those respective farm sizes while the orange line highlights the largest increase during this time span. While the smaller farms (10 – 179 acres) are seeing some increases, the mid-size farms lost a large percentage of their total during this time span (a decrease of 29.9 percent). Large percentage increases continue to be seen in the 500+ acre farm sizes.

**Table 3M:**
**Farm Size (in acres)**
**1987 - 1997**

| Farm Size | Total Farms 1987 | Total Farms 1992 | Total Farms 1997 | Percent Change |
|---|---|---|---|---|
| 1 to 9 acres | 88 | 68 | 38 | -56.82% |
| 10 to 49 acres | 70 | 87 | 91 | 30.00% |
| 50 to 179 acres | 179 | 184 | 182 | 1.68% |
| 180 to 499 acres | 311 | 277 | 218 | -29.90% |
| 500 to 999 acres | 106 | 132 | 123 | 16.04% |
| 1,000+ acres | 31 | 30 | 38 | 22.58% |
| **Totals** | **785** | **778** | **690** | **-12.10%** |

Source: U.S. Agricultural Census, 1987 – 1997

Although the average farm size has largely increased in Pipestone County during the last couple of decades, the total acres of farmland has decreased from 259,267 acres in 1978 to 243,525 acres in 1997 (a loss of 6.1 percent). Changes in cropland closely mirrored those for farmland going from 226,772 in 1978 to 213,407 in 1997 (a loss of 5.9 percent). As Chart ?? indicates, these were not straight line decreases in total farm and crop land. Factors causing these increases and decreases include an increase (or decrease) in Conservation Reserve Program (CRP) signups or other programs that take marginal or environmentally sensitive lands out of production. In some cases (relatively few in Pipestone County), loss of total land can be attributed to an increase in urban and rural residential land uses.

The economy of Pipestone County has been and will most likely continue to be largely dependent on agriculture. As such, urban development should generally take a secondary role to agriculture in all areas except those that are legitimately required for such development. Appropriate urban development lands are found within or adjacent to established developments or along paved highways at strategic locations. This is necessary to help avoid urban and rural conflicts that arise when these different types of land uses are required to exist adjacent to each other. Finally, the loss of prime agricultural land to urban development places more pressure on area farmers to cultivate marginal lands, negatively impacting not only the economy but the environment as well.

## Section Six:
## Transportation

The purpose of any transportation system is to move goods and people efficiently. An efficient and balanced transportation system includes highways, railroads, mass transit and aeronautics. While the most influential mode of transportation is the automobile, the other types of transportation play an important role in the overall transportation system. The current road network in and around the County has been built in response to an increasing public demand for improved travel mobility. The local units of government and Mn/DOT are all responsible for assuring that the total highway system operates properly and the roads owned by the different levels of government are integrated into the overall highway system. The County is well served by an extensive roadway network that connects with the rest of the region and Minnesota. State, county, city and township roadways all are included in the roadway network. It is the primary means of transportation for goods and persons within the County and to points outside.

### Road Jurisdiction

The jurisdiction of roads entails determining who is responsible for the construction and maintenance of roads. During the days of early statehood, the primary jurisdiction of roads was considered to be the responsibility of the town boards, counties played a secondary interest, and the state was responsible for few to no roads. From early statehood to the 1930's, the state took the responsibility for the 70 constitutional routes, in order to provide a network of uniformly constructed and maintained roads. During the Depression years (1930's) the prevailing sentiment shifted to placing jurisdictional responsibility at higher levels of government, where it was thought they could be better maintained. Currently, almost all roads under state jurisdiction were established 50 - 60 years ago. The following four roadway systems:

1. ***Trunk Highway System (TH).*** Statewide, 70 routes were established under a 1920 Constitutional amendment (6877 miles). In Pipestone County, these state and US highways include: 23, 30, 75, 268, and 269.

2. ***County State Aid Highways (CSAH).*** These refer to roads or streets that were established and designated under county jurisdiction in accordance with Minnesota Statutes Chapter 162. The state provides funding assistance to maintain the CSAH system.

3. ***County Roads (CR).*** These roads are established, constructed, and improved by the County Boards. They are under the sole authority of the County Board.

4. ***Township Roads (Twp).*** A road established by and under the authority of the town board, or reverted to township jurisdiction by the County Board. These roads are constructed and maintained by Town Boards.

5. ***Municipal or City Street***. Any street under the jurisdiction of a municipality not otherwise designated as a Trunk Highway, County State Aid Street/Highway or County Highway.

6. ***Other***. These roads refer to the leftovers, such as the National Park Roads.

## Functional Classification

The Functional Classification System is a method used to describe the main function each road performs in the highway network. It is essentially a hierarchy of roads using criteria that describes the function that a particular road performs in a highway network (typically access and mobility). There is a general agreement among the public that the responsibility for the most important roads should be assigned to the highest level of government. In this fashion, the greatest resources for road maintenance and construction are devoted to the most heavily traveled roads. It follows that less traveled roads become the responsibility of lower levels of government. Map 3B displays the functional classification for roads in Pipestone County. These roads are defined as:

**Principal Arterial** - These highways provide an integrated network of routes which carry the highest traffic volumes, serve the longest trip movements and provide for Statewide or interstate travel. They serve all major urbanized areas and population centers. Principal arterial routes provide for through movement with minimum interference. There are 30.08 miles of Principal Arterial roads in Pipestone County.

**Minor Arterial** - These highways link cities and other major traffic generators, such as major resort areas, to each other and to principal arterial routes. They form an integrated network which provide for movements within the State and between counties. This classification includes all the remainder of the Trunk Highways within the County (46.86 miles).

**Major Collectors** - These routes provide service to the County Seat and larger cities not served by the higher systems. They predominately serve trips within the County and link locally important traffic generators with their service areas and other nearby larger cities with higher order routes. In the County, 6.184 miles on the State Highway System and 134.63 miles of the CSAH system make up the Major Collector System.

**Minor Collectors** - These routes link smaller cities and locally important traffic generators and provide developed areas reasonable access to a higher functioning roadway. In Pipestone County, this includes 95.15 miles of the CSAH system, 9.53 miles of the County roads, and 0.3 miles of township roads.

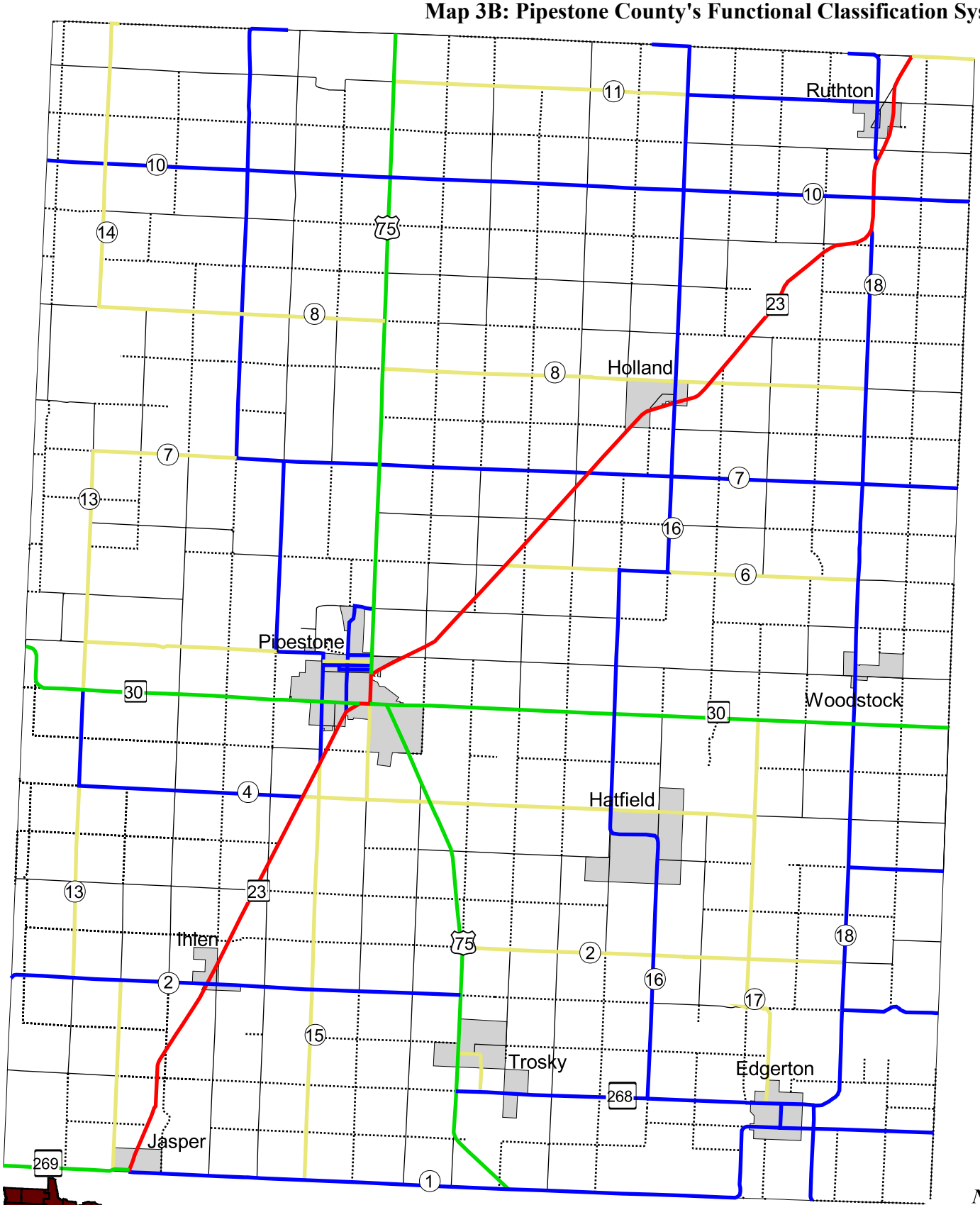
**Local Roads** - These roads serve as access roads to and from Minor Collectors. But also serve as access to Collectors and Arterials. Most often these roads are under township jurisdiction. These are roads not classified as arterial or collectors and include some county roads and most township roadways. In Pipestone County, there are 5.607 miles on the CSAH System, 218.509 on the County Road System, 361.617 miles on the Township roads, 52.275 on Municipal Streets, and 0.871 miles in Parks.

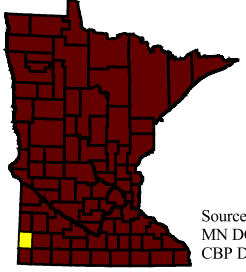
**Table 3N:**
**Functional Classification Miles in Pipestone County**

| Principal Arterial | Minor Arterial | Major Collector | Minor Collector | Local | Other | Total miles |
|---|---|---|---|---|---|---|
| 30.075 | 46.856 | 140.814 | 104.98 | 638.879 | 0.871 | 961.604 |

***Source: MnDOT Central Office and SRDC***

# Map 3B: Pipestone County's Functional Classification System



Source:
MN DOT & MN Planning
CBP Data Sets

Principal Arterial
Minor Arterial
Paved Roads
Major Collector
Minor Collector
Township Roads

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Southwest Regional Development Commission
Focused on Southwest Minnesota

1 0 Miles 1 2

## Weight Restrictions

During the spring of each year, the load carrying capacity of highways is reduced as a result of thawing and excess water in the sub grade. Spring axle load restrictions are determined by testing the road while simulated truckloads pass over the road sections. The spring load restrictions for axle load are set when 85% of the road section is able to handle the weight.

The Minnesota Department of Transportation has a policy to maintain the Truck Highway network at a ten ton capacity. When road segments fall below this capacity, the District Office makes a determination of whether to allow ten ton loads, placing the section at higher risk of deterioration or to post the road at a lower level. Spring Weight Restrictions are applied to routes less than 10 tons year round and cause the greatest difficulty to commerce and industry where there is limited access.

Land use activities in the County that generate heavy traffic and are at times affected by the Spring Weight restrictions include, but are not limited to: grain elevators, animal confinements, cement plants, feed supply companies, wind tower companies, contractors, farmers, and other businesses in communities such as Edgerton.

## Current Highway Condition

Pipestone County annually updates the County Five-Year Road and Bridge Plan. This is a Capital Improvements Plan, which is fiscally constrained and is available from the County Engineer.

### Bridges

The Minnesota Department of Transportation maintains an inventory of bridges in the state and record of an inspection report that identifies the condition of the bridges. Until recently, this information was in two separate databases. The bridge inventory and inspection has been combined to form a more comprehensive database program called BRINFO.

Bridge deficiency needs are identified by bridge sufficiency ratings. A sufficiency rating includes many factors, including actual structural condition of a bridge, detour length, traffic count, the approach, bridge length and width, and structural characteristics.

Minnesota Department of Transportation database has identified 271 bridges, 10 feet or longer. Normally, a bridge with a sufficiency rating of 50 or lower is the trigger for replacement. According to the MnDOT data, there are 8 bridges at or below a sufficiency rating of 50.

| Table 3O: Number of Bridges by Road designation and sufficiency rating ranges | | | | | | |
|---|---|---|---|---|---|---|
| **Rating** | **US & TH** | **CSAH** | **County** | **Township** | **Municipal** | **Total** |
| Sufficiency rating of <30 | 1 | | | | | **1** |
| Sufficiency rating of 30 to 50 | 2 | 1 | 1 | 3 | | **7** |
| Sufficiency rating of 50+ to 60 | | 3 | 2 | 3 | | **8** |
| Sufficiency rating of 60+ to 70 | | 3 | 2 | 5 | | **10** |
| Sufficiency rating of 70+ to 80 | | 3 | 5 | 8 | | **16** |
| Sufficiency rating of 80+ to 90 | 3 | 14 | 11 | 4 | | **34** |
| Sufficiency rating of 90+ | 28 | 64 | 60 | 40 | 3 | **195** |
| ***Total*** | **34** | **90** | **81** | **63** | **3** | **271** |

***Source: Minnesota Department of Transportation, District 8 Office, 2001***

Local roads play an essential role in the overall state transportation network and local bridges are the critical component of the local road systems. The State support for the replacement or rehabilitation of local bridges continues to be crucial to maintaining the integrity of the local road systems and is necessary for the County and the townships to proceed with the replacement or rehabilitation of the high priority deficient bridges. State Transportation Bond Funds are often the funding source to replace or rehabilitate bridges. Pipestone County has identified specific deficient bridges on the CSAH, County Road and Township systems that are a high priority and require replacement or rehabilitation within the next four (4) years. Pipestone County has committed to proceed with the design and contract documents for bridges identified in the County Four-Year Bridge Plan.

***Stub routes.*** Stub roads are those roads that are owned by one jurisdiction and end without connecting to another road of the same jurisdiction or higher jurisdiction. The following roads are stub roads in Pipestone County:

- County Road 75 at the SD border
- County Road 73 at the SD border
- County Road 71 near the SD border
- County Road 42 at the SD border
- County Road 51 at the SD border
- County Road 64 at the Murray Co border
- County Road 67 at the Murray Co border
- County Road 85 one mile east of CSAH 18
- County Highway 86 at the Murray Co border
- County Highway 89 at the Murray Co border
- County Road 88 at the Murray County
- County Highway 78 one mile E of TH 75

Jurisdiction changes. The County is currently examining the jurisdiction of roadways. TH 268, from TH 75 to Edgerton is in the process to change from State to County jurisdiction. Also being discussed are a transfer of 4 miles of township road for 2 miles of county road in Sweet Township to accommodate the anticipated increased traffic flow generated from the new school.

Pipestone County also has a very high number of miles on the County Road network, many of which are low volume and function as local roads. An examination of the entire road network to determine if there should be additional road jurisdiction transfers should be completed.

## Railroads

The Burlington Northern Sante Fe Railroad runs parallel to Highway 23. This is a Class I Railroad that operates 16 trains per day through Pipestone County. The Track Classification is Class 4, which means it is rated for 60 mile per hour and is a primary line. Safety of rail crossings is an important issue in Pipestone County, to the track speed as well as the railroad transecting at an angle over the grid-iron layout of the roadways.

## Airports

There is one Public Airport and one Private Airport located in the County. The Pipestone Municipal Airport is located one mile southeast of the City of Pipestone. Services available at the airport include aviation fuel and airport management. There are 21 aircraft based at the field, 20 single engine and one jet engine. Average daily aircraft operations is 30; 39% of which are transient general aviation, 37% local general aviation, 24% air taxi, and <1% military. The private airport is located three miles north of Pipestone, and is for personal use.

## Transit

Until mid-2000, Public Transit was available only in the City of Pipestone. Through Joint Planning between the City of Pipestone, the County of Pipestone and the remaining communities in the County, a countywide public transportation system has begun operation.

# Chapter Four:
# Community Profiles

This Chapter provides a community profile for each of the nine communities located within Pipestone County. The profiles include information on the city's residents and number of households and do include a description of the city's major roadways and surrounding natural resources. The population and household information presented uses the 1960 To 2000 Census records. This time-span is used to help establish a slow-, historic- and fast based population and household estimate for each city for the years 2005, 2010, 2015 and 2020. In addition, a map has been included which overlays an aerial photograph of the City's surrounding landscape.

## How to use the Community Profiles

There are two main features included in each community profile. The first is a table that presents the city's population and household numbers since 1960. The second feature is an urban growth area map which overlays an aerial photograph of the City's surrounding landscape. The population and household information is used to establish a "historic-based" rate of population gain or, in come cases, a historic-based rate of population loss. This rate (either positive or negative) is then applied over the next 17 years to show a "historic-based" population projection.

Realizing that many factors can influence an area's population level, the tables also present what each city's future population would be if either a "slow" or "fast population gain or loss occurred. The slow annual growth rate was established at 50 percent of the city's historic-based rate. For example, if a city gained 80 new residents over the last 40 years, the slow projection would estimate that the city would gain another 40 people over the next 40 years. Similarly, the fast annual growth rate was established at 150 percent of the city's historic-based rate. In the previous example, the city's fast projection would estimate that the city would gain 120 new residents over the next 40 years (80 multiplied by 150%). Therefore, each community profile contains a slow-historic, and fast-based population projection for the years 2005, 2010, 2015, and 2020.

The information presented in the second major feature of each community profile, the current land use and urban growth area map, was provided by each of the cities during the planning process. As the name suggests, the maps show the location of each city's major types of land use (i.e., residential, commercial, etc.). In addition, some cities identified where they could logically grow in the future, referred to as the city's "urban growth area". The primary purpose of these areas is to identify where joint planning efforts need to be made by the city, the township(s) and the County. In conclusion, urban growth areas only identify ***potential*** future growth and, more importantly, all land use decisions that need to be made regarding these areas should be collectively discussed by the three levels of local government.

## A Profile of Edgerton

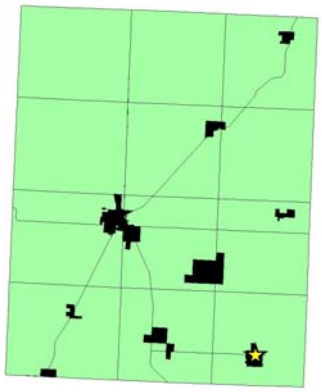
***Snapshot***

***Location:*** Southeast (Osborne Township)

***Population:*** 1,033

***Households:*** 435

***Major Roads:*** Minnesota State Highway 268

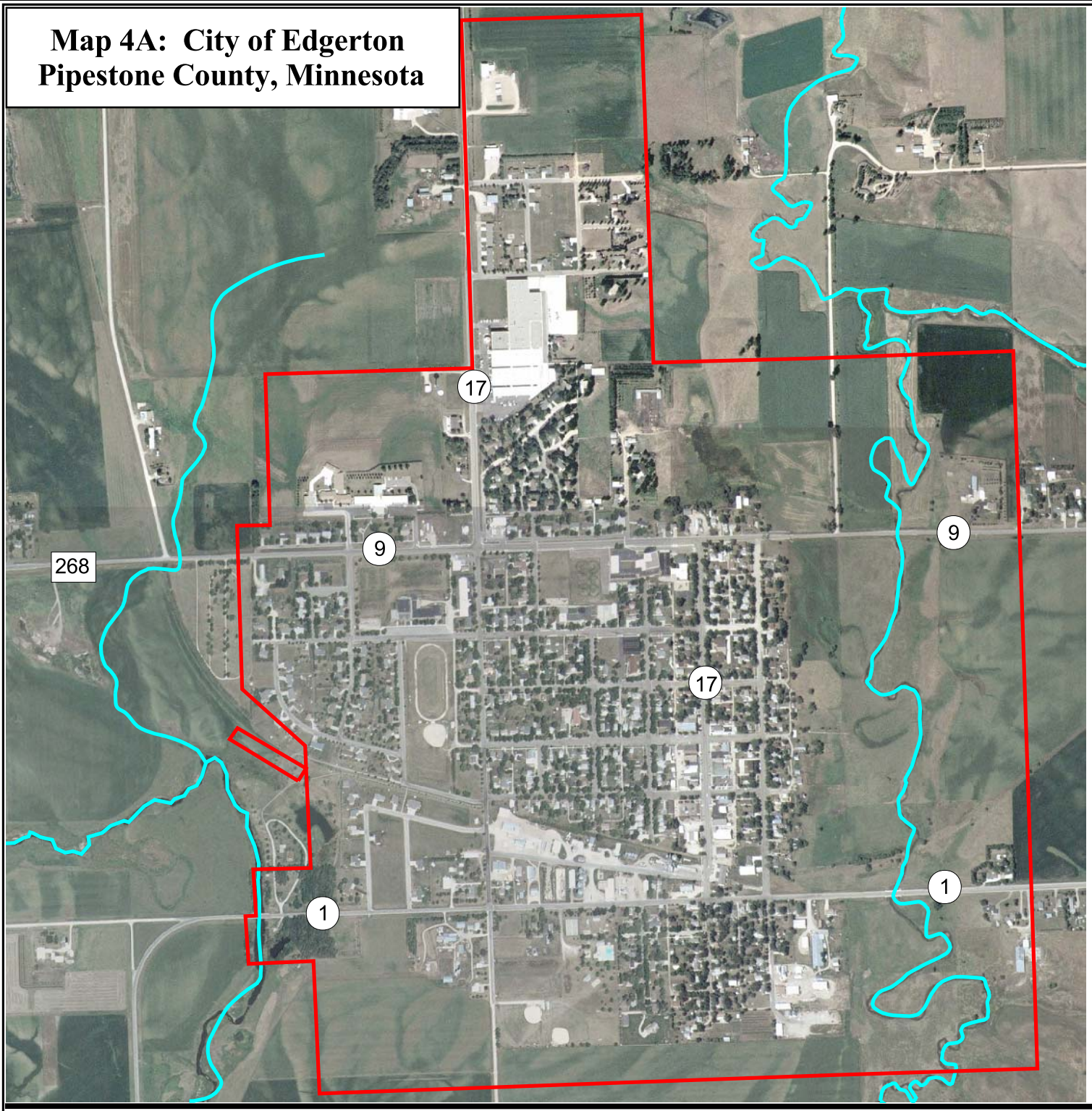


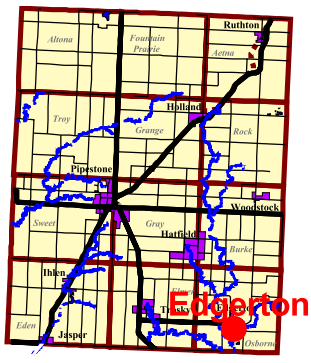
The City of Edgerton is Pipestone County's southeastern most community, located approximately 17 miles southeast of the City of Pipestone along State Highway 268. Edgerton is also the County's second largest community with 1,033 residents and 435 households (2000 Census). In addition to State Highway 268, County State Aid Highway (CSAH) 1 runs into the community from the south while CSAH 17 runs into the community from the north. Finally, CSAH 18 runs north and south just outside of the community's easternmost limits. Edgerton shares boarders with Osborne Township, the County's southeastern most township.

Edgerton's population has been growing slowly since 1960, gaining 14 residents over the past 40 years (see Table 4A). Based on Census information, the City's population peaked in 1990 with 1,125 persons, 92 more people than it had in 2000. The City's population projections estimate that Edgerton should continue to grow slightly over the next 20 years. The community's population level could increase at a faster rate, however, given the current size of Edgerton and its role as a bedroom community for larger urban areas such as Pipestone and to a greater extent Sioux Falls, SD.

| **Table 4A: Edgerton** | **1960** | **1970** | **1980** | **1990** | **2000** |
|---|---|---|---|---|---|
| Population | 1019 | 1119 | 1123 | 1125 | 1033 |
| Households | 345 | 368 | 427 | 428 | 435 |
| **Population Projections** | **2005** | **2010** | **2015** | **2020** | **Change** |
| Slow Annual Growth | 1034 | 1035 | 1036 | 1037 | 4 |
| Based on the last 40 years | 1035 | 1036 | 1038 | 1040 | 7 |
| Fast Annual Growth | 1036 | 1038 | 1041 | 1044 | 11 |
| **Households Based on 2.37 People** | **2005** | **2010** | **2015** | **2020** | **Change** |
| Slow Annual Growth | 441 | 446 | 452 | 458 | 23 |
| Based on the last 40 years | 446 | 458 | 469 | 480 | 45 |
| Fast Annual Growth | 452 | 469 | 486 | 503 | 68 |

# Map 4A: City of Edgerton
# Pipestone County, Minnesota




Pipestone County

Municipal Border
Rivers or Streams
U.S. Highway
State Highway
County Road

0.2 0 0.2 0.4 Miles

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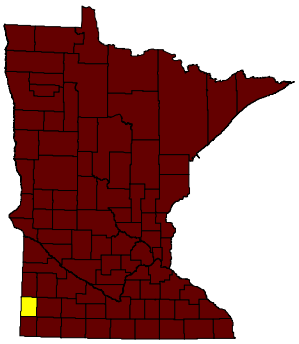
S
Southwest Regional Development Commission
Focused on Southwest Minnesota



State of Minnesota

## A Profile of Hatfield

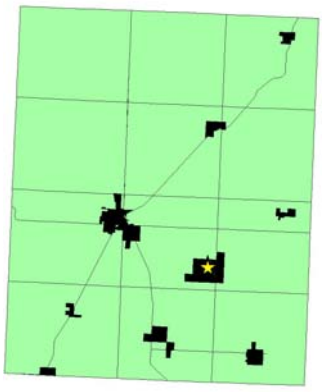
***Snapshot***

***Location:*** Central (Gray and Burke Townships)

***Population:*** 47

***Households:*** 22

***Major Roads:*** County Highway 16

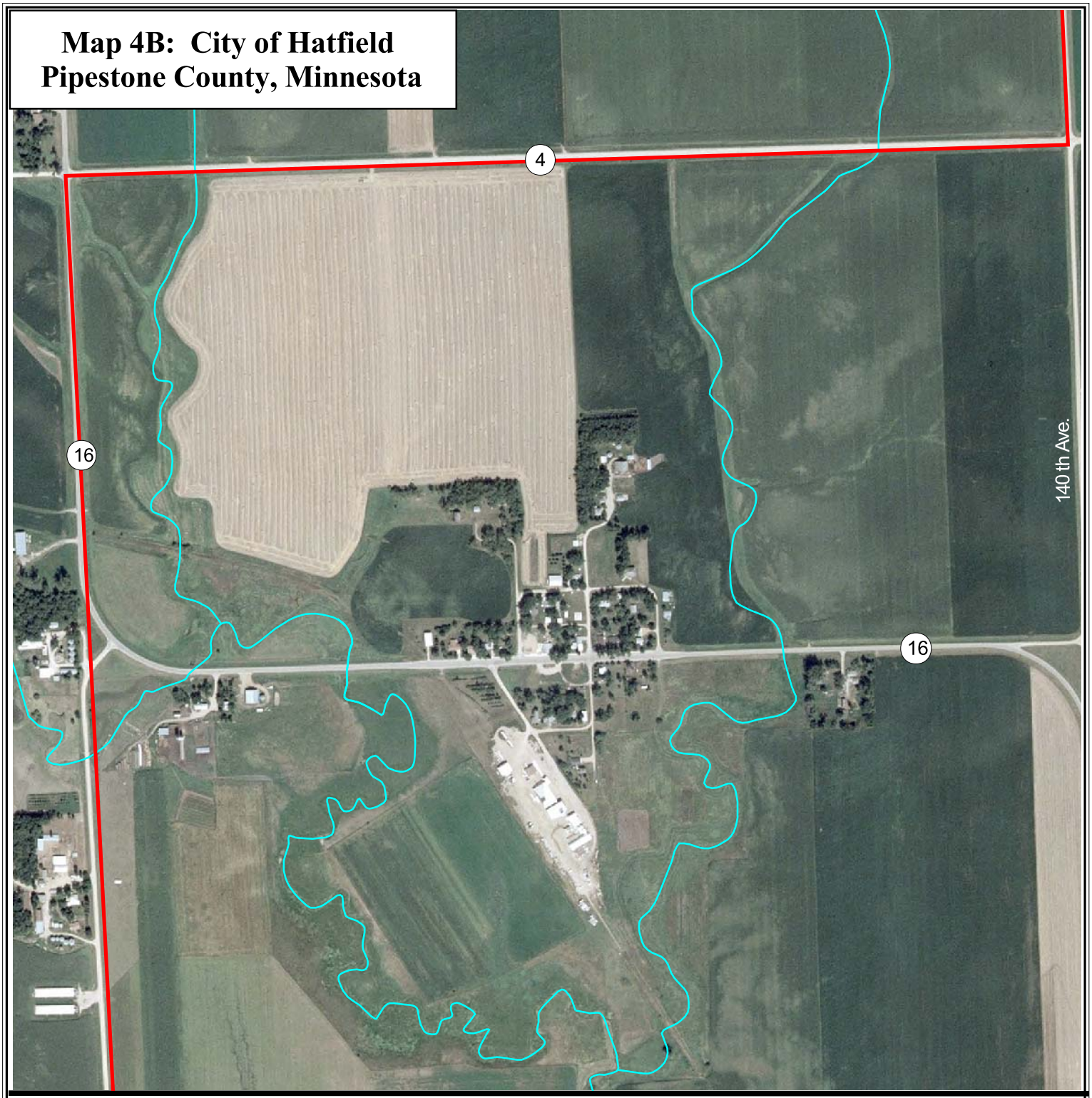


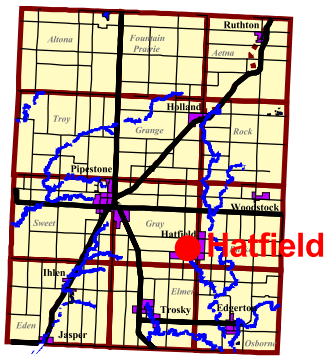
The City of Hatfield is located in both Gray and Burke Townships, approximately 9 miles east of Pipestone. The community of Hatfield is situated along CSAH 16 as it runs through the community from the north and south. The northern most boundary of the community lies only about 1.5 miles south of State Highway 30. In addition, the community is also within 1 mile of Rock River. Hatfield's population of 47 people with 22 households makes it Pipestone County's smallest community.

Hatfield's population was stable from the 1960's to the 1970's before it started to decline. During the past 40 years, the community of Hatfield has lost 48 residents, which is more people than currently live in the community according to the 2000 Census. Table 4B does reveal that the number of households in Hatfield held stable from the 1960's through the 1980's but then saw a large drop off as the total number decreased to 22 in 2000, a loss of 5 households. Due to the historical loss of population, the population projections anticipate a continued loss during the next 20 years.

| **Table 4B: Hatfield** | **1960** | **1970** | **1980** | **1990** | **2000** |
|---|---|---|---|---|---|
| Population | 95 | 96 | 87 | 57 | 47 |
| Households | 27 | 29 | 30 | 24 | 22 |
| **Population Projections** | **2005** | **2010** | **2015** | **2020** | **Change** |
| Slow Annual Decline | 44 | 41 | 38 | 35 | -12 |
| Based on the last 40 years | 41 | 35 | 29 | 23 | -24 |
| Slow Annual Growth | 25 | 28 | 31 | 34 | 12 |
| **Households Based on 2.14 People** | **2005** | **2010** | **2015** | **2020** | **Change** |
| Slow Annual Growth | 22 | 22 | 21 | 21 | -1 |
| Based on the last 40 years | 21 | 21 | 20 | 19 | -3 |
| Fast Annual Growth | 23 | 23 | 24 | 24 | 2 |

# Map 4B: City of Hatfield
# Pipestone County, Minnesota




Pipestone County

Municipal Border
Rivers or Streams
U.S. Highway
State Highway
County Road

0.1 0 0.1 0.2 0.3 Miles

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Southwest Regional Development Commission
Focused on Southwest Minnesota
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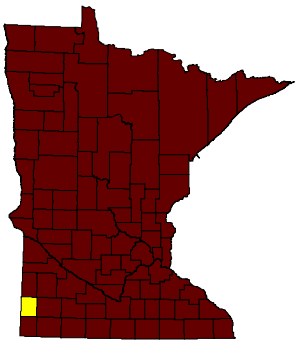


State of Minnesota

## A Profile of Holland

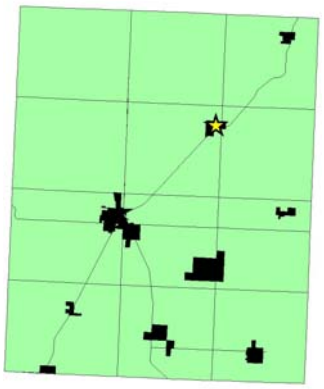
***Snapshot***

***Location:*** North Central (Grange and Rock Townships)

***Population:*** 215

***Households:*** 103

***Major Roads:*** Minnesota State Highway 23

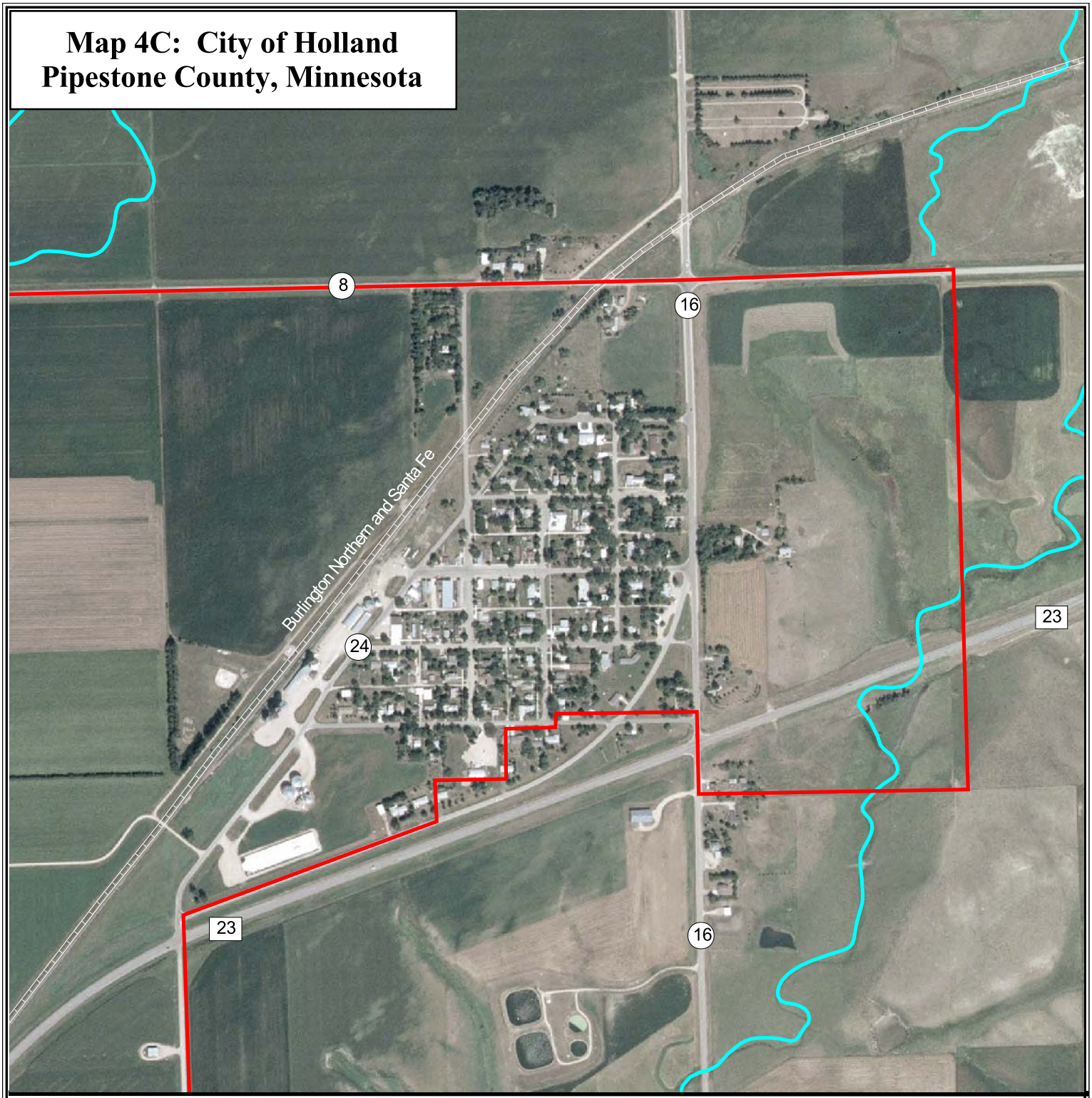


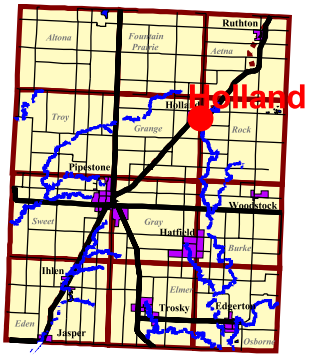
The City of Holland is located a little over 9 miles northeast of Pipestone along State Highway 23. CSAH 8 dissects the community from the east and west while CSAH 16 runs through the City from the north and South. Finally, the Burlington Northern and Santa Fe Railroad runs parallel through the community along State Highway 23. Holland is the fifth largest community in Pipestone County as it had a Census 2000 population of 215 people and 103 households. The City of Holland shares a border with both Grange and Rock Townships.

Table 4C shows that Holland's population held stable from the 1960's to the 1970's but then began to decline until the 1990's. By 2000 however, the community began to show increases in its population numbers going from 211 in 1990 to 215 in 2000. Based on 40-year historical trends, the community lost almost 50 people but added 14 households. Holland experienced a loss of 49 people since 1960 but it increased its number of households from 89 to 103 during the 40-year time span. These trends reflect that fewer people on average live in each household in the community now compared to 1960 – a common trend throughout the Country, but especially in rural Minnesota.

| **Table 4C: Holland** | **1960** | **1970** | **1980** | **1990** | **2000** |
|---|---|---|---|---|---|
| Population | 264 | 263 | 234 | 211 | 215 |
| Households | 89 | 107 | 109 | 104 | 103 |
| **Population Projections** | **2005** | **2010** | **2015** | **2020** | **Change** |
| Slow Annual Decline | 212 | 209 | 206 | 203 | -12 |
| Based on Last 40 years | 206 | 196 | 187 | 179 | -25 |
| Slow Annual Growth | 218 | 221 | 224 | 228 | 13 |
| **Households Based on 2.09 People** | **2005** | **2010** | **2015** | **2020** | **Change** |
| Slow Annual Growth | 105 | 107 | 108 | 110 | 7 |
| Based on Last 40 years | 107 | 110 | 114 | 117 | 14 |
| Fast Annual Growth | 108 | 114 | 119 | 124 | 21 |

# Map 4C: City of Holland
# Pipestone County, Minnesota




Pipestone County

- Municipal Border
- Rivers or Streams
- U.S. Highway
- State Highway
- County Road
- Railroad

0.1 0 0.1 0.2 0.3 Miles

N
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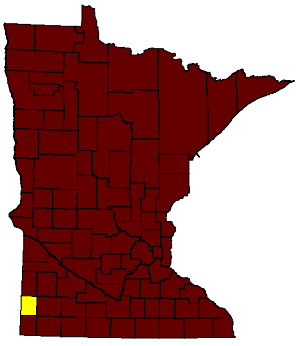
Southwest Regional Development Commission
Focused on Southwest Minnesota



State of Minnesota

## A Profile of Ihlen

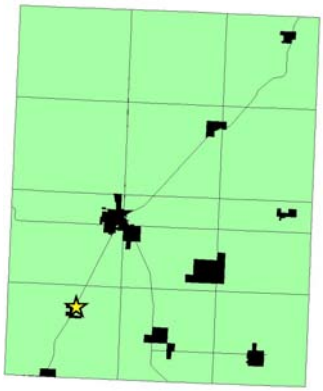
***Snapshot***

***Location:*** Southwest (Eden Township)

***Population:*** 107

***Households:*** 43

***Major Roads:*** Minnesota State Highway 23

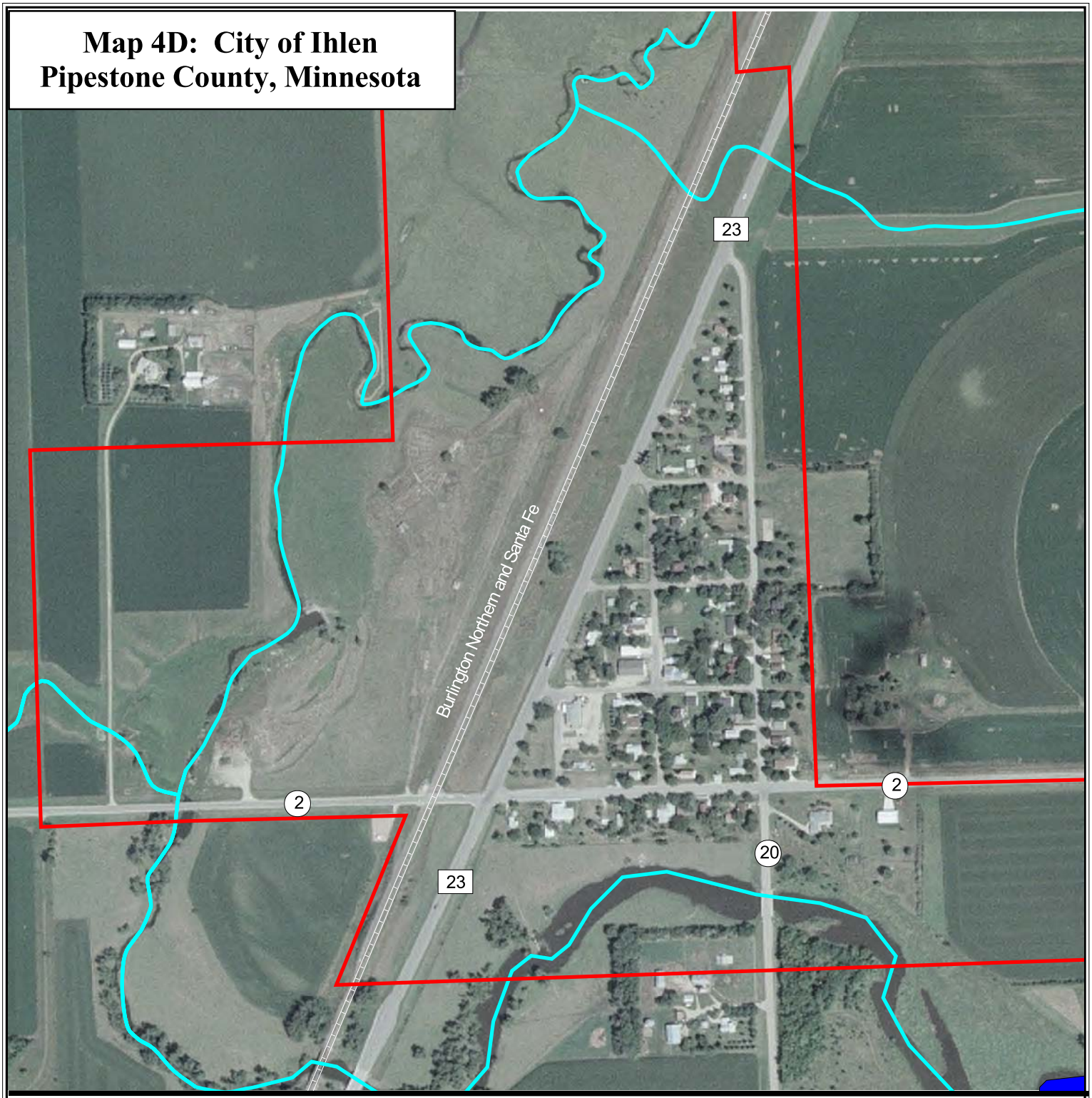


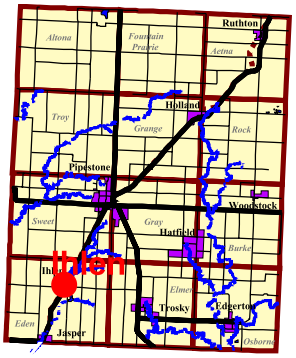
The community of Ihlen is located approximately 7.5 miles southwest of Pipestone. Ihlen is Pipestone County's second smallest community with approximately 107 people living in 43 households. State Highway 23 divides Ihlen into northwest and southeastern halves. CSAH 2 runs east and west through the southern portion of the City and CSAH 20 runs out of the southern boundary of the community for 1 mile before it turns into a gravel road. The community of Ihlen shares its border with Eden Township, which is Pipestone County's southwestern most Township.

The community's population has basically remained stable since 1960, losing only 4 residents. Table 4E also reveals that the number of households existing within Ihlen have also remained fairly stable, increasing from 38 in 1960 to 43 in 2000. Due to the relatively stable population and household numbers for the last 40 years, the population and household projections do not anticipate much change over the next 20 years.

| **Table 4E: Ihlen** | **1960** | **1970** | **1980** | **1990** | **2000** |
|---|---|---|---|---|---|
| Population | 111 | 132 | 129 | 91 | 107 |
| Households | 38 | 43 | 50 | 42 | 43 |
| **Population Projections** | **2005** | **2010** | **2015** | **2020** | **Change** |
| Slow Annual Decline | 107 | 107 | 107 | 106 | -1 |
| Based on Last 40 years | 107 | 106 | 106 | 105 | -2 |
| Slow Annual Growth | 107 | 108 | 108 | 108 | 1 |
| **Households Based on 2.49 People** | **2005** | **2010** | **2015** | **2020** | **Change** |
| Slow Annual Growth | 43 | 43 | 43 | 44 | 1 |
| Based on Last 40 years | 44 | 45 | 45 | 46 | 3 |
| Fast Annual Growth | 44 | 46 | 47 | 48 | 5 |

# Map 4D: City of Ihlen
# Pipestone County, Minnesota




Pipestone County

Municipal Border
Rivers or Streams
U.S. Highway
State Highway
County Road
Railroad

0.07 0 0.07 0.14 0.21 Miles

N
Southwest Regional Development Commission
Focused on Southwest Minnesota
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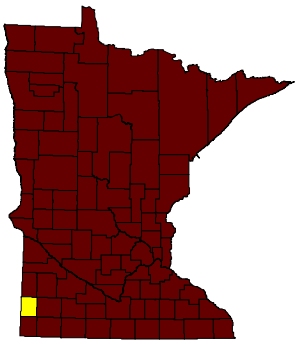
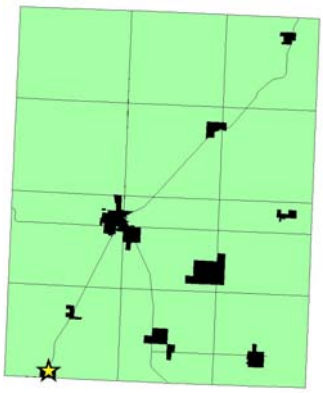


State of Minnesota

## A Profile of Jasper

***Snapshot***



***Location:*** Southwest (Eden Township, Rock County)

***Population:*** 597

***Households:*** 286

***Major Roads:*** Minnesota State Highway 23

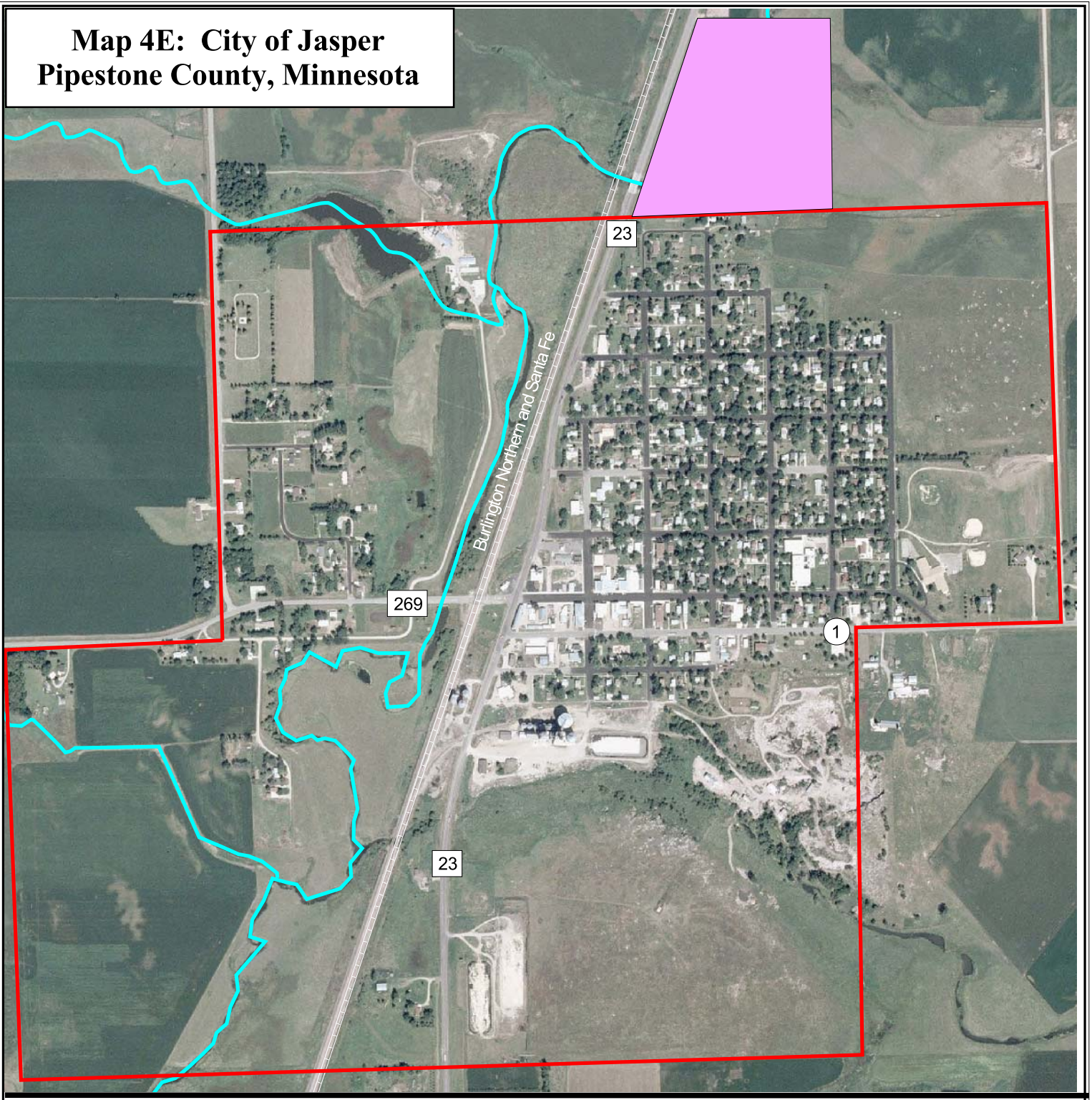
The community of Jasper is located both in Pipestone County and in Rock County. The northern portion of the community that is located in Pipestone County is approximately 11.5 miles southwest of the City of Pipestone. Demographic data that is provided within the plan is for the entire community and not just the portion of the community that is in Pipestone County. Census 2000 data shows that Jasper has 597 residents, making it Pipestone County's third largest community. In addition, there are 286 households within the community. State Highway 23 divides Jasper similar to Ihlen, into northwest and southeastern portions. In Pipestone County, CSAH 1 runs into the community from the east while State Highway 269 enters from the west. In Pipestone County, the community of Jasper also shares its border with Eden Township.

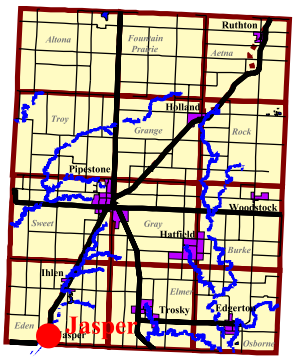
The community's population has steadily decreased since 1960, decreasing by 152 residents. It should be noted, however, that the community did add 58 residents from 1990 to 2000. Table 4F illustrates that even though the City of Jasper lost 152 people since 1960, it has managed to add 32 households during the same time span. Population increases during the past decade could be an indication of things to come in the future, however, due to the generally declining population numbers and increasing household numbers for the last 40 years, the City of Jasper can expect to see smaller household sizes in the future as well as an increase in housing demand.

| **Table 4F: Jasper** | **1960** | **1970** | **1980** | **1990** | **2000** |
|---|---|---|---|---|---|
| Population | 749 | 680 | 659 | 599 | 597 |
| Households | 254 | 260 | 268 | 2624 | 286 |
| **Population Projections** | **2005** | **2010** | **2015** | **2020** | **Change** |
| Slow Annual Decline | 588 | 578 | 569 | 559 | -38 |
| Based on Last 40 years | 578 | 559 | 540 | 521 | -76 |
| Slow Annual Growth | 607 | 616 | 626 | 635 | 38 |
| **Households Based on 2.09 People** | **2005** | **2010** | **2015** | **2020** | **Change** |
| Slow Annual Growth | 288 | 290 | 292 | 294 | 8 |
| Based on Last 40 years | 290 | 294 | 298 | 302 | 16 |
| Fast Annual Growth | 292 | 298 | 304 | 310 | 24 |

A close examination of Map 5D (Eden Township Map) reveals that the portion of the community of Jasper that exists in Pipestone County is completely surrounded by the County's A-1 district. There has been some discussion between the City and the County about annexing some of this A-1 district into the City. The land that is in the preliminary stages of consideration is located on the north side of the community and is approximately a ¼ mile by a ¼ mile on the east side of Highway 23.

# Map 4E: City of Jasper
# Pipestone County, Minnesota




Pipestone County

- Municipal Border
- Rivers or Streams
- U.S. Highway
- State Highway
- County Road
- Railroad
- Potential Annexation

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Southwest Regional Development Commission
Focused on Southwest Minnesota

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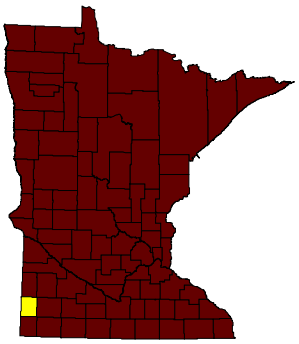
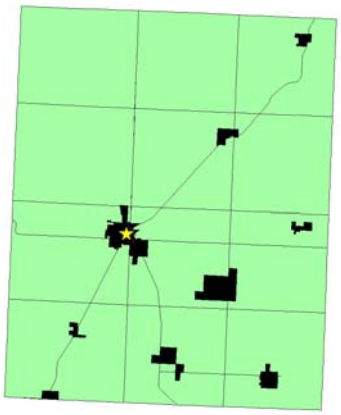


State of Minnesota

## A Profile of Pipestone

***Snapshot***



***Location:*** Central (Sweet, Gray and Troy Townships)

***Population:*** 4,280

***Households:*** 1,900

***Major Roads:*** Minnesota State Highways 23 and 30
U.S. Highway 75

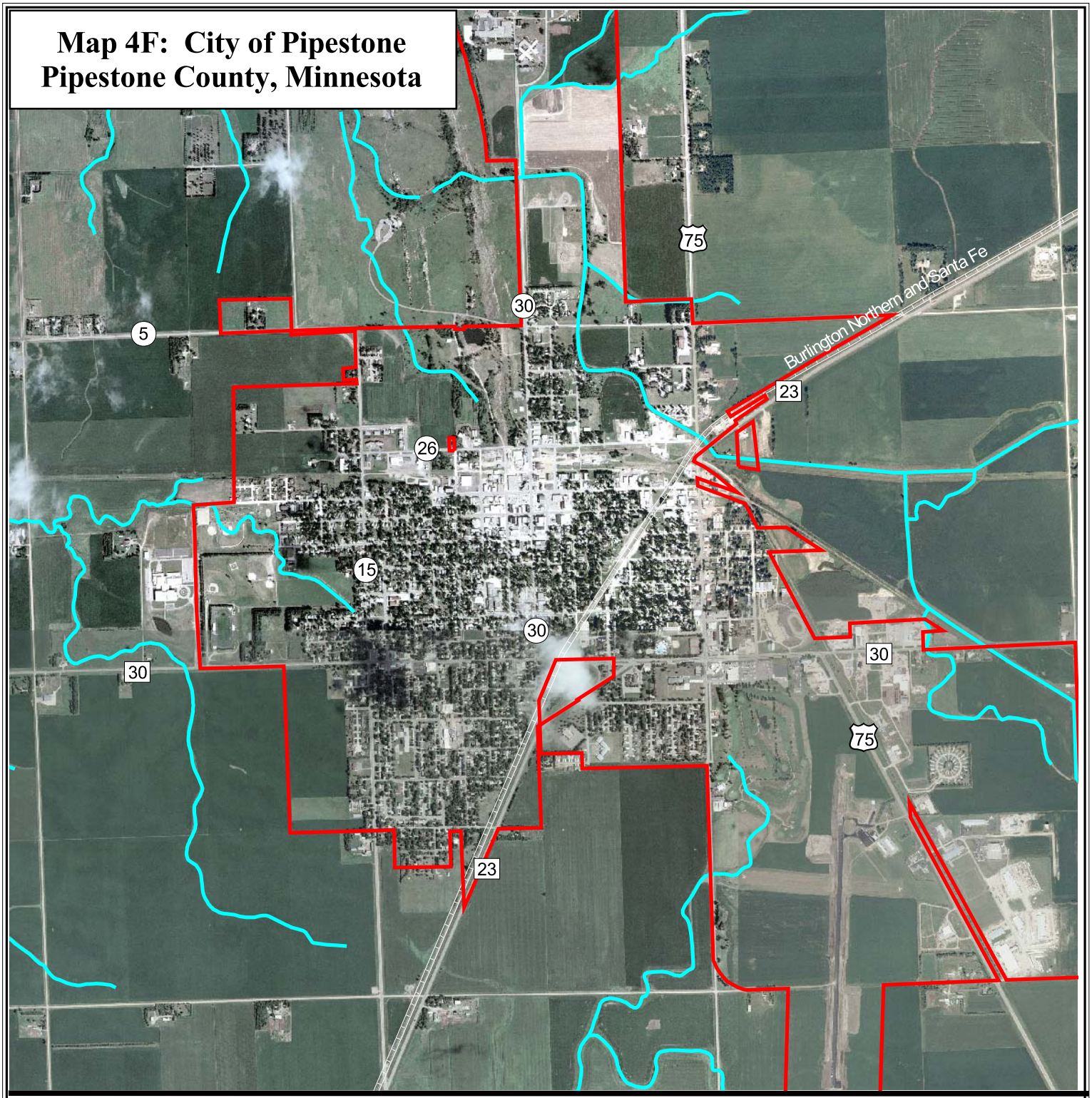
The City of Pipestone is both Pipestone County's largest community and the County seat. It is located near the center of the County (offset to the west) and shares borders with Troy, Gray and Sweet Townships. U.S. Highway 75 and State Highway's 23 and 30 are the City's major roadways (U.S. Highway runs generally north and south through Pipestone while State Highway 23 runs diagonally through the county northeast to southwest and 30 runs through the County from east to west). In addition, CSAH 15 runs into the County from the west and heads out to the south while CSAH's 22, 26, and 30 all exist within the community. The City is known for the Pipestone National Monument, which is located on the north side of the community.

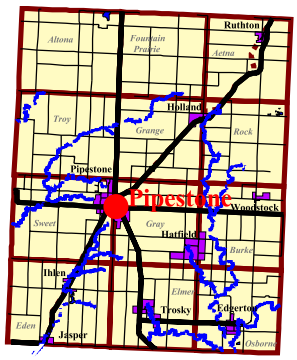
Since 1960, the City of Pipestone has lost a total of 1,044 residents, 274 of these were during the last 10 years (1990 to 2000). During the same time span, the City's housing market has actually added 169 new units. As this trend continues in the future, residential housing will continue to become one of the City's larger planning issues. If population numbers begin to stabilize and the trend for smaller household sizes continues, the City will need to plan for increased housing numbers over the next 20 years.

| **Table 4G: Pipestone** | **1960** | **1970** | **1980** | **1990** | **2000** |
|---|---|---|---|---|---|
| Population | 5324 | 5328 | 4887 | 4554 | 4280 |
| Households | 1731 | 1826 | 2005 | 1915 | 1900 |
| **Population Projections** | **2005** | **2010** | **2015** | **2020** | **Change** |
| Slow Annual Decline | 4215 | 4150 | 4084 | 4019 | -261 |
| Based on Last 40 years | 4150 | 4019 | 3889 | 3758 | -522 |
| Slow Annual Growth | 4345 | 4411 | 4476 | 4541 | 261 |
| **Households Based on 2.25 People** | **2005** | **2010** | **2015** | **2020** | **Change** |
| Slow Annual Growth | 1911 | 1921 | 1932 | 1942 | 42 |
| Based on Last 40 years | 1921 | 1942 | 1963 | 1985 | 85 |
| Fast Annual Growth | 1932 | 1964 | 1996 | 2028 | 128 |

A close examination of Map 4G reveals that Pipestone has the ability to expand residentially and commercially. There are plans to develop single-family homes just south of the new High School. The City has approximately 24 acres available in its Industrial Park and has plans to develop a technology park on approximately 25 acres located in the north part of the City. Pipestone is currently resurfacing its airport and will be completing a wastewater pretreatment facility in 2004.

# Map 4F: City of Pipestone
# Pipestone County, Minnesota




Pipestone County

- Municipal Border
- Rivers or Streams
- U.S. Highway
- State Highway
- County Road
- Railroad

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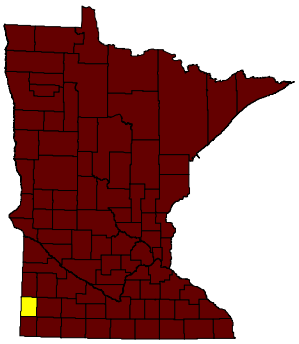
Southwest Regional Development Commission
Focused on Southwest Minnesota

0.4 0 0.4 0.8 Miles



State of Minnesota

## A Profile of Ruthton

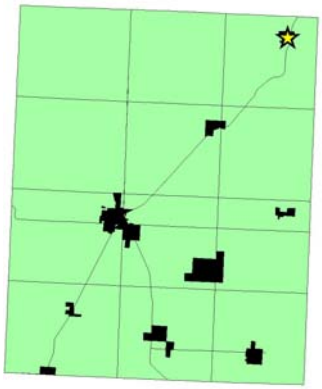
***Snapshot***

***Location:*** Northeast (Aetna Township)

***Population:*** 284

***Households:*** 129

***Major Roads:*** Minnesota State Highway 23

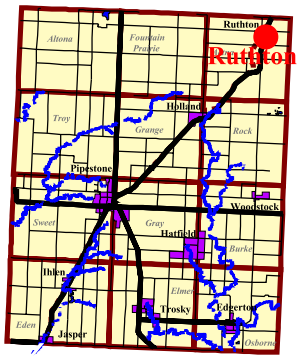


The City of Ruthton is Pipestone County's northern most community, located in the northeast corner approximately 17 miles from the City of Pipestone. The City's two major roadways are State Highway 23 and CSAH 18. In addition, the Burlington Northern Santa Fe Railroad runs through the community, entering from the southwest and exiting through the north central. Aetna Township completely surrounds the community while the Redwood River flows through the northern part of the City. According to numbers provided from the 2000 Census, Ruthton is Pipestone County's 3rd smallest community with 284 residents.

According to Table 4G, Ruthton's population was at its highest point in 1960 with 476 residents. The population has continued to decline according to each decennial census for the past 40 years. The City showed some stabilization from 1980 to 1990 only losing 1 resident, however from 1990 to 2000, the City had lost 43 residents. A close look at household numbers show that as the City has lost population, it has continued to decline in the number of households as well, going from 151 in 1960 to its present number of 129. Projections for Ruthton based on the last 40 years show both losses in residents as well as households.

| **Table 4G: Ruthton** | **1960** | **1970** | **1980** | **1990** | **2000** |
|---|---|---|---|---|---|
| Population | 476 | 405 | 328 | 327 | 284 |
| Households | 151 | 152 | 149 | 134 | 129 |
| **Population Projections** | **2005** | **2010** | **2015** | **2020** | **Change** |
| Slow Annual Decline | 272 | 260 | 248 | 236 | -48 |
| Based on Last 40 years | 260 | 236 | 212 | 188 | -96 |
| Slow Annual Growth | 296 | 307 | 319 | 330 | 46 |
| **Households Based on 2.20 People** | **2005** | **2010** | **2015** | **2020** | **Change** |
| Slow Annual Decline | 128 | 126 | 125 | 123 | -6 |
| Based on Last 40 years | 126 | 124 | 121 | 118 | -11 |
| Slow Annual Growth | 130 | 132 | 133 | 135 | 6 |

# Map 4G: City of Ruthton
# Pipestone County, Minnesota


Pipestone County

- Municipal Border
- Rivers or Streams
- U.S. Highway
- State Highway
- County Road
- Railroad

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Southwest Regional Development Commission
Focused on Southwest Minnesota
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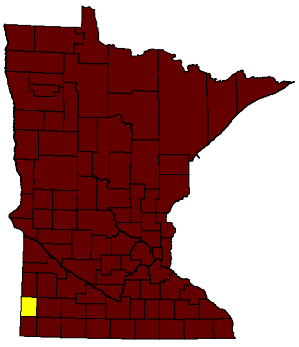
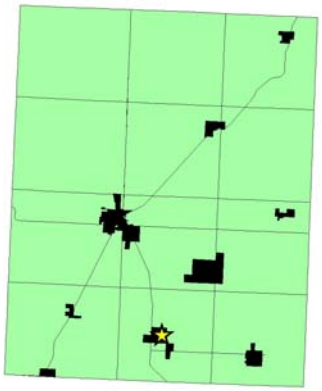


State of Minnesota

## A Profile of Trosky

***Snapshot***



***Location:*** South central (Elmer Township)

***Population:*** 116

***Households:*** 46

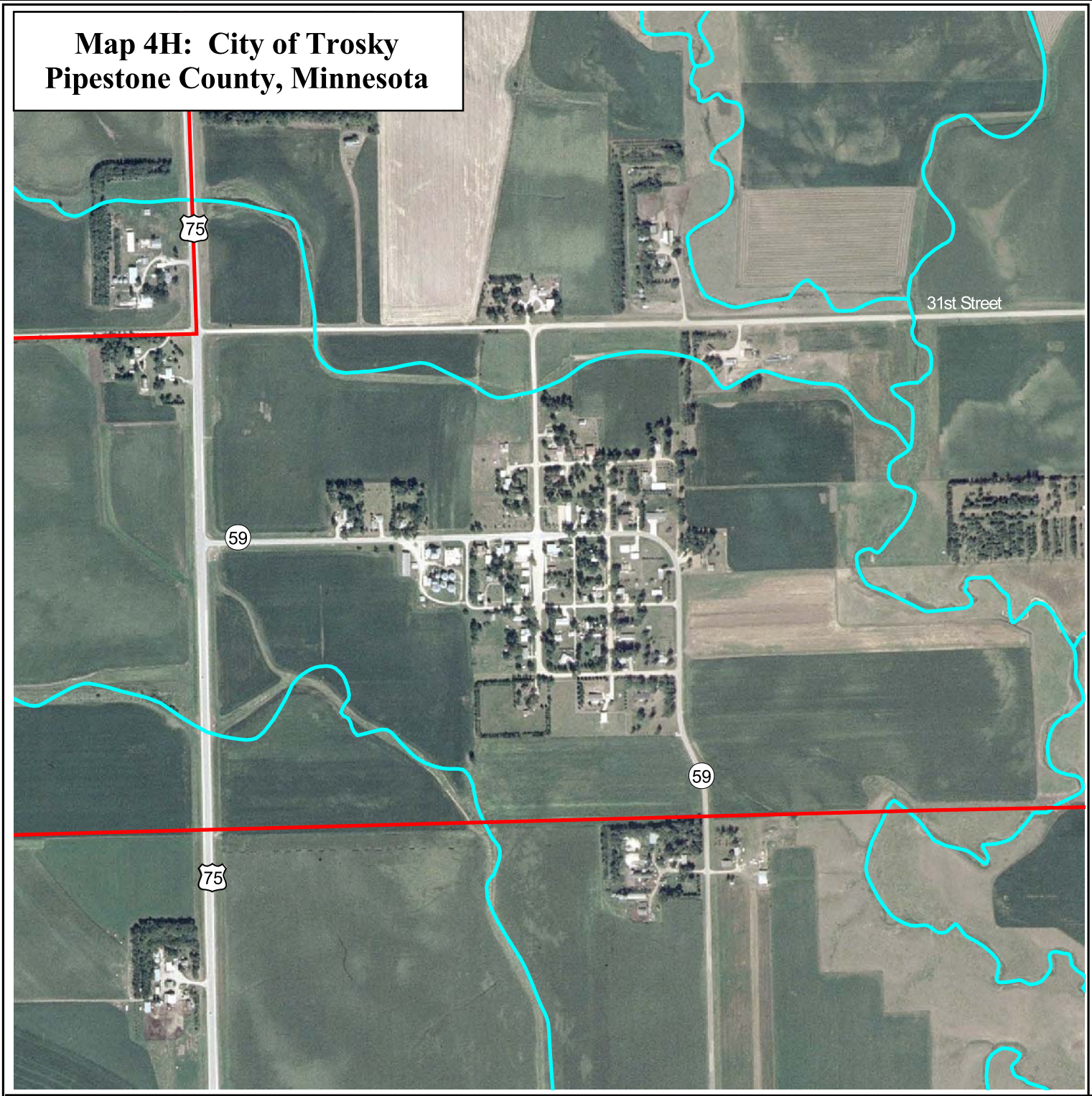
***Major Roads:*** Minnesota State Highway 268
U.S. Highway 75

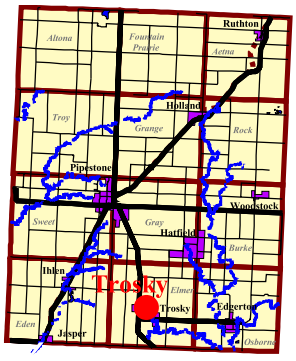
The City of Trosky is located approximately 9 miles south and east of the City of Pipestone along U.S. Highway 75. The City's major roadways consist of U.S. Highway 75, which runs north and south through the community, and State Highway 268, which runs east out of the City into Edgerton. Elmer Township completely surrounds the community and Poplar Creek flows just to the south of the City. According to numbers provided from the 2000 Census, Trosky is Pipestone County's 2nd smallest community with 116 residents.

Considering its small size, Trosky's population levels have remained fairly stable over the past 40 years, declining by only 6 residents. During the same time, Trosky's household numbers have increased from 40 in 1960 to 46 in 2000. If these trends continue into the next 20 years, Trosky is expected to lose only another 3 persons and add another 3 households.

| **Table 4H: Trosky** | **1960** | **1970** | **1980** | **1990** | **2000** |
|---|---|---|---|---|---|
| Population | 122 | 109 | 113 | 103 | 116 |
| Households | 40 | 41 | 45 | 44 | 46 |
| **Population Projections** | **2005** | **2010** | **2015** | **2020** | **Change** |
| Slow Annual Decline | 115 | 115 | 115 | 114 | -2 |
| Based on Last 40 years | 115 | 115 | 114 | 113 | -3 |
| Slow Annual Growth | 116 | 117 | 117 | 118 | 2 |
| **Households Based on 2.52 People** | **2005** | **2010** | **2015** | **2020** | **Change** |
| Slow Annual Growth | 47 | 47 | 48 | 48 | 2 |
| Based on Last 40 years | 47 | 47 | 48 | 49 | 3 |
| Fast Annual Growth | 47 | 48 | 50 | 51 | 5 |

# Map 4H: City of Trosky
# Pipestone County, Minnesota




Pipestone County

- Municipal Border
- Rivers or Streams
- U.S. Highway
- State Highway
- County Road

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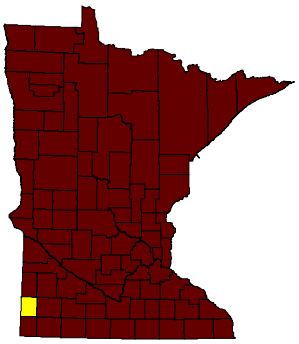


State of Minnesota

## A Profile of Woodstock

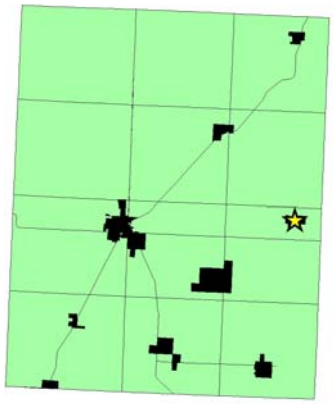
***Snapshot***

***Location:*** East central (Burke Township)

***Population:*** 132

***Households:*** 63

***Major Roads:*** County Highways 67 and 18

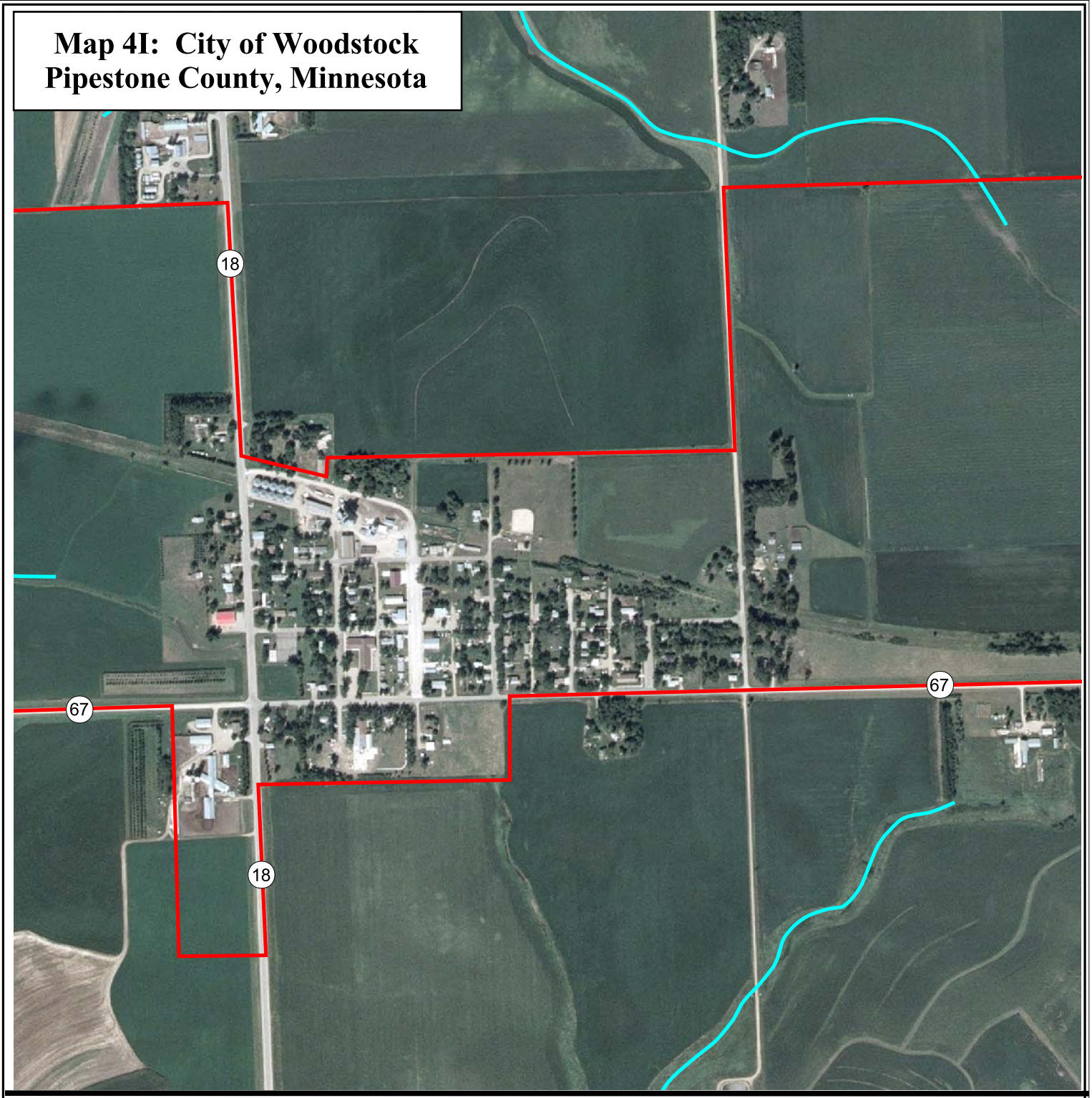


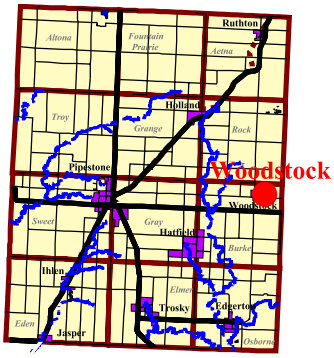
The City of Woodstock is located approximately 12 miles straight east of the City of Pipestone along State Highway 30. Woodstock is a fairly average sized Pipestone County community as its 132 people - making it the County's 6th largest. The City's major roadway consists of CSAH 16 while State Highway 30 runs east and west just one mile south of the community. Burke Township completely surrounds the community and the east branch of the Rock River flows north to south approximately 2 miles to the west of the City.

Woodstock increased in population from 1960 to 1970 going from 213 residents to 217. By 1980 however, that number had dipped to 180 and continued to decline all the way to 132 by the year 2000. Household numbers have held fairly stable matching the population increase during the 60's but then declined from 80 in 1970 to 63 by the year 2000. Population projections for Woodstock based on the last 40 years are not positive as a historic rate of loss would put the City at 91 residents by the year 2020. Numbers could be expected to fall somewhere closer to the "Slow" rates of decline however as in the recent past, the City has added a new sewer collection and treatment system, done housing rehab within the community utilizing federal grant dollars, and the New Life Treatment Center operating within the community has recently gone through an expansion. These positive developments could have positive impacts on the City's population numbers in the future.

| **Table 4I: Woodstock** | **1960** | **1970** | **1980** | **1990** | **2000** |
|---|---|---|---|---|---|
| Population | 213 | 217 | 180 | 149 | 132 |
| Households | 71 | 80 | 73 | 68 | 63 |
| **Population Projections** | **2005** | **2010** | **2015** | **2020** | **Change** |
| Slow Annual Decline | 127 | 122 | 117 | 112 | -20 |
| Based on Last 40 years | 122 | 112 | 102 | 91 | -41 |
| Slow Annual Growth | 137 | 142 | 147 | 153 | 21 |
| **Households Based on 2.10 People** | **2005** | **2010** | **2015** | **2020** | **Change** |
| Slow Annual Decline | 63 | 62 | 62 | 61 | -2 |
| Based on Last 40 years | 62 | 61 | 60 | 59 | -4 |
| Slow Annual Growth | 64 | 64 | 65 | 65 | 2 |

# Map 4I: City of Woodstock
# Pipestone County, Minnesota




Pipestone County

- Municipal Border
- Rivers or Streams
- U.S. Highway
- State Highway
- County Road

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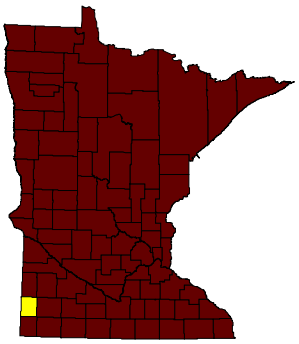

State of Minnesota

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# Chapter Five:
# Township Profiles

This Chapter is similar to Chapter Four except that Pipestone County's townships are profiled rather than its cities. The profiles include information on the township's residents and number of households, along with a description of the township's major roadways and natural resources. The population and household information presented uses 1960 to 2000 Census records. This time-span is used to help establish a slow-, historic- and fast-based population and household estimate for each township for the years 2005, 2010, 2015 and 2020. In addition, a current zoning map is included that shows the township's "current land use" and the location of any urban growth area (if one exists in the township).

## How to use the Township Profiles

There are two main features included in each township profile. The first is a table that presents the township's population and household numbers since 1960. The second feature is a current zoning map, used to give perspective on the township's current land use. The population and household information is used to establish a "historic-based" rate of population gain or, in some cases, a historic-based rate of population loss. This rate (either positive or negative) is then applied over the next 17 years to show a historic-based population projection.

Realizing that many factors can influence an area's population level, the tables also present what each township's future population would be if either a slow or fast population gain or loss occurred. The slow annual growth rate was established at 50 percent of the township's historic based rate. For example, if a township gained 80 new residents over the last 40 years, the slow projection would estimate that the township would gain another 40 people over the next 40 years. Similarly, the fast annual growth rate was established at 150 percent of the township's historic-based rate. In the previous example, the township's fast projection would estimate that the township would gain 120 new residents over the next 40 years (80 multiplied by 150%). Therefore, each township profile contains a slow-, historic- and fast-based population projection for the years 2005, 2010, 2015 and 2020.

Another important feature of the township profiles are maps showing how the township is currently zoned. This provides the best picture of the township's "current land use." Although the zoning information and the actual current land use does not match up perfectly in reality, zoning information does provide a generalized knowledge of how the land is currently being used. The County Planning and Zoning Office provided the zoning information. The only future land use information presented on the maps is for those cities that identified a 20-year urban growth area. The heavy yellow and black lines on the maps represent these areas. The primary purpose of these areas is to identify where potential urban growth might occur and where joint planning efforts need to be made by the city, the affected townships, and Pipestone County.

## Aetna Township

***Location:*** Northeast corner bordering Lincoln, Lyon and Murray Counties

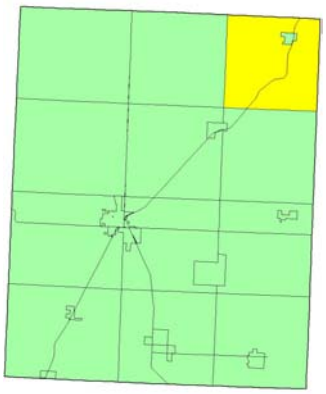
***Population:*** 201

***Households:*** 74

***Major Roads:*** State Highway 23, County Roads 10, 12, and 18

***Water Features:*** Redwood River

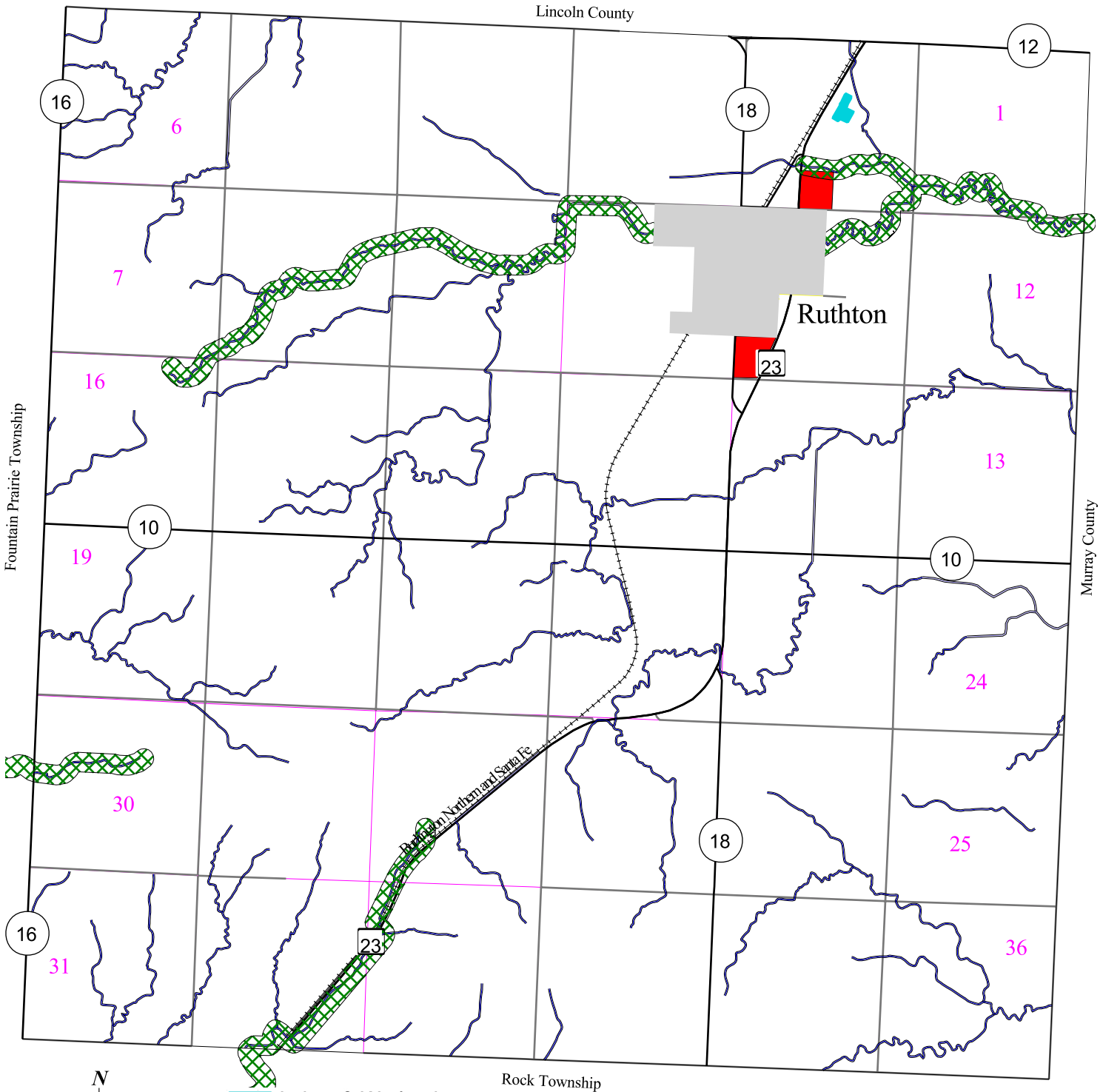
***Special Features:*** City of Ruthton



Aetna Township has continually lost population during the past 40 years, going from 451 in 1960 to 201 in 2000 – a loss of over 55 percent. The number of households in Aetna Township is decreasing as well, going from a total of 114 in 1960 to 74 by the year 2000. This constitutes a loss of approximately 35 percent. Having lost 250 residents since 1960, Aetna Township is currently ninth in terms of population among all Pipestone townships. Aetna Township is almost entirely zoned agricultural (classified as District A). However, there are two small areas near the community of Ruthton that are zoned "HC" for Highway Service Commercial District. There is a small lake/wetland located just to the north of Ruthton and a portion of the Redwood River flows through the northern half of the Township.

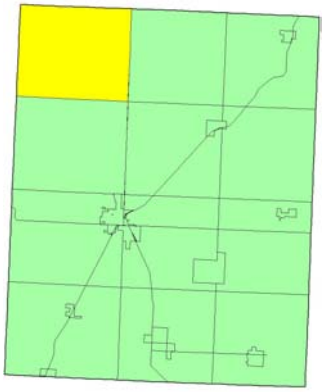
| **Table 5A: Aetna** | **1960** | **1970** | **1980** | **1990** | **2000** |
|---|---|---|---|---|---|
| Population | 451 | 357 | 295 | 243 | 201 |
| Households | 114 | 93 | 92 | 81 | 74 |
| **Population Projections** | **2005** | **2010** | **2015** | **2020** | **Change** |
| Slow Annual Decline | 185 | 170 | 154 | 138 | -63 |
| Based on the last 40 years | 170 | 139 | 107 | 76 | -125 |
| Slow Annual Growth | 217 | 232 | 248 | 264 | 63 |
| **Households Based on 2.71 People** | **2005** | **2010** | **2015** | **2020** | **Change** |
| Slow Annual Decline | 72 | 69 | 66.5 | 64 | -10 |
| Based on the last 40 years | 69 | 64 | 59 | 54 | -20 |
| Slow Annual Growth | 77 | 79 | 82 | 84 | 10 |

# Map 5A: Aetna Township
# Current Zoning



## Altona Township

***Location:*** Northwest corner bordering Lincoln County Minnesota, and Brookings and Moody Counties in South Dakota



***Population:*** 192

***Households:*** 63

***Major Roads:*** U.S. Highway 75, County Roads 10 and 15

***Water Features:*** Flandreau Creek and Willow Creek

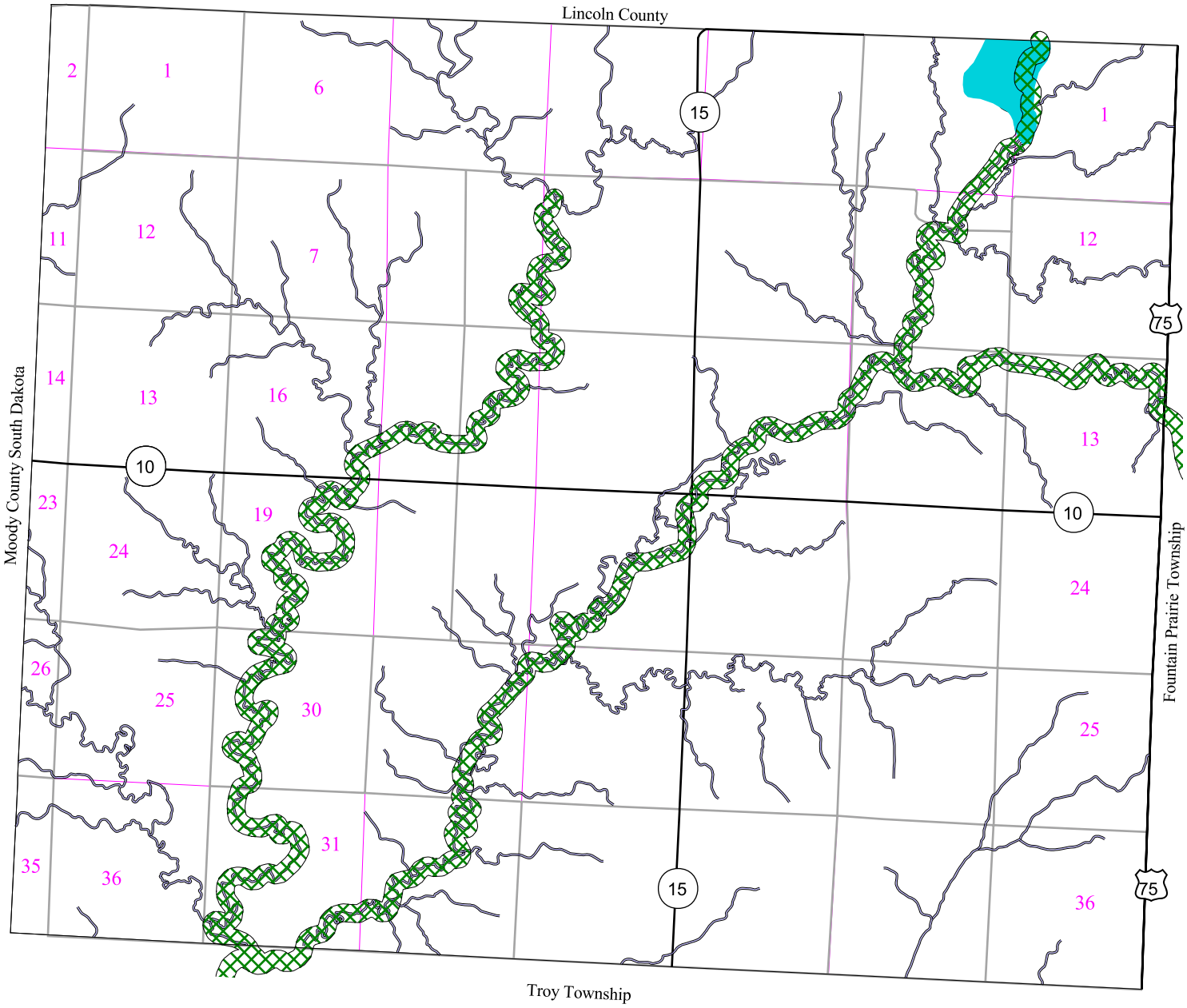
***Special Features:***

Altona Township has continually lost population during the past 40 years, going from 408 residents in 1960 to 192 in 2000 – a loss of almost 53 percent. The number of households in Altona Township is decreasing as well, going from a total of 97 in 1960 to 63 by the year 2000. This is a loss of a little over 35 percent of the households within the Township. Having lost 216 residents since 1960, Altona Township has the second smallest number of population among all Pipestone County's townships. The population projections in Table 5B suggest that the township may lose up to another 108 resents before 2020. This trend, however, could realistically level off at any time or even rebound slightly.

The Township is entirely zoned "A" for Agriculture District. A small lake/wetland exists in the northeast portion of the township along the border with Lincoln County. In addition, segments of Flandreau Creek and Willow Creek flow through the middle portions of the Township.

| **Table 5B: Altona** | **1960** | **1970** | **1980** | **1990** | **2000** |
|---|---|---|---|---|---|
| Population | 408 | 326 | 237 | 195 | 192 |
| Households | 97 | 86 | 81 | 70 | 63 |
| **Population Projections** | **2005** | **2010** | **2015** | **2020** | **Change** |
| Slow Annual Decline | 179 | 165 | 152 | 138 | -54 |
| Based on the last 40 years | 165 | 138 | 111 | 84 | -108 |
| Slow Annual Growth | 206 | 219 | 233 | 246 | 54 |
| **Households Based on 3.05 People** | **2005** | **2010** | **2015** | **2020** | **Change** |
| Slow Annual Decline | 61 | 59 | 56 | 54 | -9 |
| Based on the last 40 years | 59 | 55 | 50 | 46 | -17 |
| Slow Annual Growth | 72 | 80 | 89 | 97 | 9 |

# Map 5B: Altona Township
# Current Zoning

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Current Zoning Districts

- Lakes & Wetlands
- Municipalities

Pipestone County Zoning Districts

- A - Agriculture
- A1 - Urban Expansion
- RA - Rural Residential
- HC - Highway Commercial
- I - Industry
- Special Protection (overlay)

- Rivers and Streams
- Drainage Ditches
- Unpaved Roads
- Paved Roads
- Railroad
- Section Lines
- City Streets

- U.S. Highway
- State Highway
- County Road
- Church
- 1-36 Section Number

## Burke Township

***Location:*** Southeast central bordering Murray County

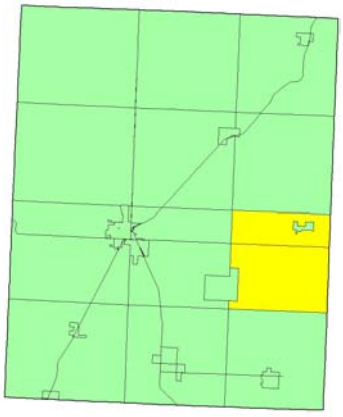
***Population:*** 246

***Households:*** 85

***Major Roads:*** State Highway 30, County Highways 18 and 3

***Water Features:*** Rock River

***Special Features:*** City of Woodstock, portion of the City of Hatfield

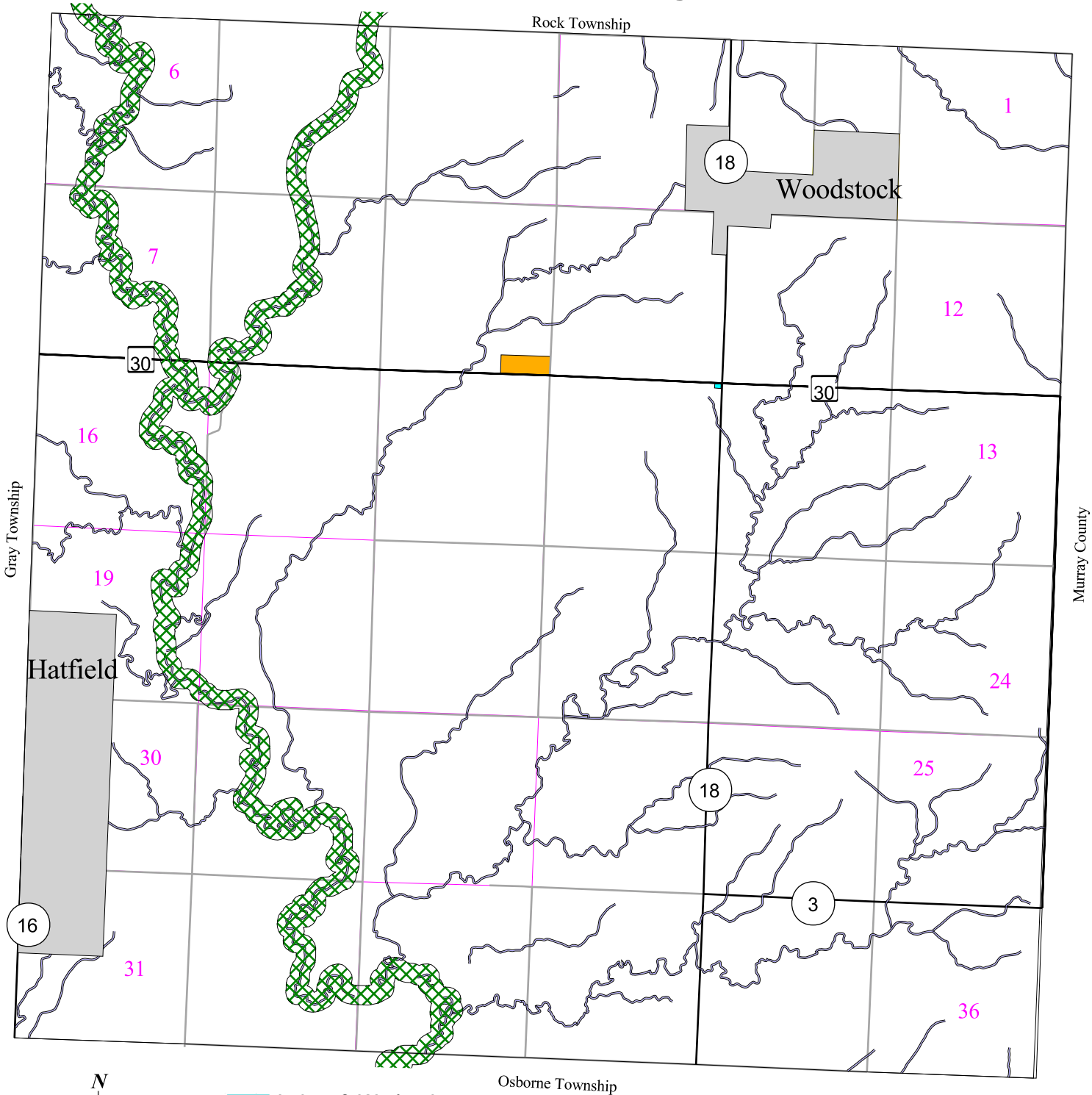


The population of Burke Township has been fluctuating since 1960. The 1980 population of 329 was less than the 416 residents in 1960, but more than the 298 residents in 1970. However, since 1980, the population has continually decreased to the 2000 reported population of 246. The number of households in Burke Township has been fluctuating even more since 1960. Table 5C reveals that the number of households has ranged from a high of 96 in 1980, to a low of 79 in 1970. In 2000, there were 85 households. Burke Township currently has the 6th highest population number out of Pipestone County's 12 Townships.

The population projections in Table 5C suggest that continued population loss is expected, however, only small changes are expected with the number of households in the Township. Burke Township is zoned almost entirely "A" Agricultural District, but there is a small portion of the township that is zoned "RA" for Rural Residential and an even smaller portion zoned "HC" for Highway Service Commercial (note that this district is located in the very northeast corner of section 15). The only water body existing in Burke Township is a portion of the Rock River.

| **Table 5C: Burke** | **1960** | **1970** | **1980** | **1990** | **2000** |
|---|---|---|---|---|---|
| Population | 416 | 298 | 329 | 288 | 246 |
| Households | 91 | 79 | 96 | 80 | 85 |
| **Population Projections** | **2005** | **2010** | **2015** | **2020** | **Change** |
| Slow Annual Decline | 235 | 225 | 214 | 203 | -43 |
| Based on the last 40 years | 225 | 204 | 182 | 161 | -85 |
| Slow Annual Growth | 257 | 267 | 278 | 289 | 43 |
| **Households Based on 2.89 People** | **2005** | **2010** | **2015** | **2020** | **Change** |
| Slow Annual Decline | 85 | 84 | 84 | 83 | -2 |
| Based on the last 40 years | 84 | 84 | 83 | 82 | -3 |
| Slow Annual Growth | 86 | 86 | 87 | 87 | 2 |

# Map 5C: Burke Township
# Current Zoning



## Eden Township

***Location:*** Southwest bordering Rock County and Moody and Minnehaha County in South Dakota

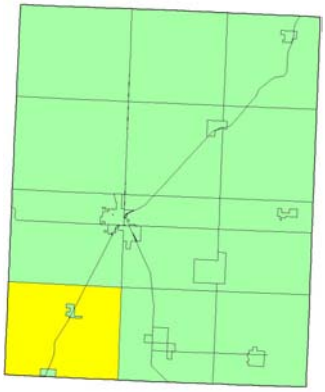
***Population:*** 294

***Households:*** 98

***Major Roads:*** State Highways 23 and 269; County Roads 1, 2, 13, 15 and 20

***Water Features:*** Split Rock Creek

***Special Features:*** City of Ihlen, portion of the City of Jasper

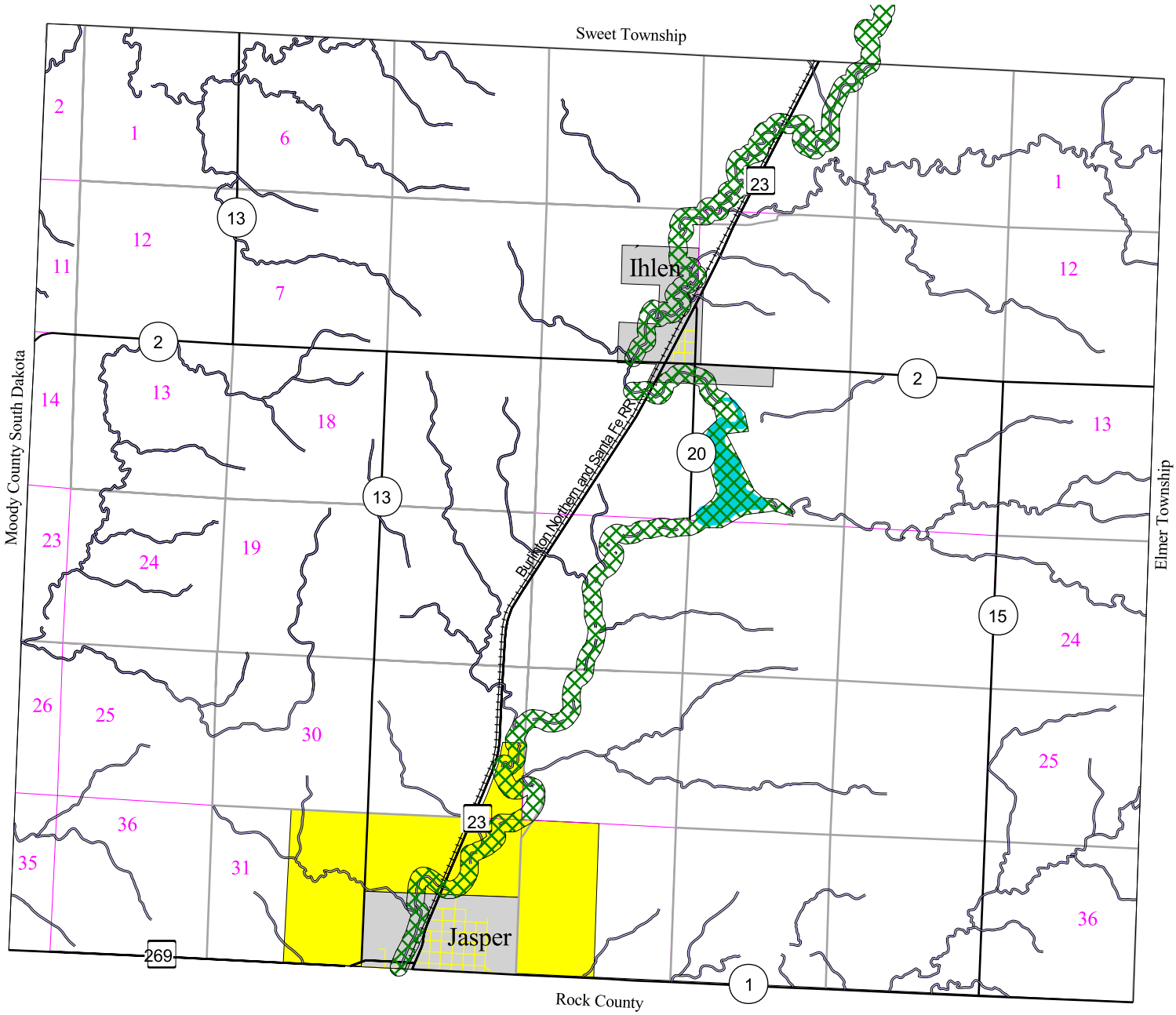


Eden Township experienced a steady population decline from 1960 to 1990, followed by a gain from 1990 to 2000. Table 5D, however, reveals that Eden Township has continually lost households since 1960, going from 128 households to 98 in 2000, a loss of a little over 23 percent. Based on the Township's historic population change since 1960, the Township could lose approximately 114 additional residents over the next 20 years. However, the most recent ten-year trend from 1990 to 2000 could be an indication of more positive trends in the future.

Map 5D illustrates that most of Eden Township is zoned for "A" Agriculture District. The township does also have some "A-1" areas, which are classified as agriculture land set aside for Urban Expansion Areas.

| **Table 5D: Eden** | **1960** | **1970** | **1980** | **1990** | **2000** |
|---|---|---|---|---|---|
| Population | 522 | 450 | 361 | 261 | 294 |
| Households | 128 | 114 | 118 | 100 | 98 |
| **Population Projections** | **2005** | **2010** | **2015** | **2020** | **Change** |
| Slow Annual Decline | 280 | 266 | 251 | 237 | -57 |
| Based on the last 40 years | 266 | 237 | 209 | 180 | -114 |
| Slow Annual Growth | 308 | 323 | 337 | 351 | 57 |
| **Households Based on 3.00 People** | **2005** | **2010** | **2015** | **2020** | **Change** |
| Slow Annual Decline | 96 | 94 | 92 | 90 | -8 |
| Based on the last 40 years | 94 | 91 | 87 | 83 | -15 |
| Slow Annual Growth | 100 | 102 | 104 | 106 | 8 |

# Map 5D: Eden Township
# Current Zoning



## Elmer Township

***Location:*** South bordering Rock County

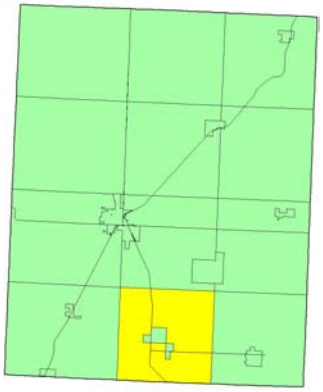
***Population:*** 275

***Households:*** 88

***Major Roads:*** U.S. Highway 75, State Highway 268, and County Roads 1, 2, 16, and 59

***Water Features:*** Poplar Creek

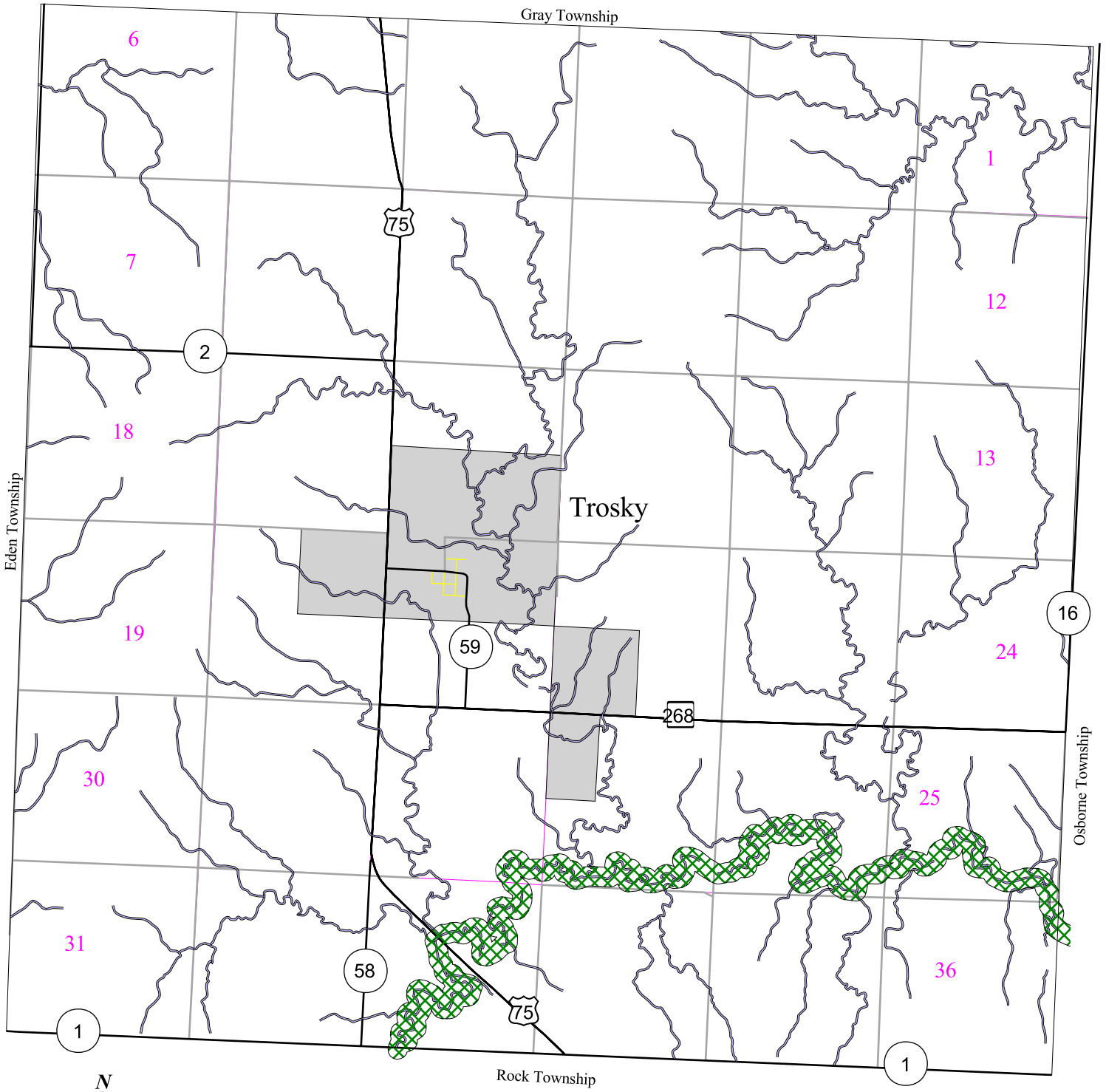
***Special Features:*** City of Trosky



Elmer's 2000 population of 275 people make it Pipestone County's 5th most populated township. Table 5E reveals that Elmer Township experienced a steady population decline from 1960 to 2000, going from 490 residents down to 275. Table 5E also reveals that Elmer Township has continually lost households since 1960, going from 115 to 88 by the year 2000 (a loss of over 23 percent). Based on the Township's historic population change since 1960, the Township could lose approximately 108 additional residents and 14 additional households over the next 20 years. This trend, however, could realistically level off at any time or even rebound slightly. Map 5E illustrates that all of Elmer Township is zoned "A" for Agriculture.

| **Table 5E: Elmer** | **1960** | **1970** | **1980** | **1990** | **2000** |
|---|---|---|---|---|---|
| Population | 490 | 440 | 344 | 335 | 275 |
| Households | 115 | 103 | 101 | 94 | 88 |
| **Population Projections** | **2005** | **2010** | **2015** | **2020** | **Change** |
| Slow Annual Decline | 262 | 248 | 235 | 221 | -54 |
| Based on the last 40 years | 248 | 221 | 194 | 167 | -108 |
| Slow Annual Growth | 289 | 302 | 316 | 329 | 54 |
| **Households Based on 3.13 People** | **2005** | **2010** | **2015** | **2020** | **Change** |
| Slow Annual Decline | 86 | 85 | 83 | 81 | -7 |
| Based on the last 40 years | 85 | 81 | 78 | 74 | -14 |
| Slow Annual Growth | 90 | 92 | 93 | 95 | 7 |

# Map 5E: Elmer Township
# Current Zoning



## Fountain Prairie Township

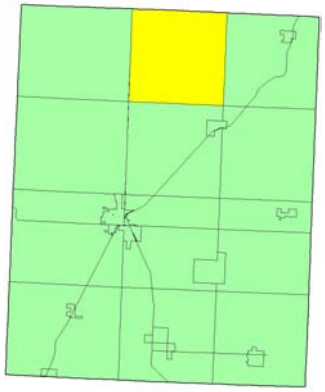
***Location:*** North-central bordering Lincoln County

***Population:*** 199

***Households:*** 70

***Major Roads:*** County Roads 10 and 16

***Water Features:*** Portion of Flandreau Creek and a portion of the North Branch of Pipestone Creek



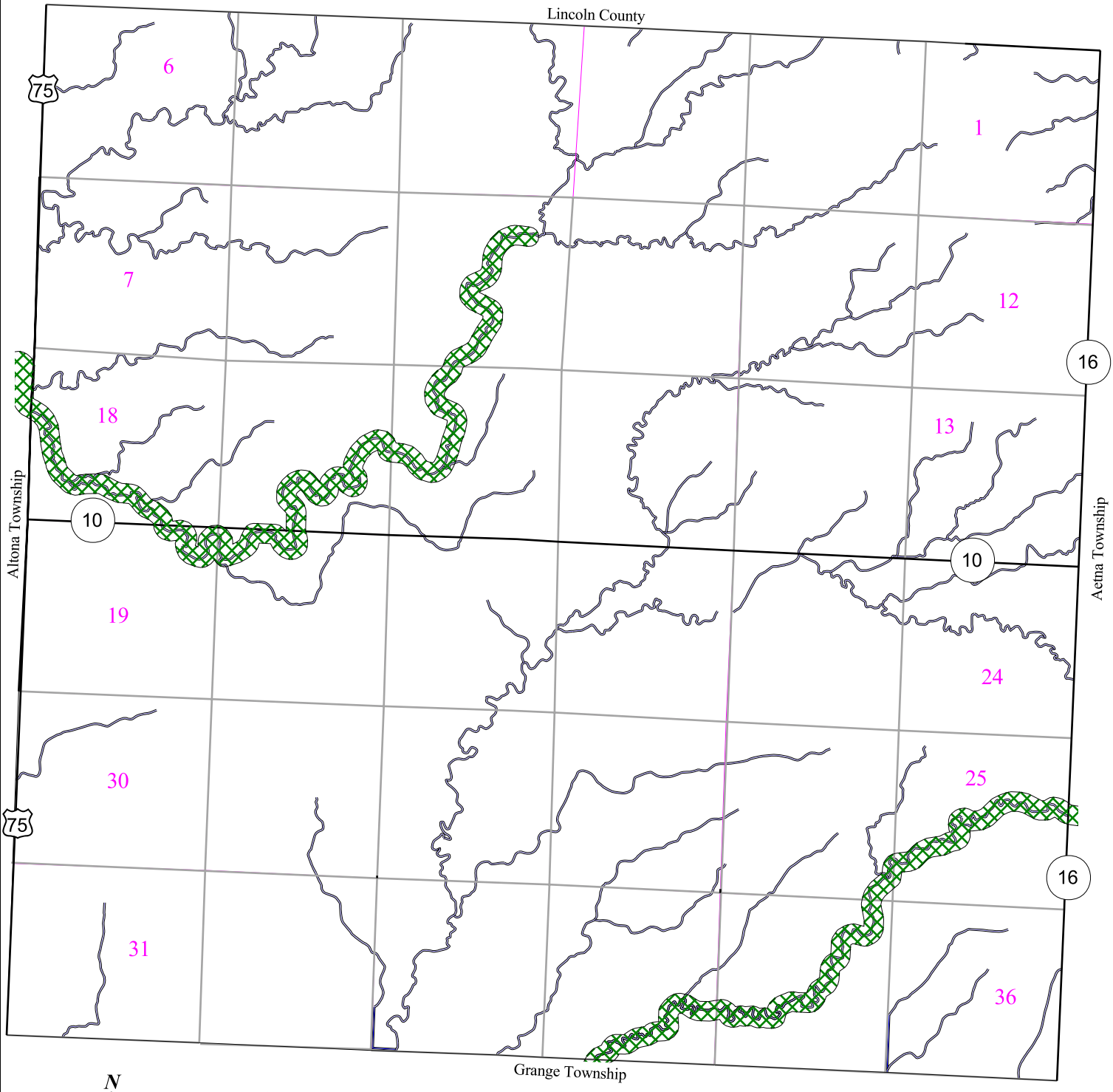
***Special Features:***

Fountain Prairie has the third smallest population among Pipestone County Townships according to the 2000 Census. The population of Fountain Prairie has declined overall since 1960, however, from 1990 to 2000, the number of residents living within the township held fairly constant. In addition, the number of households decreased steadily from 1960 to 1990, but then rose slightly by two households in 2000. Based on the Township's historic population change since 1960, it could expect to lose approximately 84 additional residents and 14 households during the next 20 years. However, since the most recent 10-year trend for each category shows stabilization, this could be an indication of long term trend reversal in the future.

Map 5F illustrates that all of Fountain Prairie Township is zoned "A" Agriculture District. The Townships only major Highway (U.S. 75) runs along its western border.

| **Table 5F: Fountain Prairie** | **1960** | **1970** | **1980** | **1990** | **2000** |
|---|---|---|---|---|---|
| Population | 366 | 305 | 275 | 198 | 199 |
| Households | 98 | 83 | 78 | 68 | 70 |
| **Population Projections** | **2005** | **2010** | **2015** | **2020** | **Change** |
| Slow Annual Decline | 189 | 178 | 168 | 157 | -42 |
| Based on the last 40 years | 178 | 157 | 136 | 115 | -84 |
| Slow Annual Growth | 210 | 220 | 231 | 241 | 42 |
| **Households Based on 2.84 People** | **2005** | **2010** | **2015** | **2020** | **Change** |
| Slow Annual Decline | 68 | 67 | 65 | 63 | -7 |
| Based on the last 40 years | 67 | 63 | 60 | 56 | -14 |
| Slow Annual Growth | 72 | 74 | 75 | 77 | 7 |

# Map 5F: Fountain Prairie Township
# Current Zoning

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A - Agriculture
A1 - Urban Expansion
RA - Rural Residential
HC - Highway Commercial
I - Industry
Special Protection (overlay)

Rivers and Streams
Drainage Ditches
Unpaved Roads
Paved Roads
Railroad
Section Lines
City Streets

U.S. Highway
State Highway
County Road
Church
1-36 Section Number

## Grange Township

***Location:*** North Central

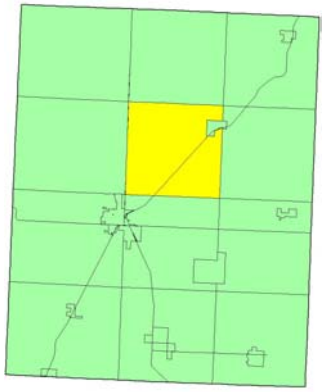
***Population:*** 244

***Households:*** 86

***Major Roads:*** U.S. Highway 75, State Highway 23, and County Roads 6, 8, and 16

***Water Features:*** North Branch of Pipestone Creek and a small portion of the Rock River in the northeast part of the township

***Special Features:*** City of Holland

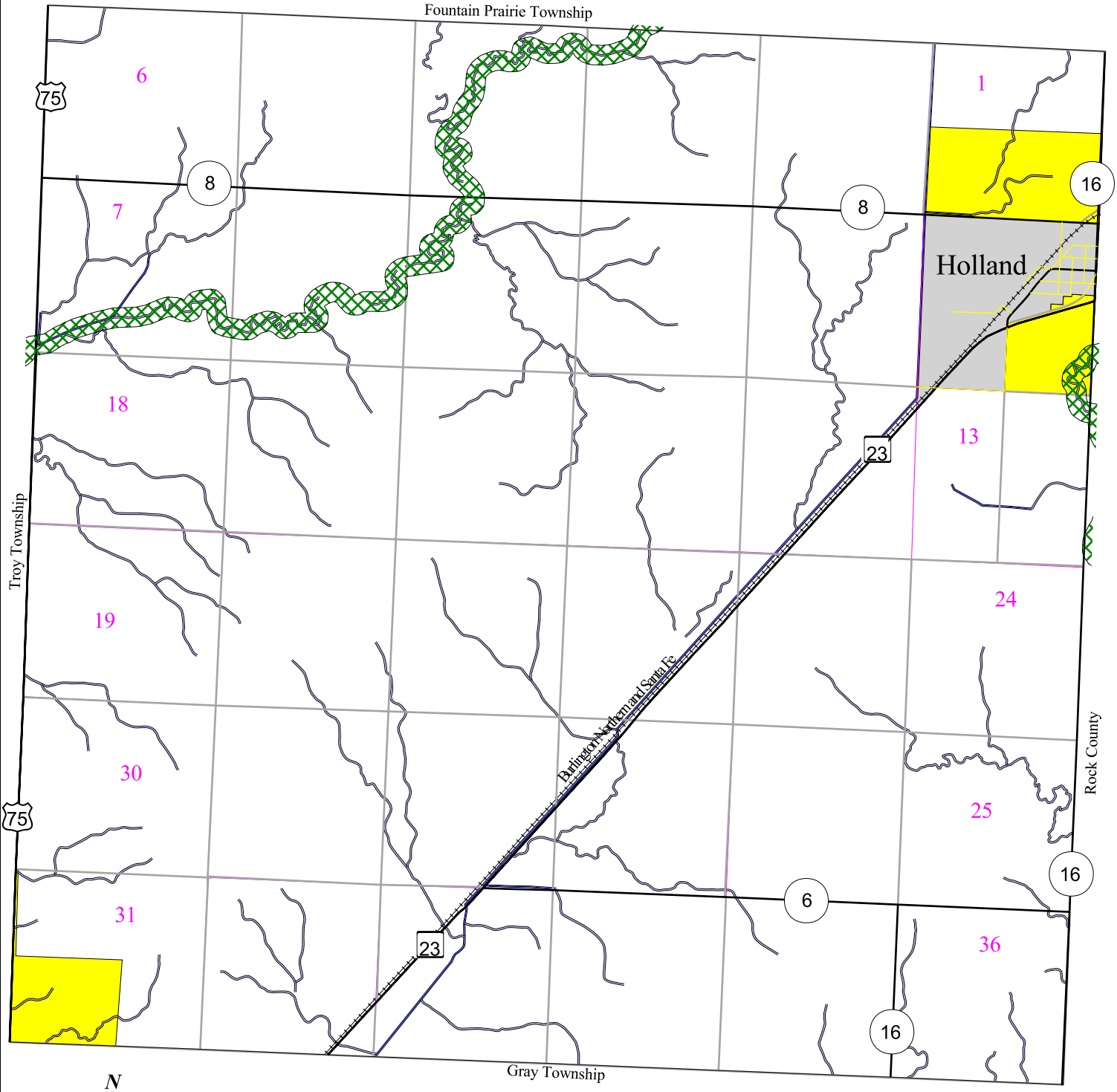


Grange Township has the seventh highest population according to Census 2000 numbers. The population of Grange Township has declined every ten years since 1960, going from 364 in 1960 to 244 in 2000. These 120 residents represent a 30 percent loss. The number of households, however, remained somewhat stable between 1970 and 2000, but lost overall since 1960. Based on the Township's historic population change since 1960, it could expect to lose approximately 60 additional residents and 7 households during the next 20 years. This trend, however, could realistically level off at any time or even rebound slightly.

Map 5G illustrates that most of Grange Township is zoned agriculture (A District). The township does also contain an "A-1" area, which is classified as agriculture land set aside as an Urban Expansion Area.

| **Table 5G: Grange** | **1960** | **1970** | **1980** | **1990** | **2000** |
|---|---|---|---|---|---|
| Population | 364 | 335 | 309 | 254 | 244 |
| Households | 100 | 91 | 92 | 88 | 86 |
| **Population Projections** | **2005** | **2010** | **2015** | **2020** | **Change** |
| Slow Annual Decline | 237 | 229 | 222 | 214 | -30 |
| Based on the last 40 years | 229 | 214 | 199 | 184 | -60 |
| Slow Annual Growth | 252 | 259 | 267 | 274 | 30 |
| **Households Based on 2.84 People** | **2005** | **2010** | **2015** | **2020** | **Change** |
| Slow Annual Decline | 85 | 84 | 83 | 82 | -4 |
| Based on the last 40 years | 84 | 83 | 81 | 79 | -7 |
| Slow Annual Growth | 87 | 88 | 89 | 90 | 4 |

# Map 5G: Grange Township
# Current Zoning

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Pipestone County Zoning Districts
A - Agriculture
A1 - Urban Expansion
RA - Rural Residential
HC - Highway Commercial
I - Industry
Special Protection (overlay)

Rivers and Streams
Drainage Ditches
Unpaved Roads
Paved Roads
Railroad
Section Lines
City Streets

U.S. Highway
State Highway
County Road
Church
1-36 Section Number

## Gray Township

***Location:*** South Central

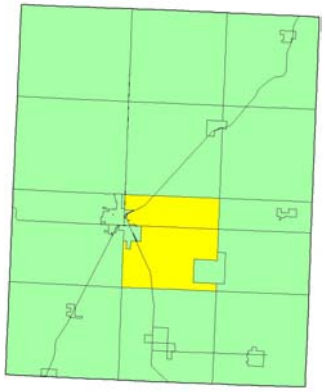
***Population:*** 234

***Households:*** 85

***Major Roads:*** U.S. Highway 75, State Highways 23 and 30, County Road 16

***Water Features:*** None

***Special Features:*** Portions of the Cities of Pipestone and Hatfield

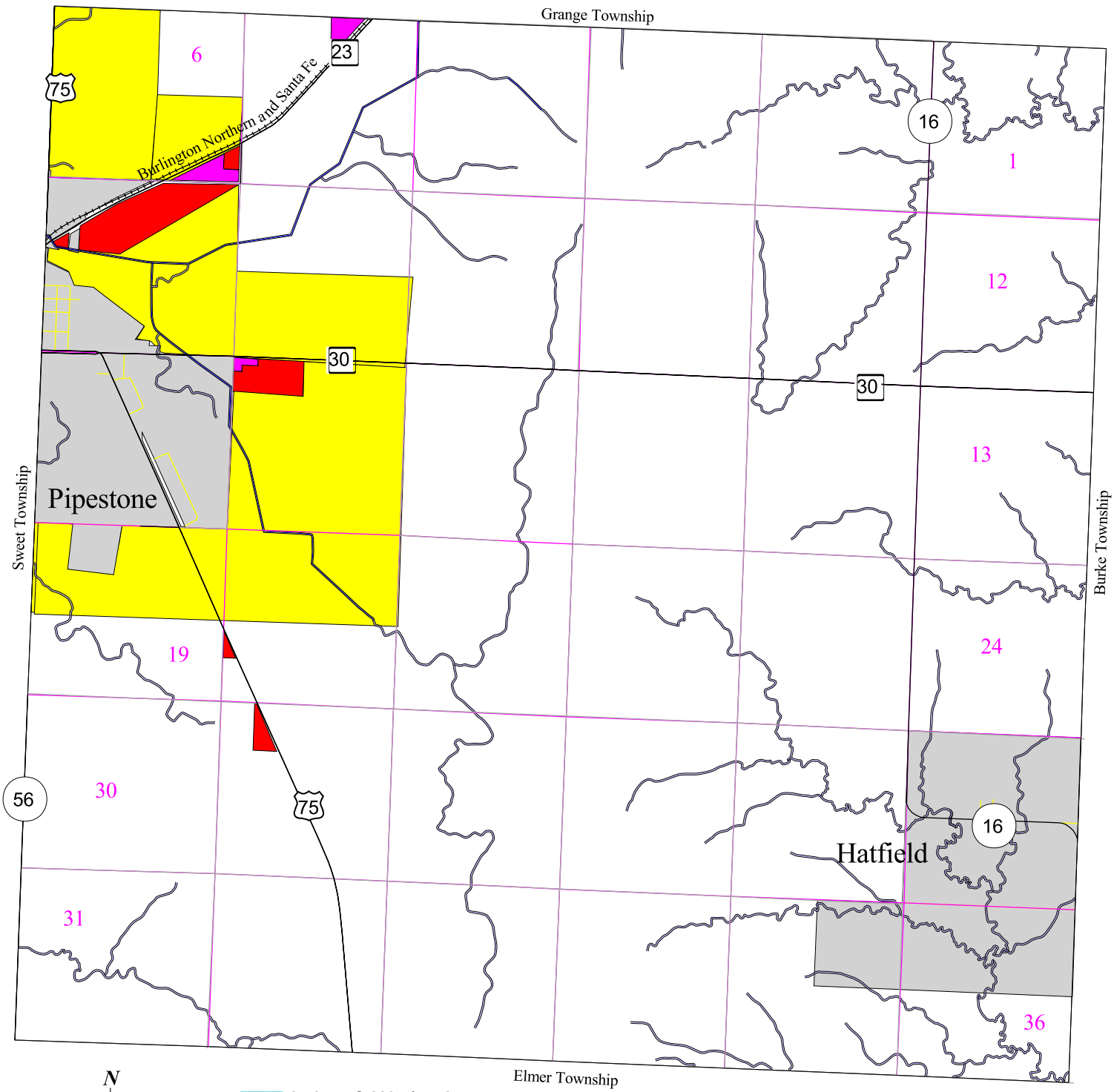


Gray Township has the eighth highest population according to Census 2000 numbers. The population of Gray Township has declined every decennial census from 1960 to 2000, going from 383 to 234 residents (a loss of 149 residents represents a 39 percent loss). The number of households, however, remained somewhat stable during the same time span. The total number of households increased from 1960 to 1970, but then decreased by relatively small amounts from 1970 to 2000 (going from 101 in 1970 to 85 in 2000). Based on the Township's historic population change since 1960, the Township could expect to lose approximately 75 additional residents and 7 households during the next 20 years. This trend, however, could realistically level off at any time or even rebound slightly.

Map 5H illustrates that several different zoning districts exist within Gray Township. While the township is zoned primarily Agricultural (A District), an "A1" Urban Expansion District has been identified around the community of Pipestone. In addition, "HC" Highway Service Commercial Districts have been identified adjacent to the borders of the City of Pipestone in the northeast and east, as well as two smaller areas to the southeast of the community along U.S. Highway 75. Finally, a small "I" Industrial District has been identified to the northeast of Pipestone City along the railroad and State Highway 23.

| **Table 5H: Gray** | **1960** | **1970** | **1980** | **1990** | **2000** |
|---|---|---|---|---|---|
| Population | 383 | 368 | 300 | 274 | 234 |
| Households | 99 | 101 | 95 | 93 | 85 |
| **Population Projections** | **2005** | **2010** | **2015** | **2020** | **Change** |
| Slow Annual Decline | 225 | 215 | 206 | 197 | -37 |
| Based on the last 40 years | 215 | 197 | 178 | 159 | -75 |
| Slow Annual Growth | 243 | 253 | 262 | 271 | 38 |
| **Households Based on 2.75 People** | **2005** | **2010** | **2015** | **2020** | **Change** |
| Slow Annual Decline | 84 | 83 | 82 | 81 | -4 |
| Based on the last 40 years | 83 | 82 | 80 | 78 | -7 |
| Slow Annual Growth | 86 | 87 | 88 | 89 | 4 |

# Map 5H: Gray Township
# Current Zoning



## Osborne Township

***Location:*** Southeast bordering Murray, Nobles and Rock Counties

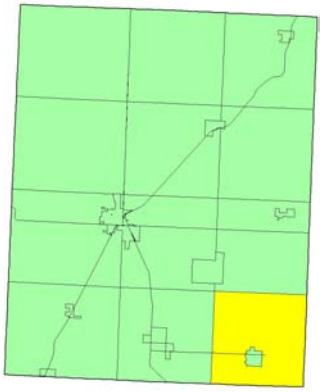
***Population:*** 324

***Households:*** 116

***Major Roads:*** State Highway 268, County Roads 1, 2, 9, 17, 16 and 18

***Water Features:*** Chanarambie River, Rock River and Poplar Creek

***Special Features:*** City of Edgerton

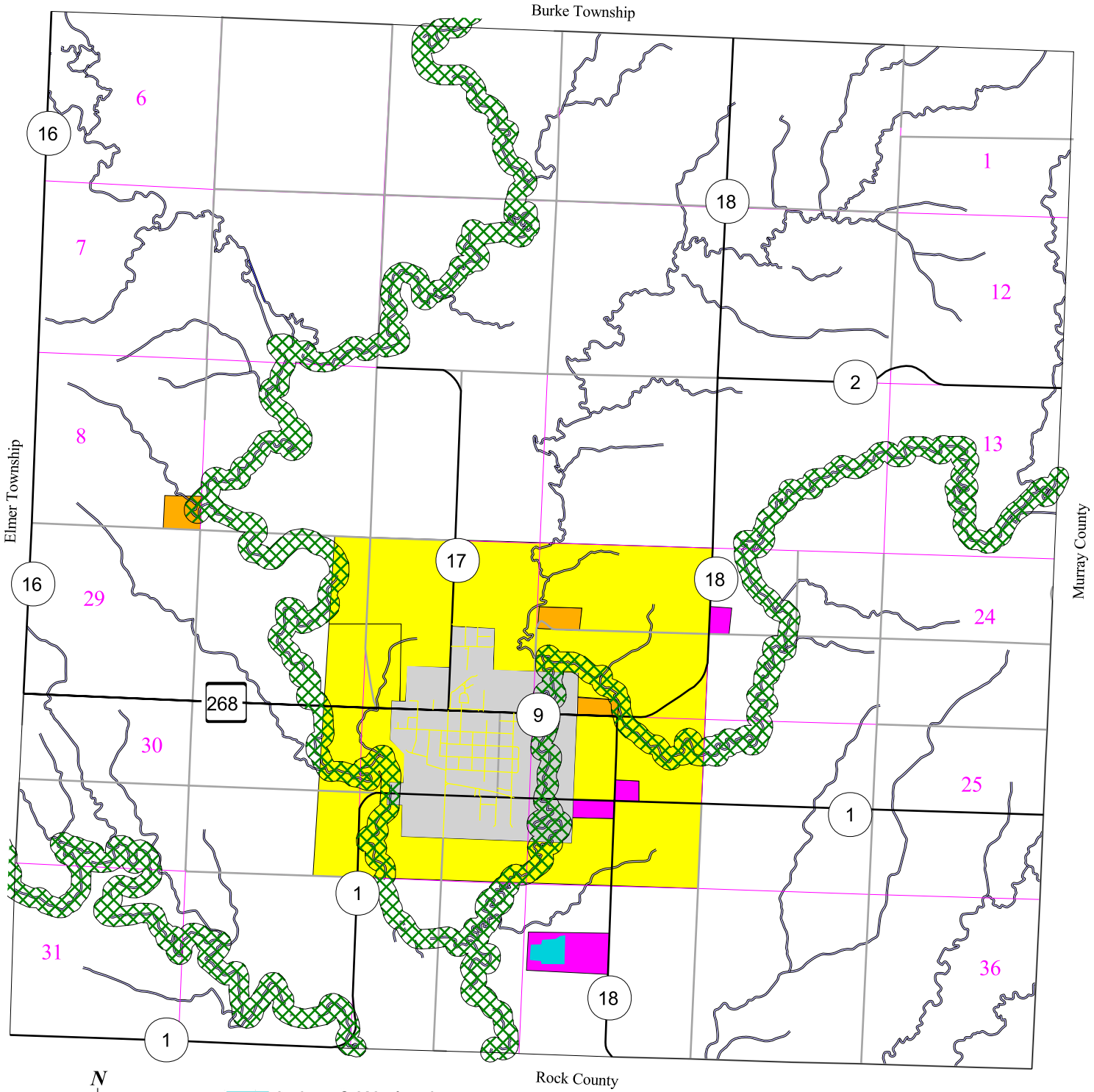


Osborne Township's population lost a little over 35 percent since 1960 to its 2000 population of 324 residents. The township, however, still remains Pipestone County's second most populated township. The number of households in Osborne Township has remained fairly stable, going from a total of 118 in 1960 to 116 in the year 2000. Table 5I suggests that the township could lose another 88 people based on the trend witnessed over the last 40 years. This trend, however, could realistically level off at any time or even slightly rebound.

The Township is mostly zoned Agricultural (A District). However, a large area of "A-1" Urban Expansion Area has been identified around the City of Edgerton. In addition, the township also has "RA" Rural Residential Districts and "I" Industrial Districts.

| **Table 5I: Osborne** | **1960** | **1970** | **1980** | **1990** | **2000** |
|---|---|---|---|---|---|
| Population | 500 | 450 | 454 | 370 | 324 |
| Households | 118 | 102 | 128 | 113 | 116 |
| **Population Projections** | **2005** | **2010** | **2015** | **2020** | **Change** |
| Slow Annual Decline | 313 | 302 | 291 | 280 | -44 |
| Based on the last 40 years | 212 | 190 | 168 | 146 | -88 |
| Slow Annual Growth | 335 | 346 | 357 | 368 | 44 |
| **Households Based on 2.79 People** | **2005** | **2010** | **2015** | **2020** | **Change** |
| Slow Annual Decline | 116 | 116 | 116 | 116 | 0 |
| Based on the last 40 years | 116 | 116 | 115 | 115 | -1 |
| Slow Annual Growth | 116 | 116 | 116 | 117 | 1 |

# Map 5I: Osborne Township
# Current Zoning

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A - Agriculture
A1 - Urban Expansion
RA - Rural Residential
HC - Highway Commercial
I - Industry
Special Protection (overlay)

Rivers and Streams
Drainage Ditches
Unpaved Roads
Paved Roads
Railroad
Section Lines
City Streets

U.S. Highway
State Highway
County Road
Church
1-36 Section Number

## Rock Township

***Location:*** Northeast Central

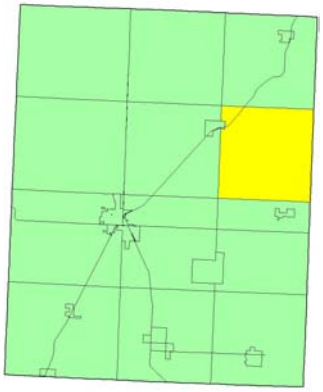
***Population:*** 184

***Households:*** 70

***Major Roads:*** State Highway 23, County Roads 6, 7, 8 and 16

***Water Features:*** Rock River and the East Branch of the Rock River

***Special Features:*** Portion of the City of Holland

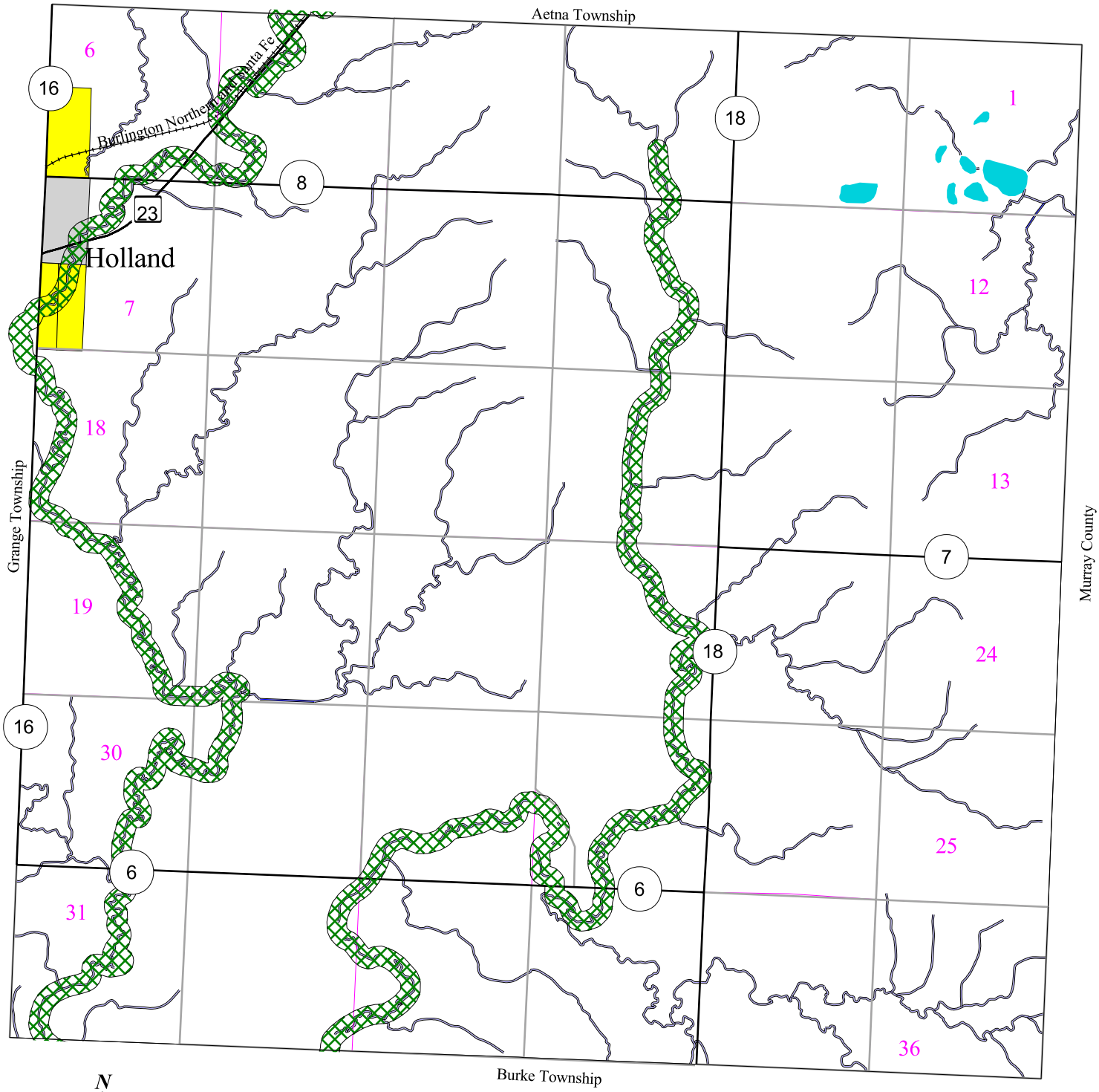


Rock Township's 2000 population of 184 people makes it Pipestone County's least populated township. Table 5J reveals that Rock Township experienced a steady population decline from 1960 to 2000, decreasing from 394 residents to 184. Table 5J, also reveals that Rock Township continually lost households from 1960 to 1990, going from 95 to 69. This trend leveled off by 2000, with the township officially gaining one household. Based on the Township's historic population change since 1960, the Township could lose approximately 105 additional residents, leaving only 79 people in the Township. In addition, over the next 20 years it could lose another 13 households, bringing the total number to 57. This trend, however, could realistically level off at any time or even slightly rebound.

Zone "A" for Agricultural District makes up most of Rock Township. However, small areas of "A-1" Urban Expansion Area has been identified on the north and south borders of the community of Holland.

| **Table 5J: Rock** | **1960** | **1970** | **1980** | **1990** | **2000** |
|---|---|---|---|---|---|
| Population | 394 | 306 | 261 | 209 | 184 |
| Households | 95 | 79 | 77 | 69 | 70 |
| **Population Projections** | **2005** | **2010** | **2015** | **2020** | **Change** |
| Slow Annual Decline | 171 | 158 | 144 | 131 | -53 |
| Based on the last 40 years | 158 | 132 | 105 | 79 | -105 |
| Slow Annual Growth | 197 | 210 | 223 | 237 | 53 |
| **Households Based on 2.63 People** | **2005** | **2010** | **2015** | **2020** | **Change** |
| Slow Annual Decline | 68 | 67 | 65 | 64 | -6 |
| Based on the last 40 years | 67 | 64 | 60 | 57 | -13 |
| Slow Annual Growth | 72 | 73 | 75 | 77 | 7 |

# Map 5J: Rock Township
# Current Zoning

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Pipestone County Zoning Districts
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A1 - Urban Expansion
RA - Rural Residential
HC - Highway Commercial
I - Industry
Special Protection (overlay)

Rivers and Streams
Drainage Ditches
Unpaved Roads
Paved Roads
Railroad
Section Lines
City Streets

U.S. Highway
State Highway
County Road
Church
1-36 Section Number

## Sweet Township

***Location:*** Southwest central bordering Moody County South Dakota

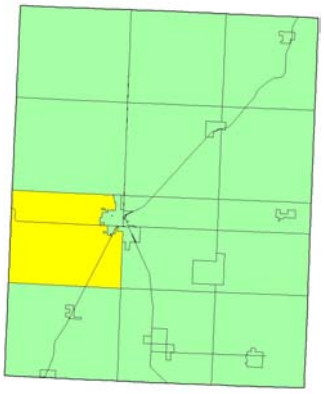
***Population:*** 448

***Households:*** 127

***Major Roads:*** State Highway 23 and 30, County Roads 5, 13 and 15

***Water Features:*** Pipestone Creek and the North and South Branches of Pipestone Creek

***Special Features:*** Portion of the City of Pipestone

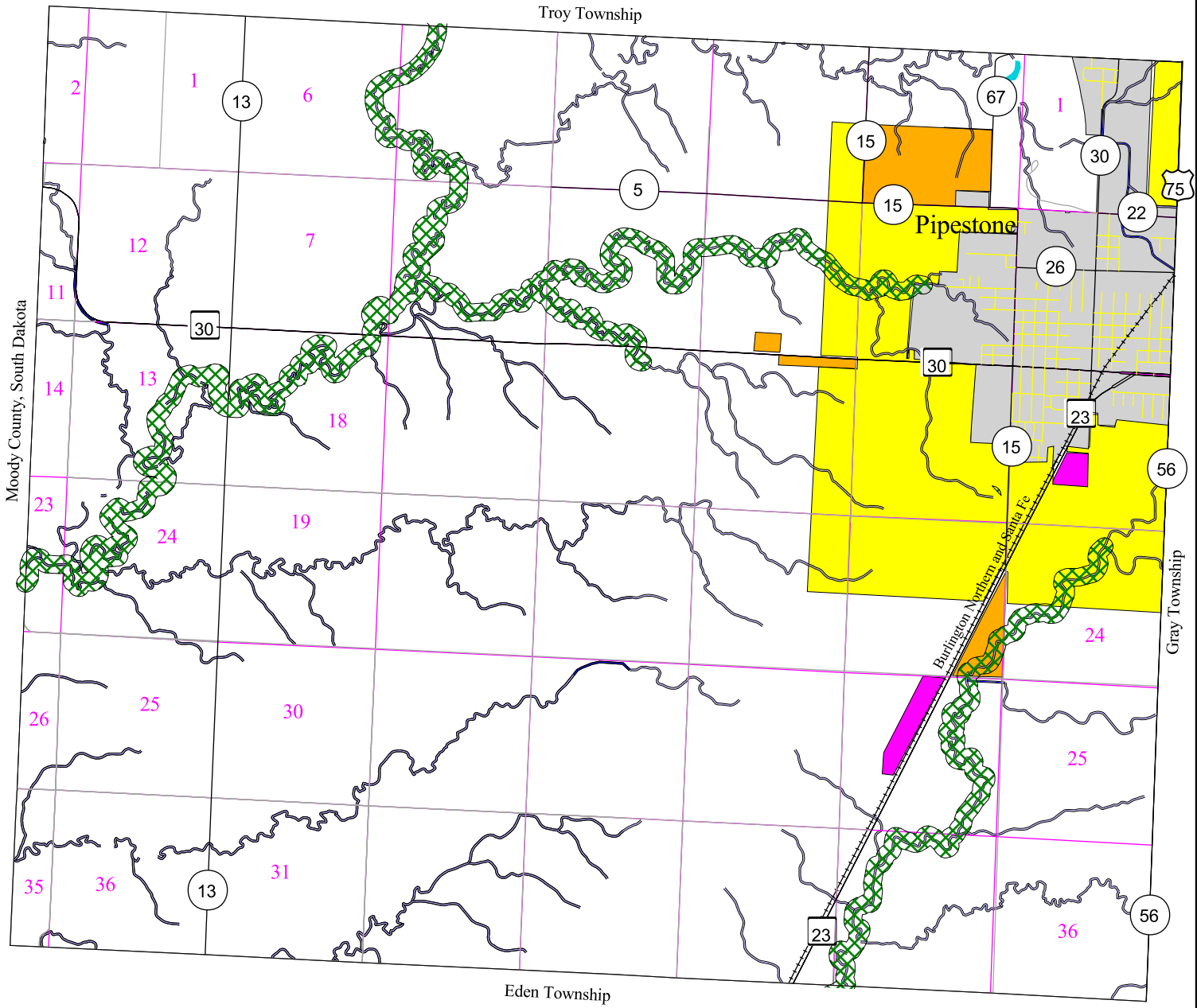


Sweet Township's 2000 population of 448 people makes it Pipestone County's highest populated township. Table 5K reveals that Sweet Township has experienced both population declines and increases from 1960 to 2000, going from 483 residents in 1960 to 406 residents in 1970. From there, the population increased to 420 in 1980 and then dropped to its lowest 40-year total of 380 in 1990. By 2000 however, the population climbed back up to 448, its highest level since 1960. Table 5K also reveals that Sweet Township lost some households from 1960 to 1970 but has held fairly stable since then with 127 in 2000 (its highest 40-year total tying with 1980). Based on the Township's historic population change since 1960, the Township could lose approximately 18 residents but gain 4 households before 2020.

The majority of Sweet Township is zoned "A" Agricultural District. However, since a large portion of the City of Pipestone exists within the Township, a large "A-1" District has been identified by the County that allows for Agricultural land to be used as an Urban Expansion Area.

| **Table 5K: Sweet** | **1960** | **1970** | **1980** | **1990** | **2000** |
|---|---|---|---|---|---|
| Population | 483 | 406 | 420 | 380 | 448 |
| Households | 119 | 116 | 127 | 123 | 127 |
| **Population Projections** | **2005** | **2010** | **2015** | **2020** | **Change** |
| Slow Annual Decline | 439 | 431 | 422 | 413 | -9 |
| Based on the last 40 years | 444 | 439 | 435 | 430 | -18 |
| Slow Annual Growth | 129 | 132 | 134 | 136 | 9 |
| **Households Based on 3.53 People** | **2005** | **2010** | **2015** | **2020** | **Change** |
| Slow Annual Growth | 128 | 128 | 129 | 129 | 2 |
| Based on the last 40 years | 128 | 129 | 130 | 131 | 4 |
| Fast Annual Growth | 129 | 130 | 132 | 133 | 6 |

# Map 5K: Sweet Township
# Current Zoning




N
W
E
S
Southwest Regional Development Commission
Focused on Southwest Minnesota

Miles
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Lakes & Wetlands
Municipalities

Pipestone County Zoning Districts
A - Agriculture
A1 - Urban Expansion
RA - Rural Residential
HC - Highway Commercial
I - Industry
Special Protection (overlay)

Rivers and Streams
Drainage Ditches
Unpaved Roads
Paved Roads
Railroad
Section Lines
City Streets

U.S. Highway
State Highway
County Road
Church
1-36 Section Number

## Troy Township

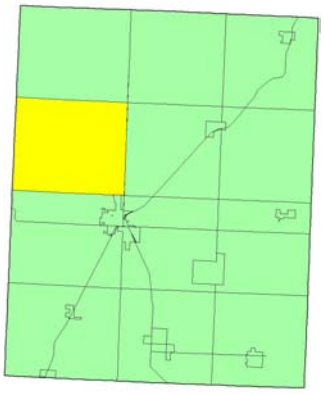
***Location:*** Northwest central bordering Moody County South Dakota

***Population:*** 318

***Households:*** 110

***Major Roads:*** U.S. Highway 75, County Roads 7, 13 and 15

***Water Features:*** Pipestone Creek and the North and South Branches of Pipestone Creek



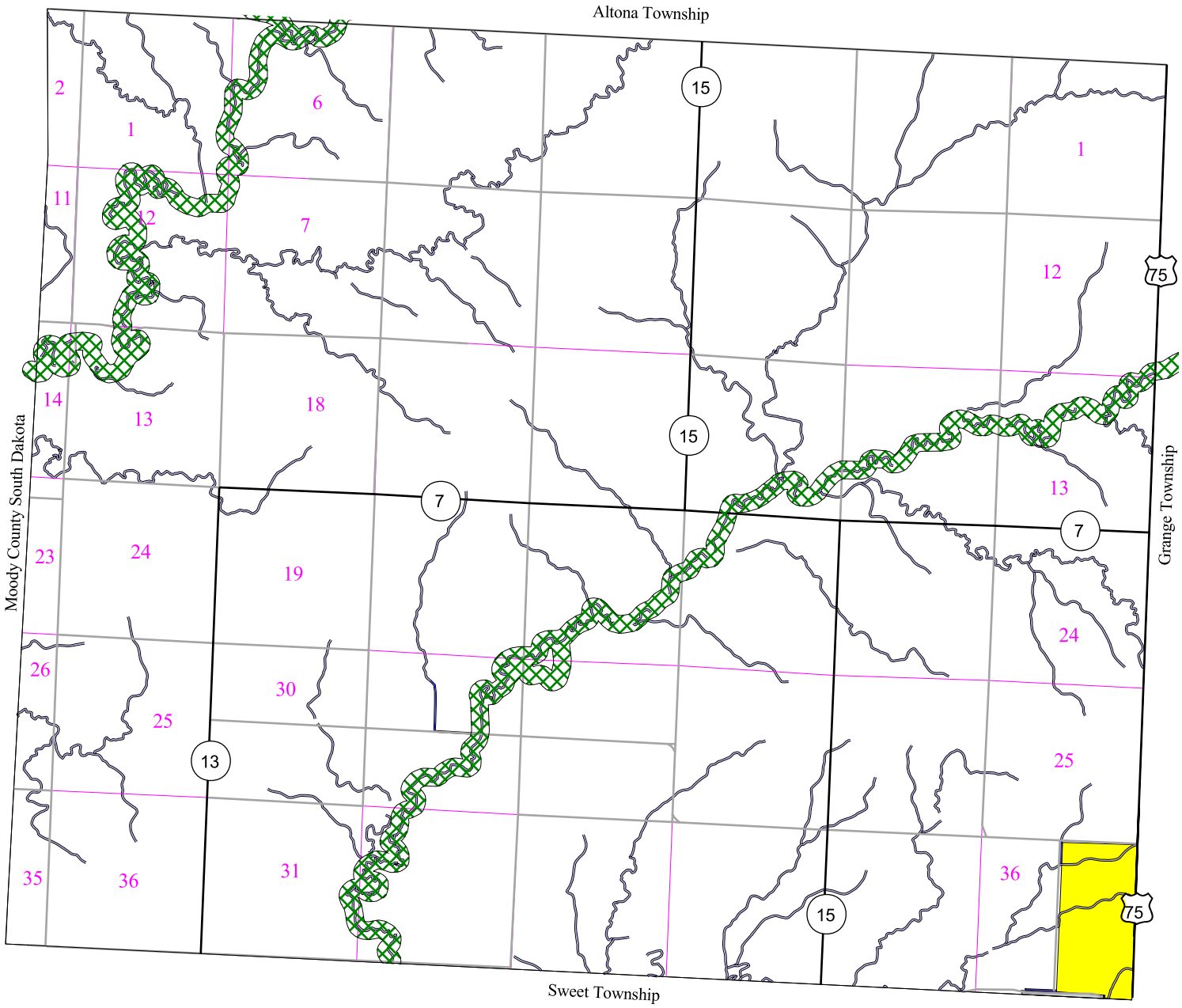
***Special Features:*** Very small portion of the City of Pipestone (northern most border)

Troy Township's 2000 population of 318 people makes it Pipestone County's third highest populated township. Table 5L reveals that Troy Township has experienced steady population declines from 1960 to 2000, going from 455 residents in 1960 to 318 residents in 2000. Table 5L, also reveals that Troy Township lost some households from 1960 to 2000, but for the most part has held fairly stable. The township has lost only 6 households since posting highs in 1960 and 1980 of 116 total households. Based on the township's historic population change since 1960, the township could lose approximately 69 residents and 3 households. This trend could realistically level off at any time, however, and may even begin to slightly rebound.

The Township is zoned almost entirely Agricultural (A District). A small portion of "A-1" Urban Expansion Area, however, has been identified above the north/northwest border of the City of Pipestone.

| **Table 5L: Troy** | **1960** | **1970** | **1980** | **1990** | **2000** |
|---|---|---|---|---|---|
| Population | 455 | 401 | 365 | 328 | 318 |
| Households | 116 | 109 | 116 | 106 | 110 |
| **Population Projections** | **2005** | **2010** | **2015** | **2020** | **Change** |
| Slow Annual Decline | 309 | 301 | 292 | 284 | -34 |
| Based on Last 40 years | 301 | 284 | 266 | 249 | -69 |
| Slow Annual Growth | 327 | 335 | 344 | 353 | 35 |
| **Households Based on 2.82 People** | **2005** | **2010** | **2015** | **2020** | **Change** |
| Slow Annual Decline | 109 | 109 | 109 | 108 | -2 |
| Based on Last 40 years | 109 | 109 | 108 | 107 | -3 |
| Slow Annual Growth | 110 | 111 | 111 | 112 | 2 |

# Map 5L: Troy Township
# Current Zoning



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# Chapter Six:
# Goals, Objectives, Policy Guidelines & Action Steps

This Chapter of the Comprehensive Plan establishes Pipestone County's goals, objectives and policy guidelines. They will be used to help make land use and planning decisions by everyone responsible for the County's future. The goals have been organized into eight topic areas. These areas are similar to the eleven ones established by the Community-Based Planning Act, which was passed by the State of Minnesota in 1997 (some of the eleven were combined into the other eight). The eight goals are used as a framework for the objectives and policy guidelines which, in turn, provide specific information on how decisions will be made by County officials on a day-to-day basis. If a policy guideline identifies that the County should proactively be doing something (rather than a pure policy statement), an action step follows the guideline. Each action step identifies who is responsible, when it should be completed, and how much it will approximately cost (i.e., who, when, cost, etc.).

Throughout the Comprehensive Plan, goals, objectives and policy guidelines are defined in the following way:

**Goal:** This is an idealistic statement intended to be attained at some undetermined future date. Goals are purposely general in nature.

**Objective:** Objectives are action-oriented and can be measurable if a date, dollar amount, etc. is included. Objective statements always begin with an action verb. There may be more than one objective for a goal.

**Policy Guideline:** These statements support the action of the objective. The statements are recommendations qualified by the word "should". Policy guidelines can also be converted into action work plans.

## Action Steps Acronyms & Definitions

**CB** = County Board
**SWCD** = Soil & Water Conservation District
**EDA** = Economic Development Authority
**TWNS** = Township Boards
**NRCS** = Natural Resources Conservation Service
**USFWS** = US Fish and Wildlife Service
**MPCA** = Minnesota Pollution Control Agency
**PC** = Planning Commission
**P&Z** = Planning & Zoning Office
**CE** = County Engineer
**Cities** = Pipestone County's Cities
**FSA** = Farm Service Agency
**DNR** = Dept. Natural Resources
**DH** = Dept. Health

**Ongoing** = The action step does not have a clear starting and ending point

**Annually** = The action step should be conducted *and reviewed* annually

**Year (i.e., 2005)** = The action step should be completed by the identified year

**$1,500** = The action step should cost approximately $1,500 in the identified time-frame

**Goal One: Citizen Participation and Intergovernmental Cooperation**

To promote cooperation among citizens, governmental units and agencies to work toward the most efficient, cost-effective and successful delivery of services

Objective A: Keep the public advised of important planning issues and events.

Guideline 1: The media should be sent copies of all agendas and be notified regarding any special meetings (P&Z).

Guideline 2: The media should be explained the nature and consequences of important planning issues (P&Z).

Guideline 3: Use the Internet and other multi-media, when feasible, to keep the public informed on key County activities and issues (P&Z).

Guideline 4: The County should hold public meetings periodically to identify issues and to discuss the nature of important planning issues (CB, PC).

Guideline 5: The County Board should appoint Task Forces to properly address key issues (CB).

Guideline 6: Residents should have ample time to provide input into important community decisions (CB).

Objective B: Use the Planning Commission to advise the County on issues of growth and development.

Guideline 1: Members should have a wide variety of experiences and should represent a geographical, demographic and cultural balance of the County (CB).

Guideline 2: The Planning Commission should meet with the County Board at least annually to discuss important planning and zoning issues (PC).

Objective C: Proactively work with governmental agencies to equitably administer various statutes, regulations and County Ordinances.

Guideline 1: The Comprehensive Plan should identify issues, goals, objectives, policy guidelines and action steps.

Guideline 2: The County should periodically review and update the Comprehensive Plan (at least once every two years) to establish a framework within which governmental, public and private interests can effectively follow clear policies (CB).

Guideline 3: Government programs and ordinances should be coordinated among units of government so they are efficiently provided to the public (P&Z).

Objective D: Meet on a regular basis as needed with local units of government, including cities, townships and various governmental agencies.

Guideline 1: The County should host an annual public meeting and invite local governmental units (i.e., cities and townships) to discuss important planning issues and to determine what should be done to work together to solve any problems (P&Z, PC).

Guideline 2: Cities and townships should be consulted on major land use issues and decisions, especially ones that affect land in designated Urban Growth Areas or land that is adjacent to the Cities (P&Z).

Guideline 3: Assistance should be provided to municipalities and townships, where necessary, in implementing planning goals and sustainable development activities (P&Z).

## Goal Two: Economic Development

To create sustainable economic development strategies that retain, enhance and create economic opportunities

Objective A: Encourage the expansion, continuation and development of business, technology, housing and tourism.

Guideline 1: An inventory of existing business and housing needs and trends should be made periodically (P&Z, EDA).

Guideline 2: Encourage business and residential developments that are environmentally friendly (P&Z).

Guideline 3: Businesses should be given planning assistance to expand or improve their operations, including the awareness of existing financing tools (EDA).

Guideline 4: Redevelopment and reclamation of existing commercial and industrial areas should take priority over creating new developments, when feasible.

Guideline 5: Marketing strategies should be encouraged that promote the use of goods and services produced or provided in the County (EDA).

Guideline 6: Marketing strategies should be developed that promote the County as a place to work and live, focusing on available commercial and residential lots (EDA).

Guideline 7: Encourage local government units to develop and plan for infrastructure necessary to retain and expand businesses (EDA).

Guideline 8: Groundwater supply limitations should be recognized and evaluated prior to major development (EDA).

Guideline 9: Businesses should be encouraged to implement sustainable business practices (EDA).

Guideline 10: Agricultural activities should be considered an existing industry and plans should be implemented to promote agricultural related business.

Guideline 11: Assistance in retaining or expanding existing businesses should be emphasized (EDA).

Guideline 12: Business and industrial expansion should be encouraged in existing municipal areas in an effort to preserve agricultural land and natural resources (PC, CB, P&Z).

Objective B: Encourage a diversified type and number of businesses.

Guideline 1: A diversified tax base offering a large number and wide variety of employment opportunities at different education and skill levels should be promoted.

Guideline 2: Recruitment of new business and industry should take into consideration its size, type, wage, jobs, utility demand and compatibility with existing land uses and natural resources (EDA).

Guideline 3: Efforts should be made to attract new industrial and commercial businesses that pay a liveable wage (EDA).

Guideline 4: Encouragement and preference should be given to industrial and commercial interests with long-range commitment to the County.

Guideline 5: Farmers should be encouraged to diversify and add value to commodities (i.e., bio-fuels, specialty products, etc.).

Objective C: Promote tourism as an existing and growing industry.

Guideline 1: Programs, activities and events that draw visitors to Pipestone County should be encouraged.

Guideline 2: A diversified range of recreational activities for every season should be identified and promoted (EDA).

Guideline 3: Promotion of tourism should include provisions for protecting the County's natural resources.

Guideline 4: Tourism should be coordinated with existing entities, such as State parks and trails (EDA).

Guideline 5: Residential development near Wildlife Management Areas and Waterfowl Production Areas should be discouraged by establishing buffer zones for gun safety and habitat purposes (PC, CB, P&Z).

Guideline 6: The County's primary entrance corridors should portray a positive image of Pipestone County with proper signage, a County theme, etc. (EDA, $5,000).

Guideline 7: The County's hunting opportunities should be promoted as a tourism opportunity EDA).

Guideline 8: The County should pursue the promotion of wildlife and bird watching with assistance from the Minnesota DNR Nongame Wildlife Program (P&Z).

Objective D: Help develop and improve the human and natural resources of the County.

Guideline 1: Efforts should be made to prevent the out-migration of area youth and to best utilize the older citizens of the community.

Guideline 2: Planning should occur to protect scenic and environmentally sensitive areas, especially the National Monument and Split Rock Creek State Park (PC, CB, P&Z).

Guideline 3: The County and private enterprise should work together to achieve and retain a skilled and highly trained labor force.

Guideline 4: "Quality of life" indicators should be recognized as measures of the County's economic success.

Guideline 5: The County should actively seek funds for a variety of business, people and natural resource needs (EDA).

Guideline 6: Planning should occur to protect agricultural lands as a natural and economic resource (PC, CB, P&Z).

**Goal Three: Natural Resources**

To protect, preserve and enhance the area's natural resources, including agricultural land, wooded areas, water (both surface and groundwater), native vegetation, native prairie, scenic areas and significant historic sites.

Objective A: Create standards for environmental protection.

Guideline 1: Land use activities should not greatly impact the area's unique or sensitive natural resources (PC, CB, MN DNR).

Guideline 2: Land use plans and ordinances should encourage the preservation of prime agricultural land, wetlands, wooded areas, native prairie areas and other unique natural resources (PC, CB).

Guideline 3: The County should make land use decisions that help to protect aggregate resources with an emphasis on minimizing residential and environmental conflicts (PC, CB).

Guideline 4: The disturbance or removal of natural resources, such as mining, should be performed in a manner that will minimize the impact on the environment and efforts should be made to return those disturbed areas back to an original or environmentally beneficial state that is compatible with the surrounding landscape (PC, CB, P&Z).

Guideline 5: All gravel pits should have closure requirements and reclamation plans that are closely monitored and enforced by the County (P&Z, PC, CB).

Guideline 6: Care should be taken to minimize the disturbance of fragile eco-systems.

Objective B: Reduce priority pollutants to acceptable levels (i.e., soil erosion, storm water, wastewater, etc.).

Guideline 1: Point and non-point pollution sources should be identified and abated, especially in wellhead protection areas (P&Z, SWCD).

Guideline 2: The County should support the proper location, design, installation and maintenance of septic systems..

Guideline 3: Managed/cooperative wastewater treatment systems should be encouraged in rural areas with high-density housing (P&Z).

Guideline 4: Work cooperatively with cities to develop and implement storm water management plans (SWCD).

Guideline 5: Recycling programs should be encouraged, supported, and altered to meet the public needs and increase recycling rates. (P&Z, SWCD).

Guideline 6: Voluntary septic inspections should be promoted to determine eminent health threats (P&Z).

Guideline 7: The County should assist with developing manure application plans. (P&Z, SWCD, Extension, annually, $5,000).

Guideline 8: The County should help promote programs that can help minimize soil erosion (SWCD).

Guideline 9: Construction sites should be protected with temporary and permanent erosion control measures (P&Z, SWCD).

Guideline 10: A Residue Management Transect Survey should be completed annually in order to log tillage trends and estimate erosion rates (SWCD, annually, $2,000).

Guideline 11: Erosive areas should be protected with appropriate conservation measures (SWCD).

Guideline 12: All projects should be held accountable for minimizing water runoff and soil erosion (SWCD).

Guideline 13: Land use practices should be implemented that minimizes runoff (SWCD).

Guideline 14: The County should provide incentives to landowners to plant native trees and shrub species that will provide protection from blowing and drifting snow (SWCD, CE).

Guideline 15: Landowners should be given incentives to plant buffer strips (SWCD).

Guideline 16: State cost-share programs should be used to assist in the installation of conservation practices(SWCD, annually, $20,000).

Guideline 17: The County should apply for grant dollars and utilize the Agriculture Best Management Practices (BMP) Loan Program to assist in BMP implementation (SWCD, annually $100,000).

Guideline 18: The County should proactively participate in getting waters off the MPCA's Total Maximum Daily Load (TMDL) listing of impaired waters. Current listings include the Redwood River, Pipestone Creek, Split Rock Creek and Rock River. Assistance should also be provided to complete a TMDL study and implementation plan for the Redwood River and Split Rock Creek (P&Z, SWCD, ongoing).

Guideline 19: The County should actively pursue implementation dollars to complete goals, objectives, and actions identified within TMDL implementation plans. Currently plans are approved for Pipestone Creek and Rock River. (SWCD, annually, $300,000).

Guideline 20: The County should continue pursuing the development of a Household Hazardous Waste Facility with improved and more economical methods of collection, processing and disposal of Hazardous Waste and recyclable materials (CB, by 2011, $250,000).

Guideline 21: The County should cooperate to inventory and prioritize potential contaminant sources, such as conducting a buffer study, Level III Feedlot Inventory, SSTS inventory, etc. (P&Z, SWCD, ongoing, $10,000).

Guideline 22: Feedlot compliance inspections should be conducted annually on 10% of all feedlots or approximately 50 per year (SWCD, P&Z; ongoing; $25,000).

Guideline 23: The County will pursue funds to complete four high priority feedlot runoff plans annually (SWCD, P&Z; $20,000 for staff and $80,000 for projects annually). It is estimated that approximately 30 feedlots need assistance.

Guideline 24: The County should work with unsewered communities (City of Trosky) and other unsewered cluster developments to bring them into compliance with 7080 rules.(P&Z, MPCA, City of Trosky 2010 Cluster developments 2011).

Objective C: Enhance the quantity and quality of surface water resources.

Guideline 1: Ordinances should be implemented that regulate land use near surface water, wellhead protection areas, wetlands, and flood plains (PC, CB).

Guideline 2: Water retarding and flood control structures and practices should be encouraged and implemented (SWCD, MN DNR, USFWS, NRCS, FSA).

Guideline 3: Conservation programs, such as conservation tillage, pest and nutrient management, buffer strips, pasture management, and wetland restorations, should be promoted county wide, especially in sensitive areas. (SWCD, MN DNR, USFWS, NRCS, FSA).

Guideline 4: The County should work closely with watershed organizations and Clean Water Partnerships in an effort to protect water resources (P&Z, SWCD).

Guideline 5: Integrated watershed management activities should be encouraged.

Guideline 6: The County should work with willing landowners on restoring natural water management resources, where appropriate (SWCD).

Guideline 7: Wetland preservation activities should be encouraged in response to a demonstrated need and as a part of a complete natural resource management effort which considers water conservation, recreation and preservation of wildlife habitat (SWCD, MN DNR, USFWS, NRCS, FSA).

Guideline 8: Increased emphasis should be placed upon shoreland, flood plain and watershed plans and regulations in an effort to preserve these environmentally sensitive areas.

Guideline 9: Encourage temporary retention and settling basins to enhance surface water quality (SWCD).

Guideline 10: Encourage the restoration of drained wetlands by willing landowners.

Guideline 11: The entire County should be designated as a high priority wetland area for the consideration of grants and the implementation of various programs. (MN DNR, USFWS, SWCD, NRCS, FSA)

Guideline 12: The Wetland Conservation Act should be enforced county wide to ensure a no net-loss of wetlands (SWCD; annually; $30,000)

Guideline 13: Surface water monitoring should be conducted on all waters to determine compliance with clean water standards. The county will submit any monitoring data to MPCA to help address impaired waters. (MN DNR, MPCA, SWCD, P&Z, annually, $10,000

Objective D: Enhance the quantity and quality of groundwater resources.

Guideline 1: Groundwater quality and quantity should be closely monitored (SWCD, DH).

Guideline 2: The County should examine developing a drought contingency plan (CB, $3,000).

Guideline 3: The County should continue to assist with the development and implementation of wellhead protection plans for Lincoln Pipestone Rural Water and the cities of Edgerton, Ruthton and Pipestone (SWCD, ongoing, $1,500 annually).

Guideline 4: The County should promote wellhead protection on all private wells and assist with implementation for those who are interested (SWCD, DH).

Guideline 5: The County should cost-share the proper sealing of abandoned wells at 50% with a maximum payment of $250 (SWCD, annually, $5,000).

Guideline 6: Water testing should be promoted and problems should be analyzed (P&Z, SWCD).

Guideline 7: Sensitive groundwater recharge areas should be identified and proactively protected (PC, CB, SWCD, DH).

Objective E: Raise public awareness on a number of key natural resource issues.

***Pease refer to "Goal Eight: Public Awareness" at the end of this Chapter***

## Goal Four: Housing

To an maintain and promote an adequate supply of housing for people of all ages and incomes

Objective A: Help assure an adequate and affordable housing supply that provides a convenient, safe and aesthetically appealing living environment.

Guideline 1: The County should consult and cooperate with appropriate agencies on important housing-related issues (EDA).

Guideline 2: Encourage preservation and, where necessary, rehabilitation of existing housing stock, if economically feasible.

Guideline 3: The County should conduct and/or participate in various housing studies periodically to assess the quality, quantity, type and need for housing (EDA).

Guideline 4: The County should create clear development standards for new residential subdivisions, including clear storm water management requirements (PC).

Objective B: Establish greater cooperation between the public and private sector.

Guideline 1: Existing public and private institutions should be involved in housing efforts as much as possible.

Guideline 2: Residential subdivisions should be encouraged to occur in areas that are or will soon be supplied with municipal services to preserve the rural character of the County (PC, CB, P&Z).

Guideline 3: Prime residential land should be identified countywide (P&Z, PC).

Guideline 4: Cluster development should be encouraged, where appropriate (P&Z, PC).

Guideline 5: Subdivision policies should be reviewed periodically to ensure that safe, efficient and aesthetically pleasing housing designs are encouraged (PC).

## Goal Five: Transportation

To provide and preserve a balanced mix of transportation options that safely and efficiently move people and goods

Objective A: Support a public and private balanced transportation system that encompasses air, highway, rail, public transit and pipeline systems which economically move people and products.

Guideline 1: The planning for the transportation system should focus on helping meet the County's economic and social needs (CE).

Guideline 2: The consideration of both direct and indirect impacts should be evaluated for each major transportation project (CE).

Guideline 3: Public transportation and ride sharing should be given a high priority.

Guideline 4: Consideration should be given to the aging and disabled populations when designing transportation programs (CE).

Guideline 5: Pedestrian and bicycle facilities should be implemented to help provide balance to the transportation system. The use of under- or overpasses should be considered where feasible.

Guideline 6: Long range planning should address a variety of transportation issues, with special consideration given to issues associated with inter-regional corridors (PC,CE).

Guideline 7: Planning and design standards should address both the aesthetic and functional needs of the County (CE).

Guideline 8: Flood control benefits should be incorporated into future road and bridge enhancements, when feasible (CE).

Objective B: Encourage the maintenance, reconstruction and construction of a highway and street system capable of providing for the safe, convenient and economical movement of persons and commodities.

Guideline 1: Highway and street improvements should include consideration for sidewalks, lighting and beautification.

Guideline 2: Safety improvements, including signing or traffic lights at intersections with high traffic volume should be made in anticipation of problems rather than in reaction to them (CE).

Guideline 3: The County should continue to seek funds for the funding of bridge replacements (CE).

Guideline 4: Programs or projects with the potential for reducing damage to highways caused by frequent heavy loads should be encouraged and supported.

Guideline 5: Programs or projects designed to improve highway safety should be supported, including ones to lesson highway congestion.

Guideline 6: The County should coordinate the placement of signs in an effort to keep Pipestone County safe and attractive (P&Z).

Guideline 7: The County should evaluate the County's roadway system to possibly better serve the residents of Pipestone County by transferring jurisdictional responsibilities of certain roadways in response to changing population densities throughout the County. This is referred to as a jurisdictional study and one should be completed every five years or as needed (CE, PC, TWNS).

Objective C: Invest strategically in transportation infrastructure to enhance the vitality of the County.

Guideline 1: Priority should be given to the preservation and maintenance of the existing transportation system.

Guideline 2: Current and planned right-of-ways for transportation system improvements should be identified and preserved (CE).

Guideline 3: The County should work with the townships, cities, neighboring counties and Mn/DOT to plan for an orderly regional transportation system while maintaining control over the transportation system within the County (CE).

Guideline 4: Transportation services should be developed that are consistent with local land use plans as well as with other development plans (CE, P&Z).

Guideline 5: A transportation system should be provided that encourages employment growth, economic productivity and fosters economic competitiveness (CE, EDA).

Guideline 6: Public and private partnerships in all forms of transportation investments should be encouraged.

Guideline 7: Recreational trails should be an important part of the overall transportation plan and should be developed and/or enhanced where needed (CE).

Guideline 8: Cul-de-sac development should be discouraged to help maintain a system of interconnected roads unless they are the only feasible option.

Guideline 9: Consideration should be given to classify appropriate segments of County Roads and Trunk Highways as scenic with planted areas to buffer developed land.

Objective D: Develop and implement access management guidelines to protect the integrity of the designed roadway system.

Guideline 1: Land use guidelines, zoning ordinances and subdivision ordinances should be amended to include access management standards. These standards should be developed for each functional level of roadways in the County (PC).

Guideline 2: Land use along major transportation corridors should be carefully planned to minimize future access management problems.

Guideline 3: All new developments should mitigate impacts directly related to new access points (P&Z).

Guideline 4: Access management regulations should take into account the design needs of larger agricultural equipment and heavy commercial vehicles where appropriate (CE).

Guideline 5: New private direct access to the County's major highways should be strongly discouraged. Adjacent roadways should be used whenever applicable (CE, CB).

Objective E: Develop a safe and financially responsible transportation plan (CE).

Guideline 1: Create a roadway management system with a consistently updated comprehensive inventory of roadways and bridges to assist in the prioritization of projects (CE).

Guideline 2: A multi-year road improvement program should be created as part of a capital improvement program to include maintenance, safety upgrading, paving and reconstruction work prioritized by year along with costs and methods of financing (CE).

Guideline 3: Transportation impacts should be examined before land use decisions are made, including the decision if the existing roadways are suitable for the proposed land use or if improvements will be needed (P&Z, CE).

Guideline 4: Efficiency in transportation services should be encouraged or promoted.

Guideline 5: The location of commercial and industrial development should be encouraged in areas that avoid through traffic in residential areas.

Guideline 6: Decisions on roadway characteristics should be based on current and anticipated land use trends (CE).

Guideline 7: Rural development should be encouraged to locate near appropriate transportation corridors (PC, CE).

Guideline 8: Gravel roads should be recognized as ideal in many rural situations.

Guideline 9: Safety should always be the top priority in transportation planning.

Objective F: Support the maintenance and improvement of a railroad system capable of safe, convenient, economical and timely movement of people and commodities.

Guideline 1: Truck and rail inter-modalism for agricultural products should be encouraged.

Guideline 2: Safety improvements should be supported at railroad crossings where the improvements are warranted.

Guideline 3: Private enterprise should be encouraged to work closely with government and the railroad companies to improve railroad lines, facilities and equipment.

Guideline 4: Brush and other potential site obstructions at rail crossings should be evaluated and cleared if deemed necessary for safety (CE).

Guideline 5: Set-back distances from the rail line should be increased for future industrial areas to help facilitate future rail expansion to these facilities (PC).

Objective G: Encourage the improvement of air transportation services and facilities.

Guideline 1: Support improvements to the Pipestone Municipal airport.

Guideline 2: The County should encourage airport zoning to help ensure that compatible land use decisions are made, including the height of structures (PC).

Objective H: Help support the long-range vision of the U.S. Highway 23 Interregional Corridor in order to preserve the corridor as a vital economic link for Pipestone County and western Minnesota.

Guideline 1: Pipestone County will work with Mn/DOT to develop an access management plan for the Highway 23 corridor in Pipestone County in order to improve the safety of the roadway and to help maintain the travel time for the corridor. As a part of that access management plan, the location of future frontage/backage roads will be shown so that future development will not inhibit the County's ability to grow along Highway 23 and likewise will not compromise the access management strategy of Mn/DOT for Highway 23 (CE).

Guideline 2: Pipestone County should work with Mn/DOT to develop a set-back ordinance for future development along the corridor that will allow sufficient room along Highway 23 to expand the corridor should conditions warrant it (PC).

Guideline 3: As new development occurs along Highway 23, Pipestone County will work with developers to extend local parallel roadway infrastructure out to the developments (PC).

Guideline 4: Pipestone County encourages and supports Mn/DOT's efforts to maintain Highway 23 at a condition level higher than other principal arterials because of its interregional corridor nature.

Guideline 5: Pipestone County will partner with Pipestone County and Mn/DOT to identify ways to improve the safety of U.S. Highway 23 in balance with the need to maintain the mobility function of Highway 23 (CE).

**Goal Six: Land Use Planning**

To establish a community-based land use process that recognizes that we have the responsibility and tools to shape good land use decisions while setting clear guidelines and treating people fairly

Objective A: Encourage a balanced and harmonious use of land consistent with natural features and socio-economic factors.

Guideline 1: The County's Zoning Ordinances should be reviewed periodically and updated as needed (P&Z, PC, CB, ongoing, $5,000).

Guideline 2: Efficient and functional municipal growth and development should be encouraged to help minimize urban sprawl (PC, Cities).

Guideline 3: Adjacent local units of government and State agencies should be consulted on important land use issues (P&Z).

Guideline 4: Urban growth boundaries should be identified and planning should occur to account for growth in those boundaries (Cities, TWNS, P&Z, PC).

Guideline 5: The process of orderly annexation should be done in conformance with current and future land use plans (Cities, TWNS, PC).

Guideline 6: High-density residential growth should occur in areas that adequate infrastructure, such as public sewer and water (Cities, TWNS, PC).

Guideline 7: Commercial and industrial growth or expansion should occur near existing commercial and industrial areas and should occur where sewer, water and other municipal services are available or soon will be available (PC, Cities).

Guideline 8: New high-density development should be located in urban growth areas to help minimize urban sprawl and to help preserve the rural character of the surrounding landscape (Cities, PC).

Guideline 9: Strong consideration should be given to redeveloping and intensifying the use of already developed areas, especially as related to commercial and industrial growth (Cities, PC).

Guideline 10: Consider the impact of land uses upon unique scenic areas when making land use and zoning decisions.

Guideline 11: Open space planning and conservation subdivisions should be encouraged (PC).

Guideline 12: Off-premise advertising signs should be regulated to maximize public safety (PC, P&Z).

Guideline 13: Zoning regulations should be encouraged that protect prime agricultural land from urban growth and non-agricultural growth (PC).

Guideline 14: Regulations for nuisances and pollutants should be closely monitored and enforced in an effort to provide for a safe and healthy living environment for all residents (P&Z).

Guideline 15: Consider the impact of land uses upon sensitive areas when making land use and zoning decisions (PC, CB).

Guideline 16: The placement and impacts of small and large Wind Energy Conversion Systems (WECS), distribution and feeder lines and sub-stations should be examined for multiple purposes, including the protection of scenic and cultural landscapes (PC, CB).

Guideline 17: Existing ground water data should be analyzed to assist in making land use decisions (P&Z).

Objective B: Assist in providing recreational and outdoor opportunities.

Guideline 1: Both active and passive recreation areas should be encouraged. (MN DNR, USFWS, SWCD, NRCS, FSA)

Guideline 2: Improvements of existing outdoor recreational facilities should be encouraged where necessary and/or possible.

Guideline 3: Recreational facilities should be planned on the basis of anticipated future population and overall needs.

Guideline 4: State and Federal programs should be used to help protect wildlife and fish habitat. (MN DNR, USFWS, SWCD, NRCS, FSA)

Objective C: Promote the preservation of land and structures that possess scenic, historic or unique value to County's residents.

Guideline 1: The County should actively identify land with scenic, historic and unique value and should develop a plan to successfully protect these areas (P&Z, PC).

Guideline 2: The Historical Society should be consulted on important planning issues to ensure that areas with historical significance are preserved (P&Z, PC).

Guideline 3: The County should work closely with the National Park Service on protecting the Pipestone National Monument, including providing comments on the Monument's draft General Management Plan in Fall 2004 (P&Z).

Objective D: Create a comprehensive and accurate Geographic Information System (GIS) database for the County to assist in land use decisions.

Guideline 1: The County should support future and expanded uses in GIS, this may include software upgrades, aerial flights, lidar, or layer creations.(CB, 30,000).

Guideline 2: A GIS needs assessment should be conducted and updated regularly (P&Z, $5,000).

Guideline 3: The County should maintain and distribute a Countywide parcel map (CB, $10,000).

Guideline 4: GIS data (i.e. biological surveys, wellhead protection areas, floodplains, etc.) should be used to assist in making land use decisions (P&Z, PC, CB).

Guideline 5: Current City Urban Growth Areas should be kept on file in the GIS database and displayed on the County's Zoning Map (Cities, P&Z).

Guideline 6: The County should maintain a database of wind turbine locations (P&Z).

Guideline 7: The County's current land use and zoning maps should be regularly updated (Cities, TWNS, P&Z).

## Goal Seven: Public Investments

To account for the full environmental, social, and economic costs of public investments while making the best use of existing infrastructure to minimize costs.

Objective A: Facilitate the development of basic infrastructure and services to as many of the residents of the County as possible without creating any substantial economic or environmental problems.

Guideline 1: The orderly development of streets and roads should be planned for and coordinated with the cities and townships (CE).

Guideline 2: The County should assist in providing quality and efficient law enforcement and emergency management to all residents.

Guideline 3: Sanitation and landfill management and development should be done to account for increased waste produced from new development and growth (P&Z).

Guideline 4: The County should work with State and Federal agencies to provide more access to recreation and open spaces for use by all residents and visitors.

Guideline 5: The County should support good telecommunication services but also encourage and promote co-location to minimize environmental impacts.

Guideline 6: The County should cooperate with cities and townships in developing mutually beneficial infrastructure.

Guideline 7: The County should work with State and Federal agencies to maximize compatible use of publicly owned lands (P&Z).

Objective B: Conduct capital improvements programming and budgeting to achieve desired types and levels of public facilities and services.

Guideline 1: A periodic inspection and maintenance schedule should be developed and implemented for all County property and facilities (CB).

Guideline 2: Plans for proposed new, upgraded or expanded services and facilities should be coordinated with applicable units of government and agencies.

Guideline 3: Public facilities and services should not be duplicated (PC, CB).

Guideline 4: The County's infrastructure should be analyzed in terms of maintenance versus replacement costs.

Guideline 5: A capital improvements plan analyzing short- and long-term needs should be updated regularly (CB).

Objective C: Promote safe rural sewer and water systems.

Guideline 1: Whenever feasible, areas should be extended the opportunity of being serviced by public sewer and water systems.

Guideline 2: The County should work with the Lincoln-Pipestone Rural Water in addressing adequate supply and water quality needs.

Guideline 3: The County should work with the townships in enforcing strong septic system controls (P&Z).

Objective D: Continue and support the maintenance of a Countywide ditch system.

Guideline 1: The ditch system should be maintained so that it effectively manages the movement of water using best management practices to minimize pollution and sediment (County Ditch Committee, SWCD).

Guideline 2: The installation of filter strips should be enforced where appropriate and encouraged elsewhere (County Ditch Committee, SWCD).

Guideline 3: The replacement of needed ditch tile should be evaluated and planned accordingly (County Ditch Committee, SWCD).

Guideline 4: The County should appoint a task force to examine the development of a drainage ordinance (CB, 2007, $4,000).

## Goal Eight: Public Awareness

To support research and provide information on the County's important fiscal, environmental and social issues.

Objective A: Increase public awareness on the County's key fiscal and social issues.

Guideline 1: The County should inventory and prioritize issues annually and developing strategies to raise public awareness on the priority issues (P&Z, PC).

Guideline 2: The County should create newsletters periodically to explain key issues and to promote existing programs and financial resources (P&Z, SWCD, annually, $1,500).

Guideline 3: The County should cooperate with townships on providing "rural living" handouts for potential new rural residents.

Objective B: Increase public awareness on the County's key environmental and water planning issues.

Guideline 1: The County should develop and use radio advertisements on a number Best Management Practices (SWCD, annually, $1,300).

Guideline 2: The County should continue to maintain and improve a countywide youth (and adult) curriculum on important environmental education (P&Z, annually, $4,000).

Guideline 3: Water conservation should be emphasized countywide and a K-12 education program should be developed (SWCD).

Guideline 4: An educational program on how land use activities affect water quality (both groundwater and surface water) should be developed (SWCD).

Guideline 5: The many benefits of wetland protection and restoration should be promoted (SWCD, MN DNR,USFWS, NRCS, FSA).

Guideline 6: Phase II storm water construction requirements (on projects over one acre in size) and general runoff education should be promoted (SWCD).

Guideline 7: Proper septic system design, operation and benefits to the environment should be promoted (SWCD, P&Z).

Guideline 8: The importance of recycling should be promoted (P&Z).

Guideline 9: Education efforts should be promoted regarding manure management, nutrient management and residue management plans, along with the application of other potential pollutants (SWCD, annually, $5,000).

Guideline 10: Water conservation education should be developed that focuses on reducing water usage through countywide water conservation plan (P&Z, SWCD).

Guideline 11: Existing wetland restoration programs should be promoted (SWCD, MN DNR, USFWS, NRCS, FSA).

Guideline 12: Educational programs that promote soil conservation should be offered (SWCD, annually, $3,000).

Guideline 13: The County should promote existing conservation programs and work with landowners on enrollment. Efforts should be initially focused on the County's environmentally sensitive areas (SWCD, $7,500, annually).

Guideline 14: The County should work with the DNR and other agencies on projects related to learning more about or providing public education on the County's threatened or endangered habitats and species (P&Z).

Guideline 15: Producer informational meeting should be held annually to educate and update producers on programs and requirements. Trainings may include nutrient management, manure economics, ejc. (P&Z, SWCD, $3,000, annually)

Guideline 16: Host an annual conservation tour. (SWCD, $2,000, annually)

# CHAPTER SEVEN:
# PLAN ADMINISTRATION

The Comprehensive Plan is an official planning and policy document for the County. Its primary purpose is to help guide land use decisions over the "life" of the Plan. However, without proper implementation, the goals, objectives and policy guidelines will have little impact on growth and development in Pipestone County. As a result, several implementation steps will need to be taken by the County in order to fulfill the commitments outlined in Chapter Six. To assist the County in the identification of these activities, Chapter Seven establishes a temporary work plan and outline for the County to follow. In addition this five-year "focus plan" is provided to serve as the primary water plans implementation section, although this entire comprehensive plan does serve as the County Water Management Plan.

## Plan Coordination

The Pipestone County Board is primarily responsible for implementing the provisions and activities set forth in this Comprehensive Plan, water plan implementation has been delegated to the Pipestone Soil and Water Conservation District. The various departments and County staff identified throughout the Plan, however, must also fulfill their designated responsibilities. Finally, the County Attorney is responsible for legally interpreting the merits of the Plan if they come into question.

## Other Agencies Involved in Implementation

Throughout the Comprehensive Plan, various stakeholders partnered with Pipestone County are mentioned. It is hoped the relationships and commitments strengthened through this Plan will continue to be further enhanced as this Plan is implemented, thus improving the overall likelihood that Pipestone County can achieve the goals outlined.

- Pipestone County should be kept well informed of State and Federal program changes and the availability of funding.

- Data collected by State and Federal agencies should be readily shared with the County to avoid duplicative efforts.

- State and Federal agencies should continue to provide local and/or regional staff to assist local officials with agency programs.

## Plan Review

To successfully implement the Comprehensive Plan a periodic review is necessary. The Planning Commission should review the plan at least once every two years (or sooner if needed) in order to ensure that Pipestone County's "vision" remains both accurate and constructive.

## Plan Amendment

According to Minnesota State Statutes, Chapter 394, an amendment to the Comprehensive Plan may be initiated by the County Board, the Planning Commission, or by petition of affected property owners. An amendment not initiated by the Planning Commission shall be referred to the Planning Commission for study and comment and may not be acted upon by the County Board until it has received the recommendation of the Planning Commission.

After development, a proposed amendment to the Comprehensive Plan must be submitted for local review and comment in the following manner. The County must submit the proposed plan amendment to all local units of government. Each local unit of government then must be given amble time to review the proposed amendment, along with its own official controls, and comment on the fiscal and policy ramifications of the amendment. Since this Comprehensive Plan also contains the County's Water Plan, the Board on Water and Soil Resources should also be notified of the proposed amendment. After soliciting all written comments, a public hearing must then be held with at least 10 days notice in the County's official newspaper. After the public hearing is held and the Planning Commission has provided comment, the County Board can take official action to amend the Comprehensive Plan on a majority vote.

All amendments adopted by the County will be printed in the form of replacement pages or as an addendum to the Plan. Each revision will show deleted text as stricken and new text as underlined.

## Five-Year Focus Plan & Action Steps

The provisions outlined in this Comprehensive Plan will last until either the Plan is revised or replaced. Although the Plan is intended to cover a 20-year timeframe, the provisions will be reviewed periodically (at least once every two years) and updated as needed. In order to highlight the County's major short-term commitments, the following text represents the County's Five-Year Focus Plan (August 2009 – August 2014). The Focus Plan is intended to compliment and coincide with the County's Goals, Objectives and Policy Guidelines found in Chapter Six (please refer to Ch. 6, Pg. 1 for a key to the acronyms used in this Chapter).

## Goal One: Citizen Participation & Intergovernmental Cooperation

- ✓ The County should host an annual public meeting and invite local governmental units (i.e., SWCD, Cities, and Townships) to discuss important planning issues and to determine what should be done to work together to solve any problems (P&Z, PC, SWCD, Cities, TWNS). Annually, $2,000

## Goal Two: Economic Development

- ✓ The County's primary entrance corridors should portray a positive image of Pipestone County with proper signage, a County theme, etc. (EDA, $5,000). Ongoing

- ✓ The County should pursue the promotion of wildlife and bird watching with assistance from the Minnesota DNR Nongame Wildlife Program (P&Z). Ongoing

## Goal Three: Natural Resources

- ✓ Clean Water Amendment and other funds should be actively pursues to assist in the implementation of the County Comprehensive Plan and other plans as identified in the reference/resource section of this chapter (SWCD, P&Z, annually, $10,000).

- ✓ Surface water monitoring should be conducted on all waters to determine compliance with clean water standards and information shared with MPCA. MPCA surface water assessment grants should be pursued. (MN DNR, MPCA, SWCD, P&Z, annually, $10,000)

- ✓ DNR observation well data will be collected and submitted on 10 wells. (SWCD, $1,500 annually)

- ✓ Gravel pit reclamation requirements should be closely monitored and enforced by the County. Old pits should be encouraged to be reclaimed as natural resource area. (P&Z, PC, CB). Ongoing

- ✓ The County should assist with developing manure application plans for 14 feedlots per year, including conducting manure spreader calibration. (P&Z, SWCD, Extension, annually, $10,000).

- ✓ Residue Management Transect Survey should be completed annually in order to log tillage trends and estimate erosion rates (SWCD, annually, $2,000).

- ✓ State cost-share programs should be used to assist in the installation of four conservation practices; dollars will be stretched with federal funds when possible (SWCD, annually, $20,000).

- ✓ The County should proactively participate in getting waters off the MPCA's Total Maximum Daily Load (TMDL) listing of impaired waters through the application of funds to complete plan action items, (see MPCA impaired waters website in reference/resource section). Current listings include the Redwood River, Pipestone Creek, Split Rock Creek, Des Moines, and Rock River. Pipestone Creek and Rock River TMDL's currently have an EPA approved study and MPCA approved implementation plan. (P&Z, SWCD, ongoing, $300,000)

- ✓ The County should continue pursuing the development of a Household Hazardous Waste Facility with improved and more economical methods of collection, processing and disposal of hazardous waste and other recyclable materials (CB, by 2011, $250,000).

- ✓ Host monthly collections of electronics, appliance, florescent bulb, empty pesticide container, batteries and other materials. (P&Z, ongoing, $25,000)

- ✓ Feedlot compliance inspections should be conducted annually on 10% of all feedlots or approximately 50 per year (SWCD, P&Z; ongoing but initially completed by 2011; $25,000) thereafter efforts will be put forth to bring those non-compliant sites into compliance with 7020 rules.

- ✓ The County will pursue funds to complete four high priority feedlot runoff plans annually (SWCD, P&Z; $20,000 for staff and $80,000 for projects annually). It is estimated that approximately 30 feedlots are in need of financial assistance.

- ✓ The County should examine developing a drought contingency plan (CB, $3,000).

- ✓ The County should continue to assist with the development and implementation of wellhead protection plans for Lincoln Pipestone RW, and cities of Pipestone, Ruthton, and Edgerton (SWCD, ongoing, $1,500).

- ✓ The County should cost-share the proper sealing of 25 abandoned wells per year at a rate of 50% cost-share not to exceed$250 (SWCD, reviewed annually, $4,000).

- ✓ The Conservation and Zoning office will enforce the County Sub-surface Sewage Treatment System Ordinance and promote non compliant systems to be upgraded. Design review, soil verification, and installation inspection will be completed on an estimated 40 systems per year. (SWCD, Zoning, annually, $20,000

- ✓ The County should work with un-sewered communities (City of Trosky) and other un-sewered cluster developments to bring them into compliance with 7080 rules. (P&Z, MPCA, City of Trosky 2010 Cluster developments 2011).

- ✓ The SWCD will promote USDA Programs – EQIP, CRP etc., as a means to help implement the goals of the county water plan

### Goal Four: Housing

- ✓ The County should conduct and/or participate in various housing studies periodically to assess the quality, quantity, type and need for housing (EDA).

- ✓ The County should create clear development standards for new residential subdivisions, including clear storm water management requirements (PC).

## Goal Five: Transportation

- ✓ The County should evaluate the County's roadway system to possibly better serve the residents of Pipestone County by transferring jurisdictional responsibilities of certain roadways in response to changing population densities throughout the County. This is referred to as a jurisdictional study and one should be completed every five years or as needed (CE, PC, TWNS).

- ✓ Land use guidelines, zoning ordinances and subdivision ordinances should be amended to include access management standards. These standards should be developed for each functional level of roadways in the County (PC).

- ✓ Pipestone County will work with Mn/DOT to develop an access management plan for the Highway 23 corridor in Pipestone County in order to improve the safety of the roadway and to help maintain the travel time for the corridor. As a part of that access management plan, the location of future frontage/backage roads will be shown so that future development will not inhibit the County's ability to grow along Highway 23 and likewise will not compromise the access management strategy of Mn/DOT for Highway 23 (CE).

## Goal Six: Land Use Planning

- ✓ The County's Zoning Ordinances should be reviewed periodically and updated as needed (P&Z, PC, CB, ongoing, $5,000).

- ✓ Off-premise advertising signs should be regulated to maximize public safety (PC, P&Z).
- ✓ The County should actively identify land with scenic, historic and unique value and should develop a plan to successfully protect these areas (P&Z, PC).
- ✓ The placement and impacts of wind turbines (and transfer stations) should be examined for multiple purposes, including the protection of scenic and cultural landscapes (PC, CB).
- ✓ The County should work closely with the State and National Park Service on protecting the Pipestone National Monument and Split Rock Creek State Park. (CB, P&Z).
- ✓ The County should support future and expanded uses in GIS; this may include software upgrades, aerial flights, lidar, or layer creations. (CB, ongoing, 30,000).
- ✓ A GIS needs assessment should be conducted and updated regularly (P&Z, ongoing, $5,000).
- ✓ The County should maintain and distribute a Countywide parcel map (CB, $10,000, Ongoing)

## Goal Seven: Public Investments

- ✓ The County should work with State and Federal agencies to maximize compatible use of publicly owned lands (P&Z).
- ✓ A periodic inspection and maintenance schedule should be developed and implemented for all County property and facilities (CB).
- ✓ The County should work with the public water suppliers in addressing adequate supply and water quality needs. (SWCD, P&Z, ongoing
- ✓ The ditch system should be maintained so that it effectively manages the movement of water using best management practices to minimize pollution and sediment; an annual maintenance inspection should be conducted. (County Ditch Committee, P&Z, SWCD, ongoing, $5,000).
- ✓ The installation of filter strips should be enforced where appropriate and encouraged elsewhere (P&Z, County Ditch Committee, and SWCD, ongoing, $8,000).

- ✓ The replacement of needed ditch tile should be evaluated and planned accordingly (County Ditch Committee, SWCD, ongoing).

- ✓ The County should appoint a task force to examine the development of a drainage ordinance (CB, 2012, $4,000).

## Goal Eight: Public Awareness

- ✓ The County should create newsletters periodically to explain key issues and to promote existing programs and financial resources (P&Z, SWCD, annually, $1,500).

- ✓ The County should continue to maintain and improve a countywide youth (and adult) curriculum on important environmental education (P&Z, annually, $4,000).

- ✓ Educational programs that promote soil conservation, water quality and quantity, BMP's or producer informational meetings should be held annually to educate and update producers on programs and requirements. Trainings may include nutrient management, manure economics, feedlot rules, cost-share programs, ejc. (SWCD, annually, $3,000).

- ✓ The County should promote existing conservation programs and work with landowners on enrollment. Efforts should be initially focused on the County's environmentally sensitive areas (SWCD, $7,500, annually).

- ✓ The County should work with the DNR and other agencies on projects related to learning more about or providing public education on the County's threatened or endangered species (P&Z).

- ✓ Host an annual conservation tour. (SWCD, $2,000, annually)

## Reference/Resource Section:

Clean Water Act Section 303 [d] List of Impaired Waters in Pipestone County which a study has not been completed.

| Assessment Reach | Unit **ID** # | Affected Use | Pollutants/Stressors |
|---|---|---|---|
| Redwood River Headwaters to Coon Creek | 07020006-505 | Aquatic Recreation | Fecal Coliform |
| Redwood River Headwaters to Coon Creek | 07020006·505 | Aquatic Life | Fish Bioassessments |
| Redwood River Headwaters to Coon Creek | 07020006-505 | Aq uatic Consumption | Mercury in Fish Tissue |
| Split Rock Creek Split Rock Lk to Pipestone Creek | 10170203-507 | Aquatic Life | Oxygen, Dissolved |

MPCA Impaired Waters Website: **http://www.pca.state.mn.us/water/tmdl/index.html**
(See Implementation plans for: Pipestone Creek, Rock River, West fork of Des Moines)

BWSR CWL Website: **http://www.bwsr.state.mn.us/cwl/index.html**

DNR Watershed Map of MN: **http://www.dnr.state.mn.us/watersheds/map.html**

EPA TMDL Website: **http://www.epa.gov/owow/tmdl/**

MDA water Quality Data and associated management practices:
**http://www.mda.state.mn.us/chemicals/pesticides/default.htm**

MPCA Surface Water Monitoring Data:
**http://www.pca.state.mn.us/data/edawater/index.cfm**

***For more information regarding this Comprehensive Plan,***

***Please contact Kyle Krier,***

***Pipestone County Conservation & Zoning Office,***

***At (507) 825-6765 or kyle.krier@mn.nacdnet.net***

# Appendix A:

# Pipestone County

# 2000 Census Profiles

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## Table DP-1. Profile of General Demographic Characteristics: 2000

Geographic Area: Pipestone County, Minnesota

[For information on confidentiality protection, nonsampling error, and definitions, see text]

| Subject | Number | Percent |
|---|---|---|
| **Total population** | **9,895** | **100.0** |
| **SEX AND AGE** | | |
| Male | 4,763 | 48.1 |
| Female | 5,132 | 51.9 |
| Under 5 years | 571 | 5.8 |
| 5 to 9 years | 670 | 6.8 |
| 10 to 14 years | 777 | 7.9 |
| 15 to 19 years | 797 | 8.1 |
| 20 to 24 years | 408 | 4.1 |
| 25 to 34 years | 989 | 10.0 |
| 35 to 44 years | 1,450 | 14.7 |
| 45 to 54 years | 1,220 | 12.3 |
| 55 to 59 years | 455 | 4.6 |
| 60 to 64 years | 446 | 4.5 |
| 65 to 74 years | 921 | 9.3 |
| 75 to 84 years | 789 | 8.0 |
| 85 years and over | 402 | 4.1 |
| Median age (years) | 40.2 | (X) |
| 18 years and over | 7,344 | 74.2 |
| Male | 3,466 | 35.0 |
| Female | 3,878 | 39.2 |
| 21 years and over | 6,993 | 70.7 |
| 62 years and over | 2,377 | 24.0 |
| 65 years and over | 2,112 | 21.3 |
| Male | 852 | 8.6 |
| Female | 1,260 | 12.7 |
| **RACE** | | |
| One race | 9,803 | 99.1 |
| White | 9,566 | 96.7 |
| Black or African American | 17 | 0.2 |
| American Indian and Alaska Native | 146 | 1.5 |
| Asian | 46 | 0.5 |
| Asian Indian | - | - |
| Chinese | 5 | 0.1 |
| Filipino | 4 | - |
| Japanese | 2 | - |
| Korean | 4 | - |
| Vietnamese | 10 | 0.1 |
| Other Asian [1] | 21 | 0.2 |
| Native Hawaiian and Other Pacific Islander | 2 | - |
| Native Hawaiian | - | - |
| Guamanian or Chamorro | 1 | - |
| Samoan | 1 | - |
| Other Pacific Islander [2] | - | - |
| Some other race | 26 | 0.3 |
| Two or more races | 92 | 0.9 |
| ***Race alone or in combination with one or more other races:*** [3] | | |
| White | 9,647 | 97.5 |
| Black or African American | 31 | 0.3 |
| American Indian and Alaska Native | 212 | 2.1 |
| Asian | 64 | 0.6 |
| Native Hawaiian and Other Pacific Islander | 5 | 0.1 |
| Some other race | 36 | 0.4 |

| Subject | Number | Percent |
|---|---|---|
| **HISPANIC OR LATINO AND RACE** | | |
| **Total population** | **9,895** | **100.0** |
| Hispanic or Latino (of any race) | 69 | 0.7 |
| Mexican | 33 | 0.3 |
| Puerto Rican | 2 | - |
| Cuban | 2 | - |
| Other Hispanic or Latino | 32 | 0.3 |
| Not Hispanic or Latino | 9,826 | 99.3 |
| White alone | 9,538 | 96.4 |
| **RELATIONSHIP** | | |
| **Total population** | **9,895** | **100.0** |
| In households | 9,664 | 97.7 |
| Householder | 4,069 | 41.1 |
| Spouse | 2,344 | 23.7 |
| Child | 2,877 | 29.1 |
| Own child under 18 years | 2,471 | 25.0 |
| Other relatives | 135 | 1.4 |
| Under 18 years | 53 | 0.5 |
| Nonrelatives | 239 | 2.4 |
| Unmarried partner | 125 | 1.3 |
| In group quarters | 231 | 2.3 |
| Institutionalized population | 213 | 2.2 |
| Noninstitutionalized population | 18 | 0.2 |
| **HOUSEHOLD BY TYPE** | | |
| **Total households** | **4,069** | **100.0** |
| Family households (families) | 2,727 | 67.0 |
| With own children under 18 years | 1,263 | 31.0 |
| Married-couple family | 2,344 | 57.6 |
| With own children under 18 years | 995 | 24.5 |
| Female householder, no husband present | 266 | 6.5 |
| With own children under 18 years | 186 | 4.6 |
| Nonfamily households | 1,342 | 33.0 |
| Householder living alone | 1,225 | 30.1 |
| Householder 65 years and over | 701 | 17.2 |
| Households with individuals under 18 years | 1,308 | 32.1 |
| Households with individuals 65 years and over | 1,400 | 34.4 |
| Average household size | 2.38 | (X) |
| Average family size | 2.96 | (X) |
| **HOUSING OCCUPANCY** | | |
| **Total housing units** | **4,434** | **100.0** |
| Occupied housing units | 4,069 | 91.8 |
| Vacant housing units | 365 | 8.2 |
| For seasonal, recreational, or occasional use | 10 | 0.2 |
| Homeowner vacancy rate (percent) | 2.7 | (X) |
| Rental vacancy rate (percent) | 13.1 | (X) |
| **HOUSING TENURE** | | |
| **Occupied housing units** | **4,069** | **100.0** |
| Owner-occupied housing units | 3,173 | 78.0 |
| Renter-occupied housing units | 896 | 22.0 |
| Average household size of owner-occupied units | 2.49 | (X) |
| Average household size of renter-occupied units | 1.96 | (X) |

- Represents zero or rounds to zero. (X) Not applicable.

[1] Other Asian alone, or two or more Asian categories.

[2] Other Pacific Islander alone, or two or more Native Hawaiian and Other Pacific Islander categories.

[3] In combination with one or more of the other races listed. The six numbers may add to more than the total population and the six percentages may add to more than 100 percent because individuals may report more than one race.

Source: U.S. Census Bureau, Census 2000.

## Table DP-2. Profile of Selected Social Characteristics: 2000

Geographic area: Pipestone County, Minnesota

[Data based on a sample. For information on confidentiality protection, sampling error, nonsampling error, and definitions, see text]

| Subject | Number | Percent |
|---|---|---|
| **SCHOOL ENROLLMENT** | | |
| **Population 3 years and over enrolled in school** | **2,509** | **100.0** |
| Nursery school, preschool | 174 | 6.9 |
| Kindergarten | 100 | 4.0 |
| Elementary school (grades 1-8) | 1,245 | 49.6 |
| High school (grades 9-12) | 734 | 29.3 |
| College or graduate school | 256 | 10.2 |
| **EDUCATIONAL ATTAINMENT** | | |
| **Population 25 years and over** | **6,671** | **100.0** |
| Less than 9th grade | 903 | 13.5 |
| 9th to 12th grade, no diploma | 593 | 8.9 |
| High school graduate (includes equivalency) | 2,404 | 36.0 |
| Some college, no degree | 1,490 | 22.3 |
| Associate degree | 353 | 5.3 |
| Bachelor's degree | 684 | 10.3 |
| Graduate or professional degree | 244 | 3.7 |
| Percent high school graduate or higher | 77.6 | (X) |
| Percent bachelor's degree or higher | 13.9 | (X) |
| **MARITAL STATUS** | | |
| **Population 15 years and over** | **7,881** | **100.0** |
| Never married | 1,558 | 19.8 |
| Now married, except separated | 4,868 | 61.8 |
| Separated | 75 | 1.0 |
| Widowed | 864 | 11.0 |
| Female | 722 | 9.2 |
| Divorced | 516 | 6.5 |
| Female | 278 | 3.5 |
| **GRANDPARENTS AS CAREGIVERS** | | |
| **Grandparent living in household with one or more own grandchildren under 18 years** | **54** | **100.0** |
| Grandparent responsible for grandchildren | 28 | 51.9 |
| **VETERAN STATUS** | | |
| **Civilian population 18 years and over** | **7,348** | **100.0** |
| Civilian veterans | 919 | 12.5 |
| **DISABILITY STATUS OF THE CIVILIAN NONINSTITUTIONALIZED POPULATION** | | |
| **Population 5 to 20 years** | **2,295** | **100.0** |
| With a disability | 125 | 5.4 |
| **Population 21 to 64 years** | **4,887** | **100.0** |
| With a disability | 711 | 14.5 |
| Percent employed | 69.2 | (X) |
| No disability | 4,176 | 85.5 |
| Percent employed | 87.2 | (X) |
| **Population 65 years and over** | **1,915** | **100.0** |
| With a disability | 621 | 32.4 |
| **RESIDENCE IN 1995** | | |
| **Population 5 years and over** | **9,314** | **100.0** |
| Same house in 1995 | 6,343 | 68.1 |
| Different house in the U.S. in 1995 | 2,954 | 31.7 |
| Same county | 1,542 | 16.6 |
| Different county | 1,412 | 15.2 |
| Same state | 660 | 7.1 |
| Different state | 752 | 8.1 |
| Elsewhere in 1995 | 17 | 0.2 |

| Subject | Number | Percent |
|---|---|---|
| **NATIVITY AND PLACE OF BIRTH** | | |
| **Total population** | **9,895** | **100.0** |
| Native | 9,757 | 98.6 |
| Born in United States | 9,745 | 98.5 |
| State of residence | 6,723 | 67.9 |
| Different state | 3,022 | 30.5 |
| Born outside United States | 12 | 0.1 |
| Foreign born | 138 | 1.4 |
| Entered 1990 to March 2000 | 49 | 0.5 |
| Naturalized citizen | 83 | 0.8 |
| Not a citizen | 55 | 0.6 |
| **REGION OF BIRTH OF FOREIGN BORN** | | |
| **Total (excluding born at sea)** | **138** | **100.0** |
| Europe | 46 | 33.3 |
| Asia | 76 | 55.1 |
| Africa | - | - |
| Oceania | 8 | 5.8 |
| Latin America | 8 | 5.8 |
| Northern America | - | - |
| **LANGUAGE SPOKEN AT HOME** | | |
| **Population 5 years and over** | **9,314** | **100.0** |
| English only | 8,965 | 96.3 |
| Language other than English | 349 | 3.7 |
| Speak English less than "very well" | 129 | 1.4 |
| Spanish | 97 | 1.0 |
| Speak English less than "very well" | 18 | 0.2 |
| Other Indo-European languages | 153 | 1.6 |
| Speak English less than "very well" | 59 | 0.6 |
| Asian and Pacific Island languages | 97 | 1.0 |
| Speak English less than "very well" | 50 | 0.5 |
| **ANCESTRY (single or multiple)** | | |
| **Total population** | **9,895** | **100.0** |
| *Total ancestries reported* | *11,642* | *117.7* |
| Arab | 5 | 0.1 |
| Czech[1] | 79 | 0.8 |
| Danish | 418 | 4.2 |
| Dutch | 2,479 | 25.1 |
| English | 468 | 4.7 |
| French (except Basque)[1] | 268 | 2.7 |
| French Canadian[1] | 33 | 0.3 |
| German | 3,859 | 39.0 |
| Greek | - | - |
| Hungarian | 3 | - |
| Irish[1] | 600 | 6.1 |
| Italian | 49 | 0.5 |
| Lithuanian | - | - |
| Norwegian | 1,695 | 17.1 |
| Polish | 137 | 1.4 |
| Portuguese | - | - |
| Russian | 29 | 0.3 |
| Scotch-Irish | 82 | 0.8 |
| Scottish | 71 | 0.7 |
| Slovak | - | - |
| Subsaharan African | - | - |
| Swedish | 385 | 3.9 |
| Swiss | 13 | 0.1 |
| Ukrainian | 12 | 0.1 |
| United States or American | 262 | 2.6 |
| Welsh | 20 | 0.2 |
| West Indian (excluding Hispanic groups) | - | - |
| Other ancestries | 675 | 6.8 |

-Represents zero or rounds to zero. (X) Not applicable.

[1]The data represent a combination of two ancestries shown separately in Summary File 3. Czech includes Czechoslovakian. French includes Alsatian. French Canadian includes Acadian/Cajun. Irish includes Celtic.

Source: U.S. Bureau of the Census, Census 2000.

## Table DP-3. Profile of Selected Economic Characteristics: 2000

Geographic area: Pipestone County, Minnesota

[Data based on a sample. For information on confidentiality protection, sampling error, nonsampling error, and definitions, see text]

| Subject | Number | Percent |
|---|---|---|
| **EMPLOYMENT STATUS** | | |
| **Population 16 years and over** | **7,701** | **100.0** |
| In labor force | 5,077 | 65.9 |
| Civilian labor force | 5,073 | 65.9 |
| Employed | 4,948 | 64.3 |
| Unemployed | 125 | 1.6 |
| Percent of civilian labor force | 2.5 | (X) |
| Armed Forces | 4 | 0.1 |
| Not in labor force | 2,624 | 34.1 |
| **Females 16 years and over** | **4,073** | **100.0** |
| In labor force | 2,438 | 59.9 |
| Civilian labor force | 2,438 | 59.9 |
| Employed | 2,392 | 58.7 |
| **Own children under 6 years** | **651** | **100.0** |
| All parents in family in labor force | 526 | 80.8 |
| **COMMUTING TO WORK** | | |
| **Workers 16 years and over** | **4,889** | **100.0** |
| Car, truck, or van - - drove alone | 3,701 | 75.7 |
| Car, truck, or van - - carpooled | 435 | 8.9 |
| Public transportation (including taxicab) | 1 | - |
| Walked | 317 | 6.5 |
| Other means | 49 | 1.0 |
| Worked at home | 386 | 7.9 |
| Mean travel time to work (minutes)[1] | 15.2 | (X) |
| **Employed civilian population 16 years and over** | **4,948** | **100.0** |
| **OCCUPATION** | | |
| Management, professional, and related occupations | 1,488 | 30.1 |
| Service occupations | 901 | 18.2 |
| Sales and office occupations | 1,011 | 20.4 |
| Farming, fishing, and forestry occupations | 193 | 3.9 |
| Construction, extraction, and maintenance occupations | 429 | 8.7 |
| Production, transportation, and material moving occupations | 926 | 18.7 |
| **INDUSTRY** | | |
| Agriculture, forestry, fishing and hunting, and mining | 676 | 13.7 |
| Construction | 280 | 5.7 |
| Manufacturing | 683 | 13.8 |
| Wholesale trade | 177 | 3.6 |
| Retail trade | 532 | 10.8 |
| Transportation and warehousing, and utilities | 280 | 5.7 |
| Information | 91 | 1.8 |
| Finance, insurance, real estate, and rental and leasing | 164 | 3.3 |
| Professional, scientific, management, administrative, and waste management services | 141 | 2.8 |
| Educational, health and social services | 1,191 | 24.1 |
| Arts, entertainment, recreation, accommodation and food services | 406 | 8.2 |
| Other services (except public administration) | 234 | 4.7 |
| Public administration | 93 | 1.9 |
| **CLASS OF WORKER** | | |
| Private wage and salary workers | 3,420 | 69.1 |
| Government workers | 688 | 13.9 |
| Self-employed workers in own not incorporated business | 807 | 16.3 |
| Unpaid family workers | 33 | 0.7 |

| Subject | Number | Percent |
|---|---|---|
| **INCOME IN 1999** | | |
| **Households** | **4,082** | **100.0** |
| Less than $10,000 | 405 | 9.9 |
| $10,000 to $14,999 | 402 | 9.8 |
| $15,000 to $24,999 | 746 | 18.3 |
| $25,000 to $34,999 | 672 | 16.5 |
| $35,000 to $49,999 | 788 | 19.3 |
| $50,000 to $74,999 | 714 | 17.5 |
| $75,000 to $99,999 | 211 | 5.2 |
| $100,000 to $149,999 | 91 | 2.2 |
| $150,000 to $199,999 | 25 | 0.6 |
| $200,000 or more | 28 | 0.7 |
| Median household income (dollars) | 31,909 | (X) |
| With earnings | 3,088 | 75.6 |
| Mean earnings (dollars)[1] | 38,967 | (X) |
| With Social Security income | 1,474 | 36.1 |
| Mean Social Security income (dollars)[1] | 9,633 | (X) |
| With Supplemental Security Income | 166 | 4.1 |
| Mean Supplemental Security Income (dollars)[1] | 5,715 | (X) |
| With public assistance income | 126 | 3.1 |
| Mean public assistance income (dollars)[1] | 2,297 | (X) |
| With retirement income | 496 | 12.2 |
| Mean retirement income (dollars)[1] | 11,839 | (X) |
| **Families** | **2,745** | **100.0** |
| Less than $10,000 | 125 | 4.6 |
| $10,000 to $14,999 | 166 | 6.0 |
| $15,000 to $24,999 | 414 | 15.1 |
| $25,000 to $34,999 | 442 | 16.1 |
| $35,000 to $49,999 | 648 | 23.6 |
| $50,000 to $74,999 | 633 | 23.1 |
| $75,000 to $99,999 | 195 | 7.1 |
| $100,000 to $149,999 | 81 | 3.0 |
| $150,000 to $199,999 | 23 | 0.8 |
| $200,000 or more | 18 | 0.7 |
| Median family income (dollars) | 40,133 | (X) |
| Per capita income (dollars)[1] | 16,450 | (X) |
| ***Median earnings (dollars):*** | | |
| Male full-time, year-round workers | 27,642 | (X) |
| Female full-time, year-round workers | 20,759 | (X) |

| Subject | Number below poverty level | Percent below poverty level |
|---|---|---|
| **POVERTY STATUS IN 1999** | | |
| **Families** | **215** | **7.8** |
| With related children under 18 years | 148 | 11.3 |
| With related children under 5 years | 78 | 16.7 |
| **Families with female householder, no husband present** | **74** | **28.0** |
| With related children under 18 years | 74 | 34.6 |
| With related children under 5 years | 48 | 68.6 |
| **Individuals** | **920** | **9.5** |
| 18 years and over | 628 | 8.8 |
| 65 years and over | 213 | 11.1 |
| Related children under 18 years | 283 | 11.2 |
| Related children 5 to 17 years | 179 | 9.2 |
| Unrelated individuals 15 years and over | 299 | 18.9 |

-Represents zero or rounds to zero. (X) Not applicable.

[1]If the denominator of a mean value or per capita value is less than 30, then that value is calculated using a rounded aggregate in the numerator. See text.

Source: U.S. Bureau of the Census, Census 2000.

## Table DP-4. Profile of Selected Housing Characteristics: 2000

Geographic area: Pipestone County, Minnesota

[Data based on a sample. For information on confidentiality protection, sampling error, nonsampling error, and definitions, see text]

| Subject | Number | Percent |
|---|---|---|
| **Total housing units** | **4,434** | **100.0** |
| **UNITS IN STRUCTURE** | | |
| 1-unit, detached | 3,724 | 84.0 |
| 1-unit, attached | 67 | 1.5 |
| 2 units | 71 | 1.6 |
| 3 or 4 units | 99 | 2.2 |
| 5 to 9 units | 106 | 2.4 |
| 10 to 19 units | 81 | 1.8 |
| 20 or more units | 138 | 3.1 |
| Mobile home | 148 | 3.3 |
| Boat, RV, van, etc | - | - |
| **YEAR STRUCTURE BUILT** | | |
| 1999 to March 2000 | 21 | 0.5 |
| 1995 to 1998 | 156 | 3.5 |
| 1990 to 1994 | 131 | 3.0 |
| 1980 to 1989 | 296 | 6.7 |
| 1970 to 1979 | 556 | 12.5 |
| 1960 to 1969 | 401 | 9.0 |
| 1940 to 1959 | 1,266 | 28.6 |
| 1939 or earlier | 1,607 | 36.2 |
| **ROOMS** | | |
| 1 room | 38 | 0.9 |
| 2 rooms | 71 | 1.6 |
| 3 rooms | 249 | 5.6 |
| 4 rooms | 643 | 14.5 |
| 5 rooms | 875 | 19.7 |
| 6 rooms | 941 | 21.2 |
| 7 rooms | 643 | 14.5 |
| 8 rooms | 481 | 10.8 |
| 9 or more rooms | 493 | 11.1 |
| Median (rooms) | 5.9 | (X) |
| **Occupied housing units** | **4,069** | **100.0** |
| **YEAR HOUSEHOLDER MOVED INTO UNIT** | | |
| 1999 to March 2000 | 562 | 13.8 |
| 1995 to 1998 | 939 | 23.1 |
| 1990 to 1994 | 670 | 16.5 |
| 1980 to 1989 | 680 | 16.7 |
| 1970 to 1979 | 600 | 14.7 |
| 1969 or earlier | 618 | 15.2 |
| **VEHICLES AVAILABLE** | | |
| None | 243 | 6.0 |
| 1 | 1,337 | 32.9 |
| 2 | 1,787 | 43.9 |
| 3 or more | 702 | 17.3 |
| **HOUSE HEATING FUEL** | | |
| Utility gas | 1,839 | 45.2 |
| Bottled, tank, or LP gas | 1,032 | 25.4 |
| Electricity | 461 | 11.3 |
| Fuel oil, kerosene, etc | 685 | 16.8 |
| Coal or coke | - | - |
| Wood | 24 | 0.6 |
| Solar energy | - | - |
| Other fuel | 21 | 0.5 |
| No fuel used | 7 | 0.2 |
| **SELECTED CHARACTERISTICS** | | |
| Lacking complete plumbing facilities | 17 | 0.4 |
| Lacking complete kitchen facilities | 7 | 0.2 |
| No telephone service | 29 | 0.7 |

| Subject | Number | Percent |
|---|---|---|
| **OCCUPANTS PER ROOM** | | |
| **Occupied housing units** | **4,069** | **100.0** |
| 1.00 or less | 4,019 | 98.8 |
| 1.01 to 1.50 | 37 | 0.9 |
| 1.51 or more | 13 | 0.3 |
| **Specified owner-occupied units** | **2,336** | **100.0** |
| **VALUE** | | |
| Less than $50,000 | 1,203 | 51.5 |
| $50,000 to $99,999 | 889 | 38.1 |
| $100,000 to $149,999 | 177 | 7.6 |
| $150,000 to $199,999 | 42 | 1.8 |
| $200,000 to $299,999 | 21 | 0.9 |
| $300,000 to $499,999 | 4 | 0.2 |
| $500,000 to $999,999 | - | - |
| $1,000,000 or more | - | - |
| Median (dollars) | 49,000 | (X) |
| **MORTGAGE STATUS AND SELECTED MONTHLY OWNER COSTS** | | |
| With a mortgage | 1,161 | 49.7 |
| Less than $300 | 34 | 1.5 |
| $300 to $499 | 318 | 13.6 |
| $500 to $699 | 422 | 18.1 |
| $700 to $999 | 257 | 11.0 |
| $1,000 to $1,499 | 115 | 4.9 |
| $1,500 to $1,999 | 10 | 0.4 |
| $2,000 or more | 5 | 0.2 |
| Median (dollars) | 602 | (X) |
| Not mortgaged | 1,175 | 50.3 |
| Median (dollars) | 210 | (X) |
| **SELECTED MONTHLY OWNER COSTS AS A PERCENTAGE OF HOUSEHOLD INCOME IN 1999** | | |
| Less than 15.0 percent | 1,268 | 54.3 |
| 15.0 to 19.9 percent | 387 | 16.6 |
| 20.0 to 24.9 percent | 271 | 11.6 |
| 25.0 to 29.9 percent | 157 | 6.7 |
| 30.0 to 34.9 percent | 74 | 3.2 |
| 35.0 percent or more | 170 | 7.3 |
| Not computed | 9 | 0.4 |
| **Specified renter-occupied units** | **834** | **100.0** |
| **GROSS RENT** | | |
| Less than $200 | 112 | 13.4 |
| $200 to $299 | 150 | 18.0 |
| $300 to $499 | 339 | 40.6 |
| $500 to $749 | 113 | 13.5 |
| $750 to $999 | 17 | 2.0 |
| $1,000 to $1,499 | 28 | 3.4 |
| $1,500 or more | - | - |
| No cash rent | 75 | 9.0 |
| Median (dollars) | 365 | (X) |
| **GROSS RENT AS A PERCENTAGE OF HOUSEHOLD INCOME IN 1999** | | |
| Less than 15.0 percent | 226 | 27.1 |
| 15.0 to 19.9 percent | 162 | 19.4 |
| 20.0 to 24.9 percent | 64 | 7.7 |
| 25.0 to 29.9 percent | 69 | 8.3 |
| 30.0 to 34.9 percent | 70 | 8.4 |
| 35.0 percent or more | 168 | 20.1 |
| Not computed | 75 | 9.0 |

-Represents zero or rounds to zero. (X) Not applicable.

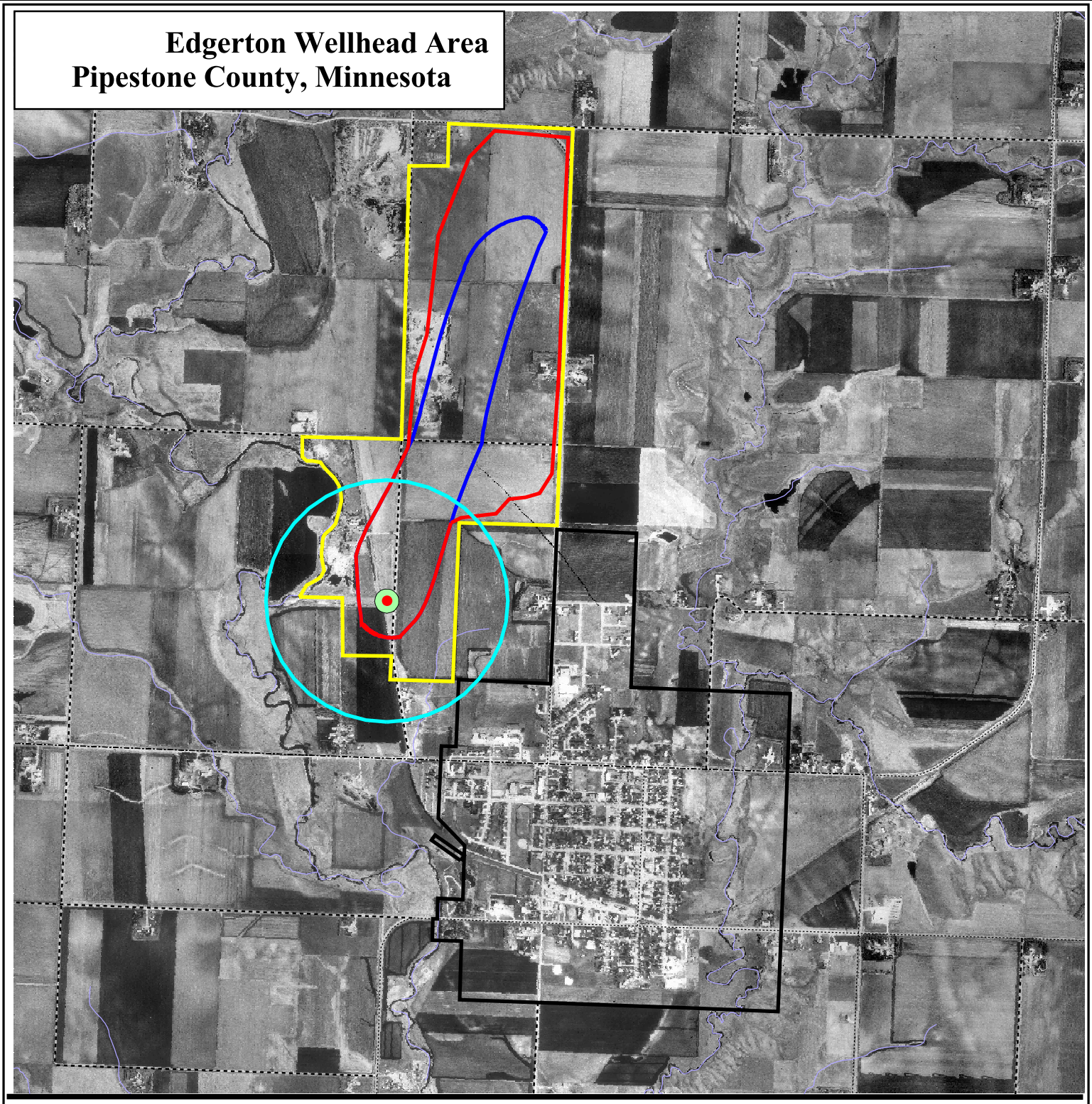
Source: U.S. Bureau of the Census, Census 2000.

# Appendix B:

# Pipestone County

# Wellhead Protection Areas

# Edgerton Wellhead Area
# Pipestone County, Minnesota




Pipestone County

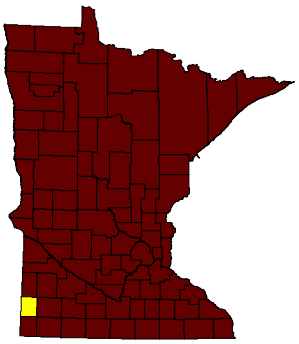
- Edgerton Well
- 2000 Ft. CRP Buffer
- Wellhead Protection Area
- Inner Wellhead Management Zone (200 ft.)
- Drinking Water Surface Management Area

Groundwater Capture Zone

- Time of Water Travel=10 years

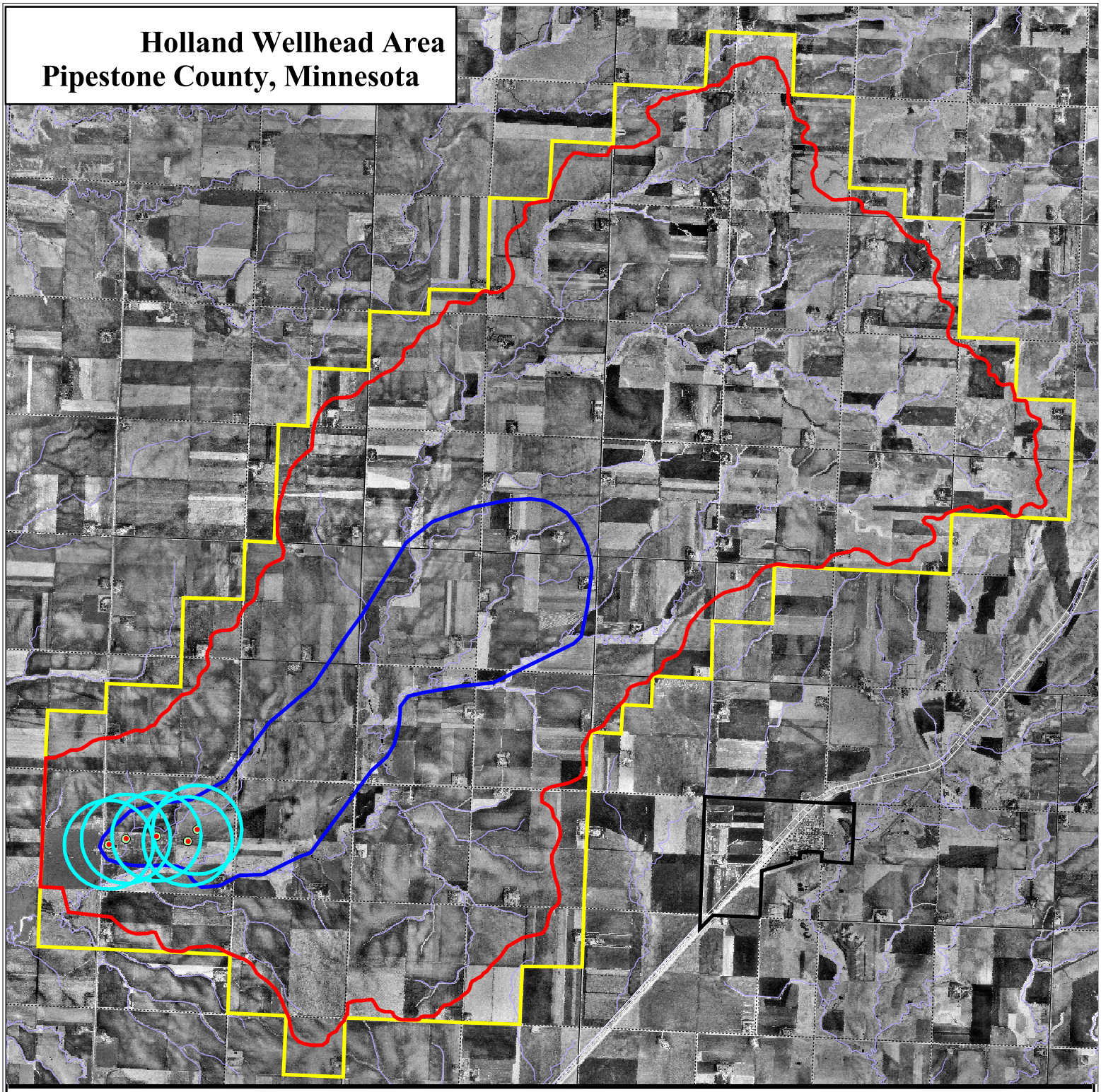
0.25 0 0.25 0.5 Miles

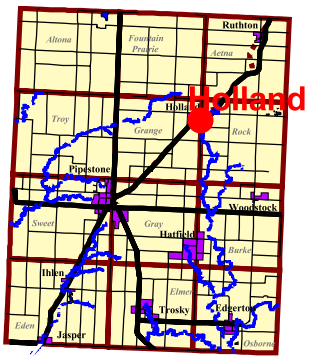
N
W E
S
Southwest Regional Development Commission
Focused on Southwest Minnesota



State of Minnesota

# Holland Wellhead Area
# Pipestone County, Minnesota






Pipestone County

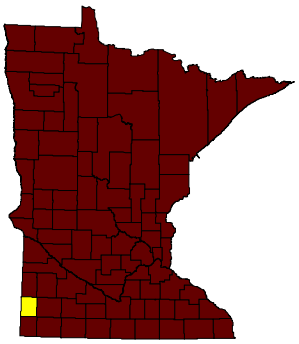
- Holland Wells
- 2000 Ft. CRP Buffers
- Wellhead Protection Area
- Inner Wellhead Management Zone (200 ft.)
- Drinking Water Surface Management Area

Groundwater Capture Zone

- Time of Water Travel=10 years

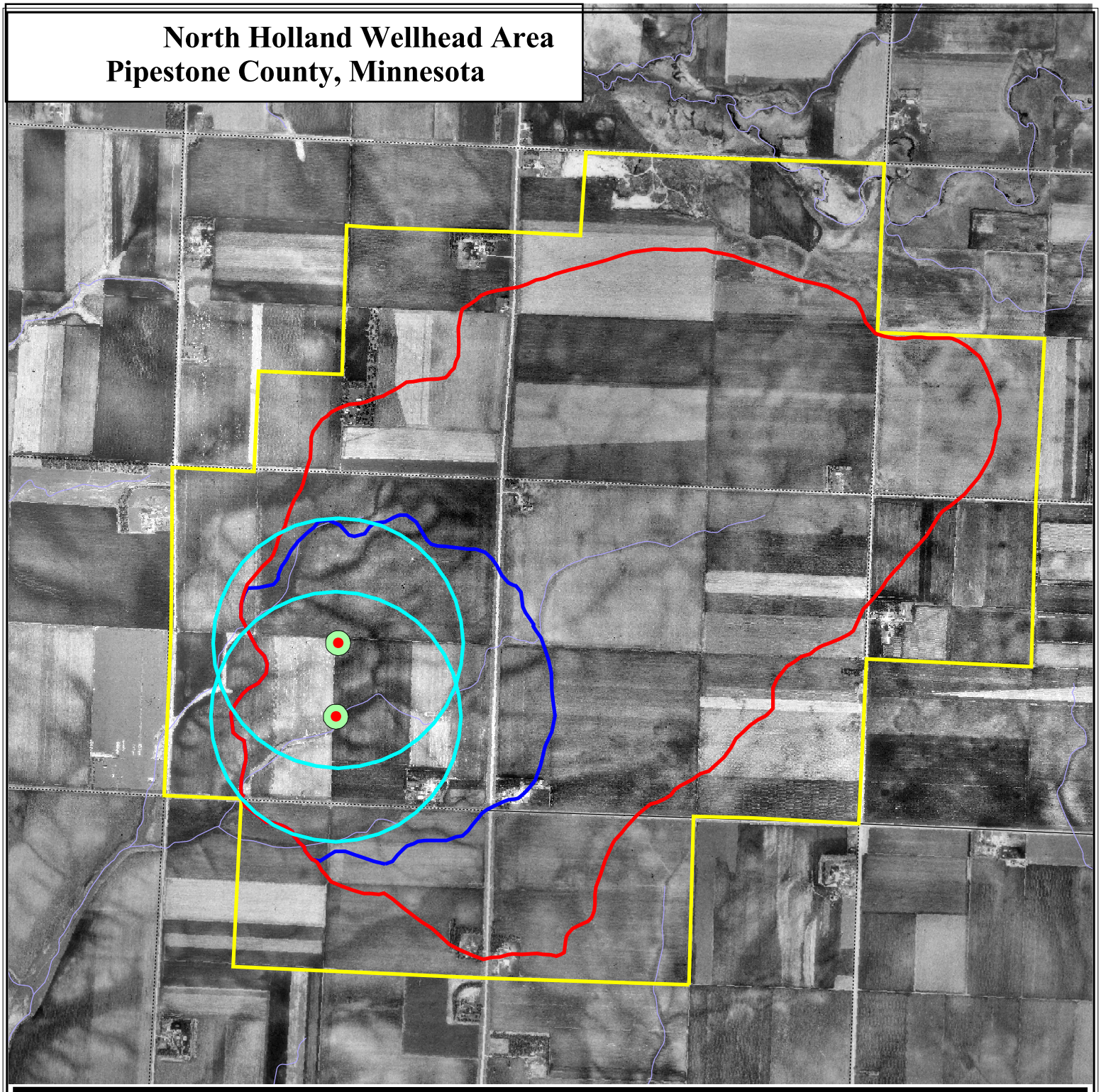
0.25 0 0.25 0.5 Miles

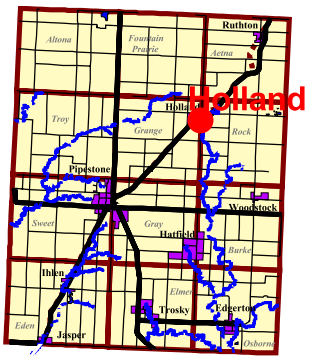
N
Southwest Regional Development Commission
Focused on Southwest Minnesota
W E S



State of Minnesota

# North Holland Wellhead Area
# Pipestone County, Minnesota






Pipestone County

- North Holland Wells
- 2000 Ft. CRP Buffer
- Wellhead Protection Area
- Inner Wellhead Management Zone (200 ft.)
- Drinking Water Surface Management Area

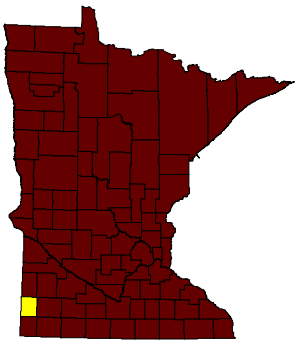
Groundwater Capture Zone

- Time of Water Travel=10 years

0.25 0 0.25 0.5 Miles

N
Southwest Regional Development Commission
Focused on Southwest Minnesota
W E S

Source: Minnesota Department of Health

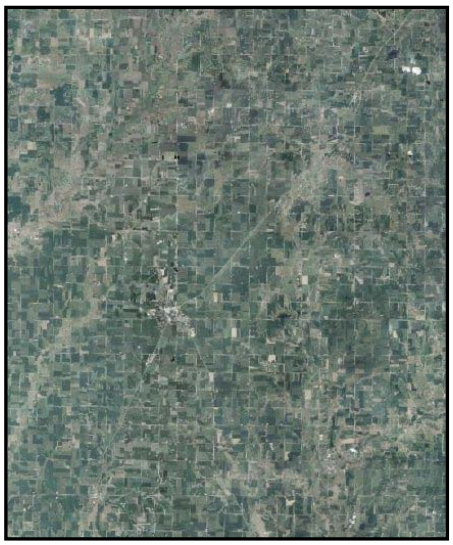


State of Minnesota

# *Pipestone County Comprehensive Plan*
# *Executive Summary*

## Background

The Pipestone County Comprehensive Plan represents the product of an 18-month planning process that began in January 2003. The Pipestone County Board of Commissioners initiated the process by contracting with Midwest Community Planning and the Southwest Regional Development Commission. They assisted with facilitating the various meetings and working with the County's Planning Task Force to develop the specific contents of the Comprehensive Plan. The Task Force consisted mainly of the County's Planning Commission with assistance from the County Board and County Staff. Finally, the Task Force met regularly (approximately once every other month) at publicly advertised meetings at the Pipestone County Courthouse. Members from the public and other local units of governments also frequently attended the meetings. In 2009 the chapters 6 and 7 were amended as required as the 5 year water plan update.



***Pipestone County Aerial Photo ~ 2003***

## Location and Demographics

Pipestone County is located in Southwestern Minnesota along the South Dakota border, approximately 200 miles Southwest of Minnesota's Capital, St. Paul, and 45 miles Northeast of Sioux Falls, South Dakota. According to the 2000 U.S. Census, Pipestone County had approximately 9,895 people living in its nine cities and twelve townships (see Map 1A: Pipestone County). The County is predominately rural in character, although the numerous wind turbines found along Buffalo Ridge (the State's windiest area) gives the County a progressive appearance.

## Authority to Plan

Under Minnesota Statutes Chapter 394, counties are given the authority to formally engage in planning and zoning activities. Chapter 394.21 states:

> *"For the purpose of promoting the health, safety, morals, and general welfare of the community any county in the state…is authorized to carry on county planning and zoning activities."*

In addition, Chapter 394.23 states:

> *"The board [County Board] has the power and authority to prepare and adopt by ordinance, a comprehensive plan."*

**Comprehensive Water Plan**

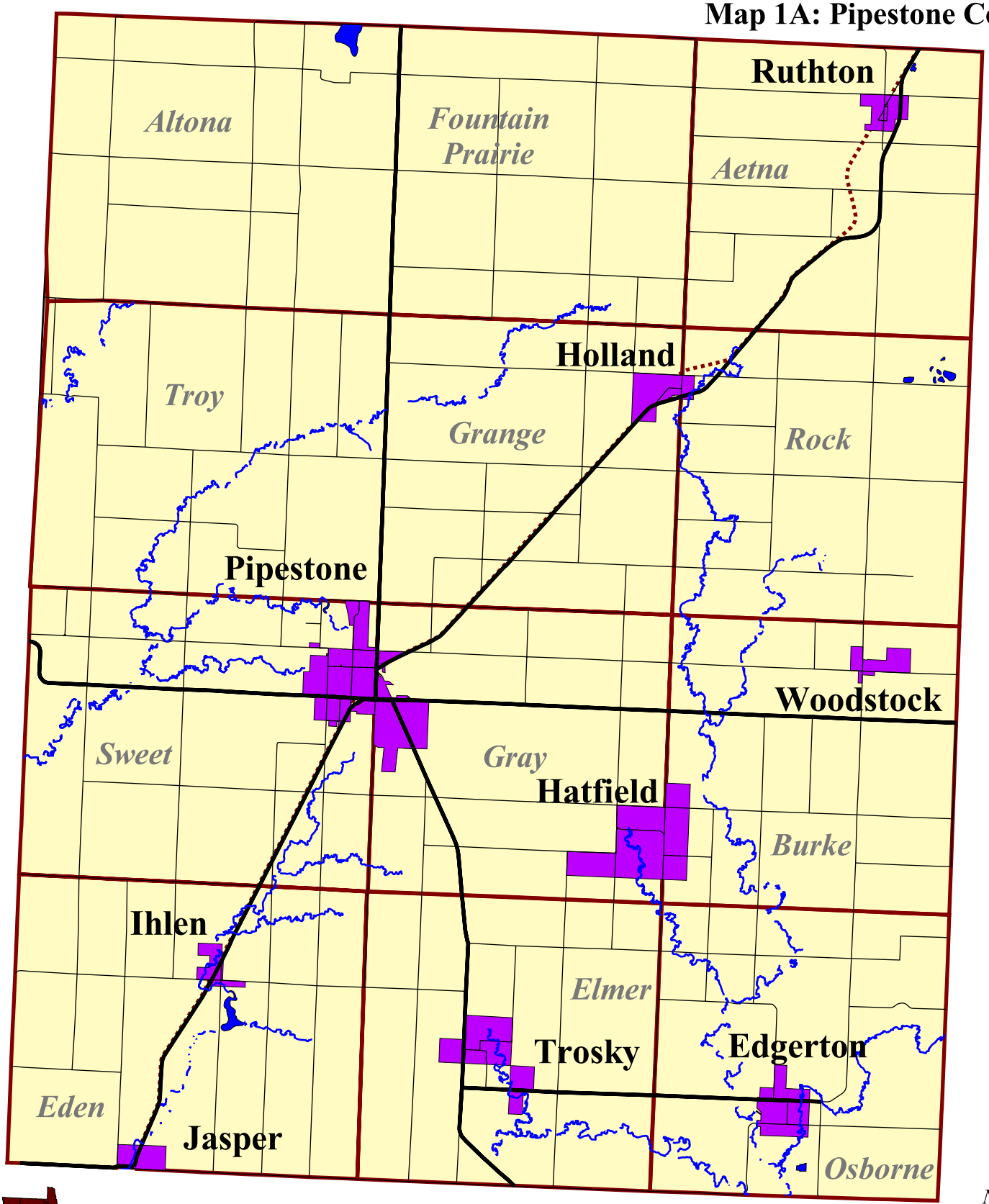
The Comprehensive Local Water Management Act (Minnesota Statutes Sections 103B.301 to 103B.355) encourages counties to develop and implement a comprehensive water plan. ***One of the goals of the comprehensive planning process was to incorporate the County's water planning requirements into this Comprehensive Plan.*** Pursuant to the requirements of this Statute, this Plan:

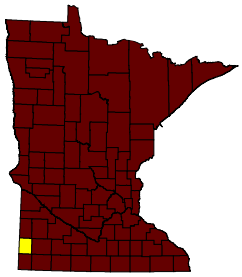
- Covers the entire area of the county;
- Addresses water problems in the context of watershed units and groundwater systems;
- Is based upon principles of sound hydrologic management of water, effective environmental protection and efficient management;
- Is consistent with comprehensive water plans prepared by counties and watershed management organizations wholly or partially within a single watershed unit or groundwater system; and
- This Water Plan covers a ten-year period (2004–2014), with the Goals, Objectives, Policies and Action Steps covering a five-year period (2010–2014).

To ensure that these objectives are realized, the Comprehensive Local Water Management Act further specifies the basic contents of the comprehensive water plan to contain:

- A description of the existing and expected changes to the physical environment, land use and development in the county;
- Available information about the surface water, groundwater and related land resources in the county, including existing and potential distribution, availability, quality and use;
- Objectives for future development, use and conservation of water and related land resources, including objectives that concern water quality and quantity, and sensitive areas, wellhead protection areas, high priority areas for wetland preservation, enhancement, restoration, and establishment, storm water management for developing areas, and related land use conditions, and a description of actions that will be taken.
- A description of potential changes in State programs, policies, and requirements considered important by the county to management of water resources in the county;
- A program for implementation of the plan that is consistent with the plan's management objectives and includes schedules for amending official controls and water and related land resources plans of local units of government to conform with the comprehensive water plan, and the schedule, components, and expected State and local costs of any projects to implement the comprehensive water plan that may be proposed, although this does not mean that projects are required by this section.

# Map 1A: Pipestone County



Townships
Municipalities
Lakes
Railroad
Roadways
River / Stream

Source:
MN DNR Data Deli &
MN Planning CBP Data Sets

N
W
E
S
Southwest Regional Development Commission
Focused on Southwest Minnesota

1 0 Miles 1 2

**Comprehensive Plan Contents**

The Pipestone County Comprehensive Plan is divided into seven chapters. Each chapter is briefly summarized below:

- **Chapter One: County Profile**. This Chapter establishes a County Profile for Pipestone County, including information on the County's history, population, households and population projections. Similar information for each of the County's nine cities is provided in Chapters Four (cities) and Five (townships).

- **Chapter Two: Natural Resources**. This Chapter provides a profile of Pipestone County's natural resources. As previously stated, one of the goals of planning process was to incorporate the County's Water Plan into this Comprehensive Plan. Chapter Two is were one would normally find information on the County's 55 data items (a traditional water plan requirement). In addition, the Planning Task Force identified the following five high priority water planning issues for the County:

  Priority Issue #1: Creating Reasonable Environmental Standards
  Priority Issue #2: Protect and Enhance the County's Surface Water Resources
  Priority Issue #3: Protect and Enhance the County's Groundwater Resources
  Priority Issue #4: Reduce Priority Pollutants
  Priority Issue #5: Raise Public Awareness on the County's Key Environmental Issues

- **Chapter Three: Land Use**. This Chapter profiles Pipestone County's Land Use, with information on the County's Zoning, Parks and Trails, Housing, Economic Development, Agriculture and Transportation.

- **Chapter Four: Community Profiles**. This Chapter provides detailed information on each of Pipestone County's nine cities, including historic population, households, population projections, housings projections and a current land use map.

- **Chapter Five: Township Profiles**. Similar to Chapter Four, this Chapter provides detailed information on each of Pipestone County's twelve townships, including historic population, households, population projections, housings projections and a current land use map.

- **Chapter Six: Goals, Objectives, Policies and Action Steps**. Often referred to as the heart of comprehensive plans, Pipestone County's Goals, Objectives, Policies and Action Steps can be found in Chapter Six. This is normally the main reason why Counties develop comprehensive plans. These items specifically outline how the County should make land use decisions regarding future growth and development and which steps will be needed in order to achieve the County's Goals.

- **Chapter Seven: Implementation.** Chapter Seven establishes a five-year focus plan (i.e., work plan) for the County to use while implementing this Comprehensive Plan. In addition, this Chapter contains information on the Plan's coordination, review and amendments procedures.

# Pipestone County Local Water Management
# 2005 – 2009
# Executive Summary

The original Pipestone County Comprehensive Local Water Plan was approved in 1991. A plan update was completed in 1995, and another in 2005 at which time the County also updated its County Comprehensive plan and joined the County Local Water Management plan. Thus creating one uniform and comprehensive plan, with these plans combined the county is able to incorporate and implement water quality based land use decisions. The current plan covers a ten year period 2005 – 2014 with a five year (2009) update of goal objectives and actions. This executive summary is included to provide an overview of the accomplishments that have been achieved over the past five years.

The Pipestone County Commissioners have delegated the water plan implementation to the Pipestone Soil and Water Conservation District who meet monthly to oversee accomplishments, review budgets, and provide direction on implementation. In addition the County also utilizes the Planning Commission to provide input and direction on land use related issues. The Pipestone Soil and Water Conservation District Board of Supervisors include: Anna May Fritz (Chair), Le Roy Stensgaard, Ian Cunningham, Cal Spronk, and Ed Loll. Pipestone County Planning Commission members include: Curt Johnson (Chair), Mike Moeller, Tom Nelson, Leon Hanenburg, Arvin Pater, Jamie Sumption, John Ruiter, and Wally Slinger.

A resolution was passed on March 24, 2009 by the Pipestone County Board of Commissioners to authorize the update of the Comprehensive local water plan. Public comments were accepted until May 15, 2009 form State agencies, local governments and general public. Plan updates were discussed during the July 9, 2009 Soil and Water Conservation District board of supervisor meeting and at the Pipestone County Planning Commission meeting held on July 13, 2009. Update recommendations were incorporated in a draft update by the Conservation and Zoning office staff. A copy of the plan was then submitted for State Agency, Local Government and general public review and notice of a final public hearing to be held on August 10, 2009 was published.

The following is a summary of the previous five years of water plan related accomplishments.

## Third Generation Water Plan Accomplishments 2005 - 2009

- **Citizen Participation and Intergovernmental Cooperation**

  A County and SWCD website was developed to provide the public with reports, program information, form and applications, and links to other pertinent sites.

  Water plan implementation actions are overseen by both the Soil and Water Conservation District Board of Supervisors and Pipestone County Planning Commission.

  Pipestone Creek and Rock River TMDL's both had an advisory committee which provided input and assisted in the development of the implementation plan. Each watersheds advisory committee consisted of approximately 12 members which represented various organizations.

- **Economic Development**

  Assisted and supported development of the Casey Jones Trail and City of Pipestone walk study.

- **Natural Resources**

  Staff obtained and maintain subsurface sewage treatment systems (SSTS) inspector license to oversee proper installation of systems.
  County SSTS ordinance was updated to require system upgrades on land transfers.
  County Septic Loan Program: Pipestone County designated an initial $200,000 to the Conservation and Zoning Office to create a revolving County Loan Program for SSTS upgrades. Funds are loaned at a rate of 3% interest over 7 years as a property tax assessment. Presently approximately $160,000 has been loaned on 23 upgrades.

  Staff assisted and overseen the design and installation of the City of Hatfield's central sewer upgrade.

  Annually approximately 40 individual subsurface sewage treatment systems (SSTS) designs are reviewed and installations inspected to confirm compliance with 7080 rules.

  SWCD staff administered the Agriculture Best Management Practices (BMP) Loan Program to assist in BMP implementation, a total of $1,749,136.00 have been loaned.

  Total Maximum Daily Load's TMDL's:
  Pipestone Creek TMDL, study and implementation plans were completed and approved. Conservation and Zoning staff coordinated the process, with the assistance from MPCA and DNR. A clean water legacy and 319 grant application was submitted by not approved for funding.
  Rock River TMDL, study and implementation plans have also been completed and approved. Staff participated in watershed meetings and provided input throughout the planning process. An implementation grant has been submitted.
  Des Moines TMDL, study is approved and implementation plan has just been completed. Staff participated in planning meeting and provided needed data for the study.
  Redwood TMDL, the study is just in the beginning stages and implementation planning will follow. SWCD supervisors and staff will participate in planning meeting and provide input as needed. Implementation project will be done jointly with surrounding counties and the RCRCA. BMP projects completed in Pipestone County in the Redwood Rider in the last five years include 14 sediment control basins (638's), 1 watering pond, and 9 SSTS low interest loan totaling $70,000. Funding for SSTS upgrades was obtained by the Redwood Rivers Control Association through MPCA grant funds.

  The County purchased a building for the County Recycling Program, $75,000. The Building is utilized for monthly collections of electronics, household appliances, florescent bulbs, lead batteries, and empty pesticide containers. Staff also held a Household Hazardous Waste Collection for the collection and disposal of unwanted materials; these collections are done jointly with Lyon and Nobles mobile collection units. Annually estimated material collected amounts are 300 household appliances, 3500 florescent bulbs, and 84,000 lbs of electronics, 50 lead acid batteries, and collection of HHW from 300 households. Annual disposal costs paid are $20,000.

Feedlot level 3 compliance inspections have been conducted on nearly all 614 county feedlots. Annually staff conducts inspections on approximately 10% (60 sites) for re-registration and 7020 compliance. Once sites are identified as having runoff concerns staff assist producers with the design of runoff control structures, and the cost-share application process when eligible.

Feedlot Runoff control practices are installed annually on approximately 5 feedlot sites. Engineering and cost-share assistance is provided. Annually approximately $500,000 is spent on total practice installation. Water plan funds are also utilized to provide incentives when other funding sources are not available, $5,000 has been provided towards one runoff control structure.

Wellhead protection plans have been approved for the Lincoln Pipestone Rural Water Holland and North Holland, City of Ruthton, and City of Edgerton wellfields. Staff attend relevant meeting and assisted with implementation measures when requested.

Well Sealing Program: Annually $4,000 is designated towards the cost-sharing of sealing abandoned wells. Cost-share is paid at a rate of 50% not to exceed $250. Annually approximately 30 wells are sealed.

- **Land Use Planning**

A comprehensive Geographic Information System (GIS) was created within the County. GIS projects are created by the Conservation and Zoning office and then published for other county departments use. A County wide parcel map has been created, along with other various GIS layers; these layers are maintained and utilized with all county departments. In 2007 a high resolution aerial flight of the county was completed for a cost of $50,000. With this imagery staffs is able to accurately measure, design, plan, and complete other tasks without having to spend the time in the field.
The County's Soil Survey was updated, and published on web soil survey, Pipestone County, $150,000

- **Public Investments**

Conservation and zoning office staff completed the BWSR ditch study and serve as the local ditch contact.

- **Public Awareness**

Bi-annual newsletters are published and distributed to county residents to promote existing programs and financial resources, annually, $1,500.

A contract is maintained with the local radio station to air several 30 second public service announcements per day promoting Best Management Practices, annually $1,850

Ecology Bus utilized to provide environmental education to county schools, annually $4,000.

K-12 conservation related education programs are coordinated with area teachers.

Producer nutrient management training and manure economic classes held for county feedlot owners.

County Conservation Tour held to provide producers and government official's knowledge of today's farming practices and examples of best management practices which have been installed. This year's focus was on dead animal composting.

Distributed free water sampling and manure sample kits to county residents. A prepaid account with Stearns DHI lab is utilized. Annually 50 kits dispersed at an average cost of $30 per kit, $1,500 annually, Pipestone Conservation and Zoning.

Information booth staffed at County Fair and home shows promoting conservation, recycling and BMP's.

**Water Plan Expenditure Summary 2005 - 2009**

| NRBG | | Grant | Match | Total |
|---|---|---|---|---|
| | Water Plan | $100,375 | $9,590 | $109,965 |
| | Feedlot | $256,348 | $185,658 | $442,006 |
| | SSTS | $32,885 | | $32,885 |
| | WCA | $50,000 | $50,000 | $100,000 |
| | Shoreland | $14,895 | $14,895 | $29,790 |
| Total NRBG | | $454,503 | $260,143 | $714,646 |

County Expenditures

| | |
|---|---|
| Pictometry Flight and Software | $50,000 |
| County SSTS Loan Program | $200,000 |
| Recycling Building Purchase | $75,000 |

**Ongoing Programs**

Pipestone County continues to administer several programs that are vital to achieving the goals set forth in the Water Plan, including those related to feedlots, floodplain and shoreland management, Subsurface Sewage Treatment Systems (SSTS), solid waste, Wetland Conservation Act (WCA), state-cost share, Environmental Quality Incentive Program (EQIP), Reinvest in Minnesota (RIM), conservation reserve program (CRP) and county zoning requirements. The continued funding of these programs has been identified as a high priority in the Five-Year Implementation Plan.