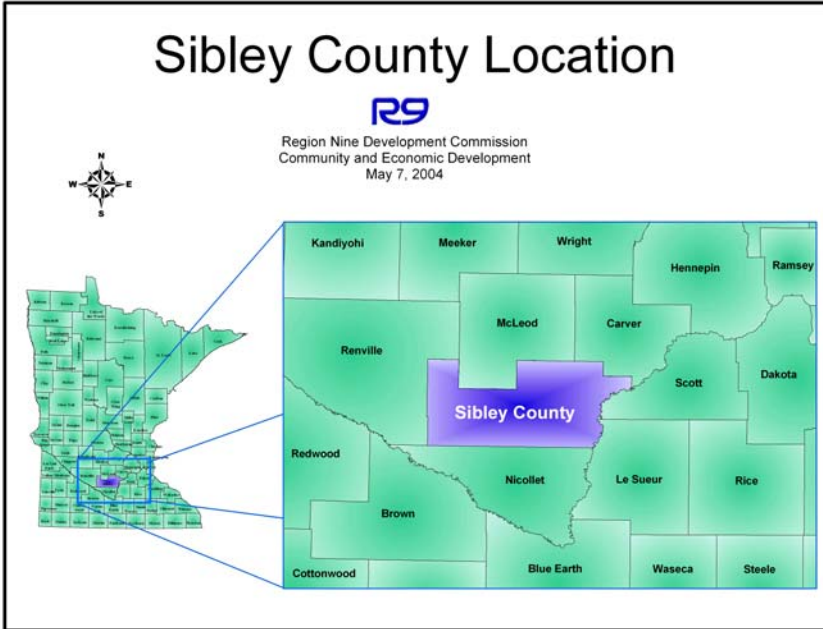


PART TWO: SIBLEY COUNTY

The following information is designed to provide a concise, basic overview of the physical traits of Sibley County for hazard mitigation planning purposes.

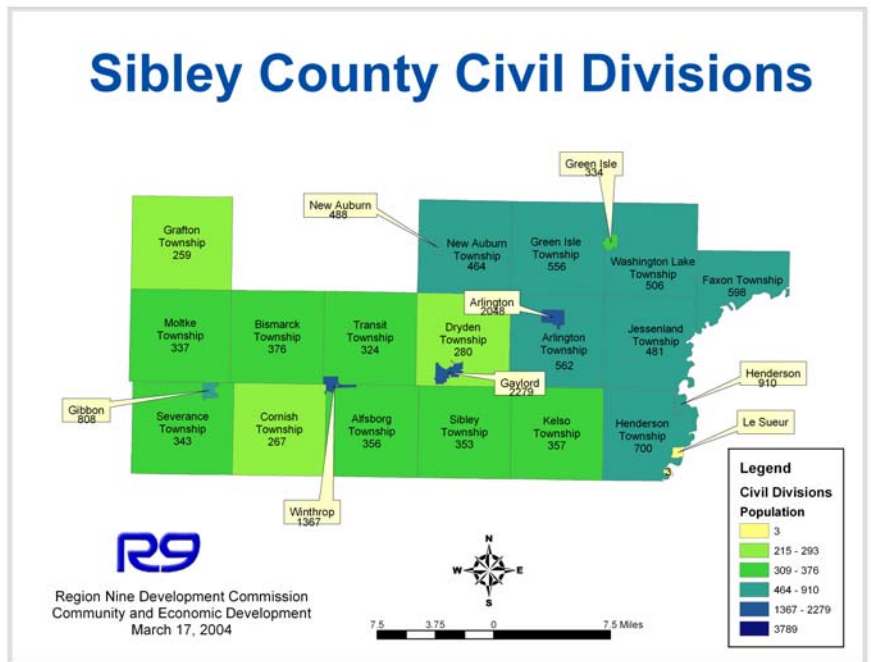
This section builds on and references other documents specific to Sibley County including the Emergency Operations Plan, Comprehensive Local Water Plan, and Capital Improvement Plan. The use of these documents creates a sound basis for all hazard mitigation projects and guarantees that any activities will be firmly grounded in the land use and environmental guidelines Sibley County strives to uphold. All included maps are available in a larger, full-page format as appendices to this document.

General Overview



Sibley County, with boundaries encompassing an area of 588.65 square miles, is located 50 miles southwest of Minneapolis. The county is bordered on the east by the counties of Le Sueur and Scott, on the south by Nicollet, on the west by Renville, and to the north by Renville, McLeod and Carver. Highways 169, 15, 19 and 22 are the primary transportation routes linking Sibley County to other areas, including the Minneapolis-St. Paul metropolitan area.

Sibley County has seven cities – Arlington, Gaylord, Gibbon, Green Isle, Henderson, New Auburn, and Winthrop. There are 17 organized townships – Arlington, Alfsborg, Bismarck, Cornish, Dryden, Faxon, Green Isle, Grafton, Henderson, Jessenland, Kelso, Moltke, New Auburn, Severance, Sibley, Transit and Washington Lake. Gaylord is the largest city in the county and serves as the county seat.



Population

Sibley County had a population of 15,356 in the 2000 U.S. Census, creating a population density of twenty-six people per square mile. Census data suggest the county population increased seven percent over the last 10 years although the population has decreased three percent since 1970.

Population Trends in Sibley County

Population Trend	Sibley County	Minnesota
Population, 2003 Estimate	15,277	5,059,375
Population Percent Change, April 1, 2003 to July 1, 2003	-.5%	2.8%
Population, 2000	15,356	4,919,479
Population, Percent Change, 1990 to 2000	6.9%	12.4%
Persons Under 5 Years Old, Percent, 2000	6.6%	6.7%
Persons Under 18 Years Old, Percent, 2000	27.7%	26.2%
Persons Over 65, Percent, 2000	16.4%	12.1%

Source: U.S. Census

As defined by the Census, Sibley County has no urban population; the entire population of the county is rural. Even so, the number of people living on farms has declined. In 1990 there were 3,310 people living on farms, but by 2000 the number had declined 24% to 2,505.

Sibley County Population by City

	1990	2000	Percent Change
Sibley County	14,366	15,356	6.9
Alfsborg township	379	369	-2.6
Arlington	1,886	2,064	9.4
Arlington township	599	539	-10.0
Bismarck township	310	366	18.4
Cornish township	330	267	-19.1
Dryden township	442	322	-27.1
Faxon township	398	624	56.8
Gaylord	1,935	2,258	16.7
Gibbon	712	788	10.7
Grafton township	292	277	-5.1
Green Isle	239	356	49.0
Green Isle township	627	582	-7.2
Henderson	746	910	22.0
Henderson township	567	681	20.1
Jessenland township	472	495	4.9
Kelso township	365	362	-0.8
Le Sueur	N/A	6	N/A
Moltke township	353	337	-4.5
New Auburn	363	459	26.4
New Auburn township	421	478	13.5
Severance township	361	350	-3.0
Sibley township	357	351	-1.7

Transit township	332	306	-7.8
Washington Lake township	601	443	-26.3
Winthrop	1,279	1,366	6.8

Source: US Census Bureau 2000 Summary File

Language Spoken

More than ninety percent of Sibley County's population speaks only English at home. Of those speaking a language other than English, less than five percent speak English less than "very well." The percent of the population speaking solely English is slightly lower in Sibley County than in some of the surrounding counties. Likewise, the percent of the population speaking a language other than English or that speak English less than "very well" is slightly higher in Sibley County than in others.

Language Summary for Sibley County

Subject	Number	Percent
Population 5 Years and Over	14,281	100.0
English only	12,964	90.8
Language other than English	1,317	9.2
Speak English less than "very well"	643	4.5
Spanish	682	4.8
Speak English less than "very well"	411	2.9
Other Indo-European languages	617	4.3
Speak English less than "very well"	222	1.6
Asian and pacific island languages	10	0.1
Speak English less than "very well"	4	0.0

Source: Minnesota Land Management Information Center Datanet

Housing Trends

The number of housing units and number of households increased from 1990 to 2000 in Sibley County, at a rate slightly higher than the population increase over the same time period. Household size dropped slightly from 2.66 in 1990 to 2.60 in 2000 – a drop of approximately 2 percent. The number of people in group quarters increased substantially, reflecting the rise in elderly population and population of local nursing homes. However, while more than 41 percent of households included individuals 65 years of age or older, more than 34 percent of the county's households included individuals under 18 years of age.

At more than 83 percent, detached single family dwellings make up the vast majority of Sibley County's housing units. Another 4 percent are mobile homes. The housing stock is generally

older, with about 61 percent built before 1959. Housing tends to be affordable, with 71 percent of owner-occupied units valued under \$100,000. In addition, only 43 housing units lack telephone service.

Sibley County Housing Profile Summary

Subject	Number	Percent
Total Housing Units	6,024	100.0
Units in Structure		
1-unit, detached	5,017	83.3
1-unit, attached	60	1.0
2 units	154	2.6
3 or 4 units	122	2.0
5 to 9 units	134	2.2
10 to 19 units	92	1.5
20 to 49 units	175	2.9
50 units or more	7	0.1
Mobile home	261	4.3
Boat, RV, van, etc.	2	0.0
Year Structure Built		
1999 to March 2000	56	0.9
1995 to 1998	223	7.4
1990 to 1994	366	6.1
1980 to 1989	462	7.7
1970 to 1979	773	12.8
1960 to 1969	495	8.2
1950 to 1959	753	12.5
1940 to 1949	450	7.5
1939 or earlier	2,446	40.6
Selected Physical Characteristics		
Lacking complete plumbing facilities	122	2.0
No telephone service available:	55	0.9
No telephone service available:	43	0.7
Specified Owner-Occupied Units (Value)	3,162	100.0
Less than \$50,000	574	18.2
\$50,000 to \$99,999	1,671	52.8
\$100,000 to \$149,999	614	10.2
\$150,000 to \$199,999	170	2.8
\$200,000 to \$299,999	102	1.7
\$300,000 to \$499,999	28	0.5
\$500,000 or more	3	0.0
Median value	\$80,700	(X)

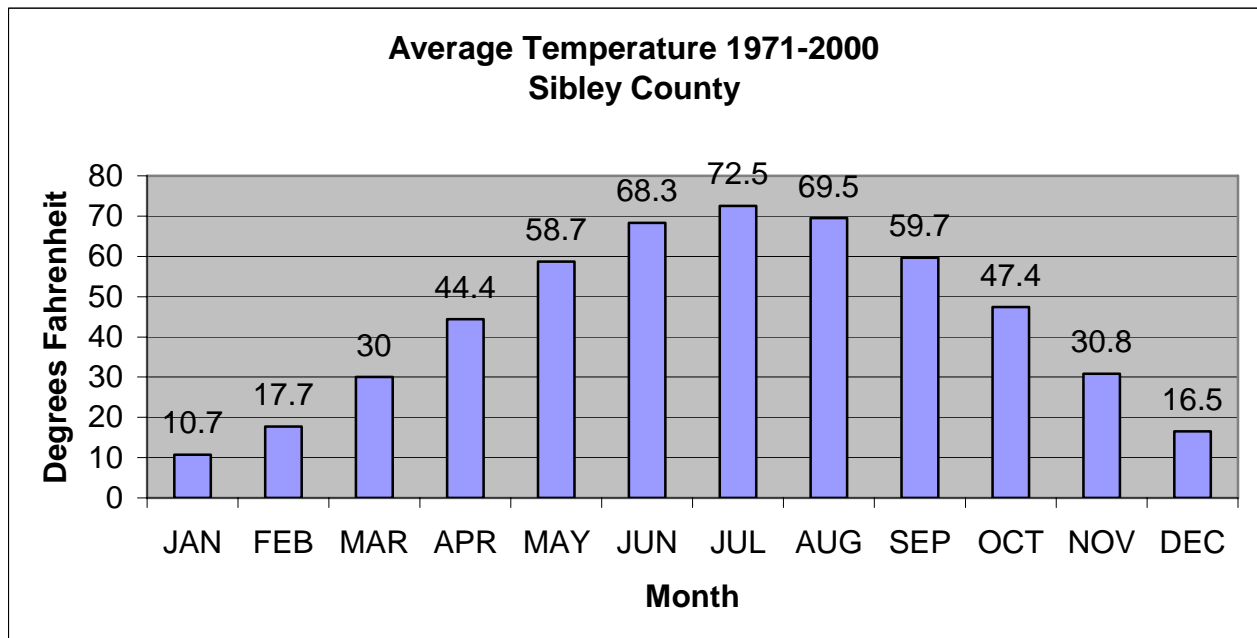
(X) Not applicable

Source: US Census Bureau 2000 Summary File 3

Physical Characteristics and Climate

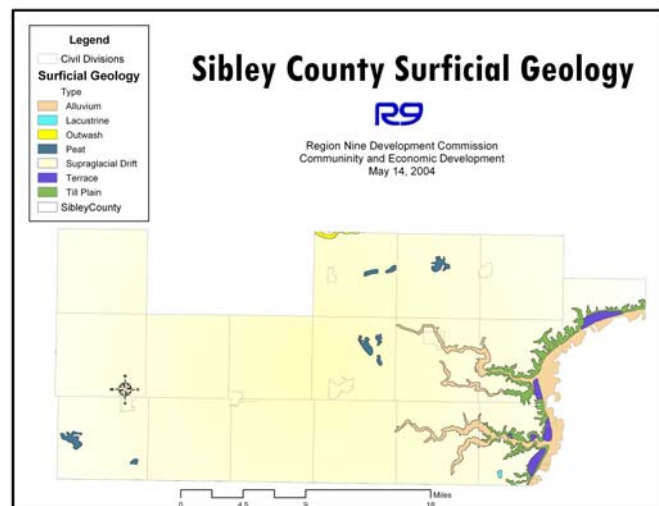
The climate of Sibley County is classified as continental, characterized by wide variations in temperature from summer to winter. Although the climate is essentially uniform throughout the county, variations in microclimate may occur as a result of differences in vegetation, soil and relief.

Rainfall in Sibley County averages 27 inches annually with approximately 70% of the precipitation occurring in the growing season. The frost-free period is approximately 140 days, typically with first frost in late September and the final killing frost in late April or early May. The average seasonal snowfall is 42 inches; the greatest snow depth at any one time was 37 inches. On average, 74 days of the year have at least an inch of snow on the ground.



Geology

Land surface characteristics in Sibley County are the result of glacial ice and flowing water. The surficial materials are the deposits, collectively called drift, of continental glaciers centered in Canada and extending into Southern Minnesota. The glaciers advanced and retreated, creating ground moraines. The intervals between glacial episodes created the deep erosion and weathering of drift and bedrock surfaces in Sibley County.



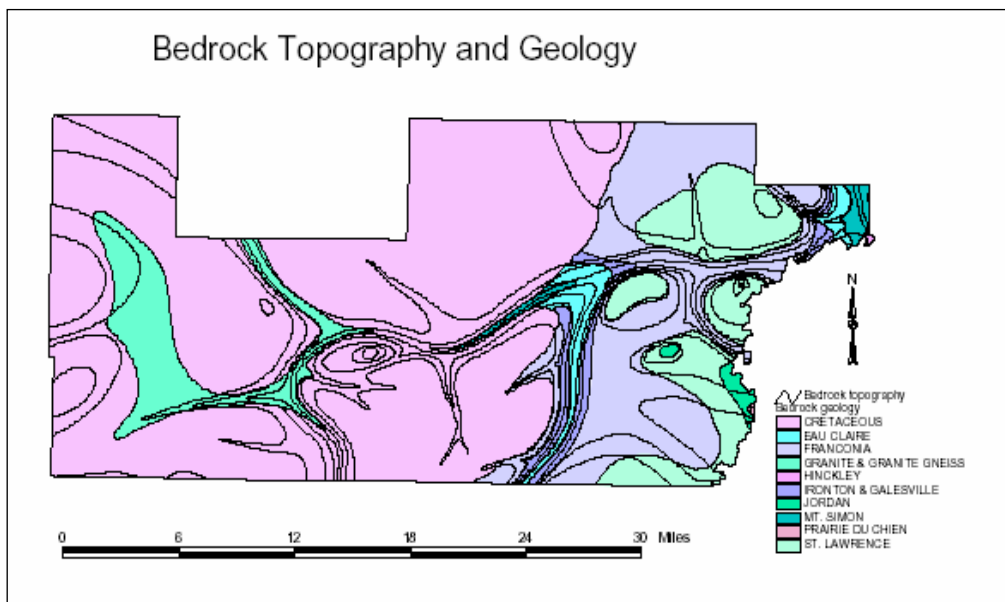
The bedrock that underlies eastern Sibley County is early Paleozoic rock consisting of three major types: sandstone, shale and carbonates. The bedrock was deposited into shallow-depressional lowland called the Hollandale Embayment (shallow marine waters that flooded southern Minnesota about 500 million years ago.)

The western end of the county was void of the Paleozoic-age Hollandale Embayment. The transcontinental arch is found on the western end and consists primarily of Precambrian age igneous and metamorphic rocks, including granites and granitic gneiss that are capped in many areas with Sioux quartzite.

Other areas of the county are composed of alluvium, glacial outwash deposits of sand and gravel, and a small amount of glacial lacustrine. Glacial outwash can be found along the Minnesota River in a belt one to five miles wide running southeast of Gaylord to areas along the Nicollet County border.

Topography and Soils

The highest elevation in Sibley County is 1,085 feet, located in the northwest corner of the county, in Grafton Township; the lowest elevation, at 700 feet, is where the Minnesota River leaves the county along the northern border. More than



80% of the county consists of level and gently sloping till plain with local relief of three to ten feet. (Only 6% has local relief of 10 to 30 feet.)

Soil data indicate general patterns of soil suitability and limitations for land uses, and these data can further be used to determine flood potential, load-bearing capacities, permeability, surface drainage and percolation rates. Eleven soil associations occur in Sibley County, described as follows:

Canisteo-Okoboji-Nicollet Association: Nearly level or gently sloping with very poorly to moderately-well-drained loamy and silt-rich soils on till plains.

Clarion-Canisteo-Webster Association: Nearly level to sloping with a combination of poorly-drained and well-drained loamy soils on till plains.

Canisteo-Nicollet Association: Nearly level to gently sloping; poorly-drained to moderately well-drained loamy soils on till plains.

Canisteo-Marna-Nicollet Association: Nearly level or gently sloping, poorly-drained to moderately well drained, loamy and clay-rich soils on till plains and lake plain border areas.

Cordova-Canisteo-LeSueur Association: Nearly level or gently sloping, poorly-drained to moderately-well-drained loamy soils on till plains.

Cordova-Lester-LeSueur Association: Nearly level to sloping, poorly-drained to well-drained loamy soils on till plains.

Lester-Cordova Association: Nearly level to sloping, poorly-drained and well-drained loamy soils on till plains.

Lester-Storden-Terril Association: Nearly level to very steep, moderately well-drained loamy soils on till plains.

Lester-Swanlake-Lasa Association: Gently sloping to very steep, well-drained loamy and sandy soils on till plains and terraces.

Minneiska-Chaska-Oshawa Association: Nearly level or gently sloping, very poorly-drained to moderately well-drained loamy and silt-rich soils on floodplains.

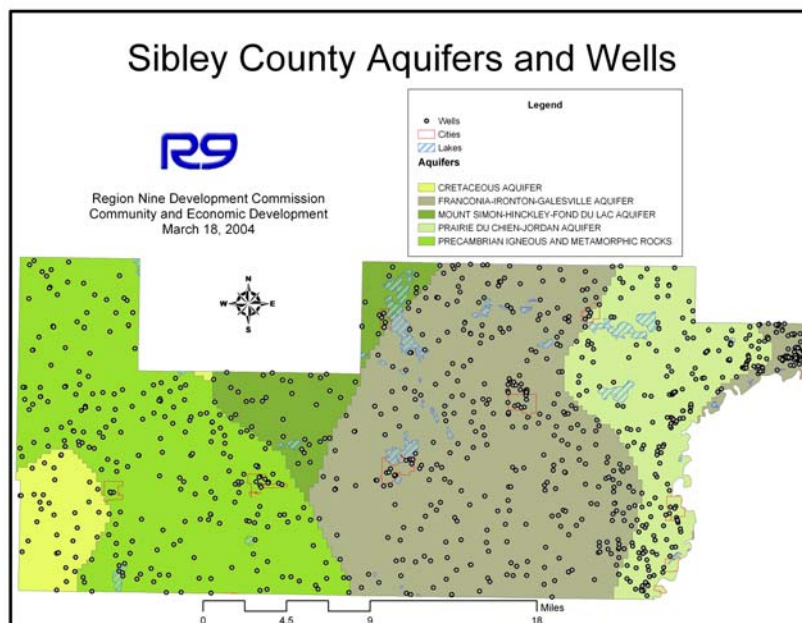
Coland-Clarion-Hawick Association: Nearly level to sloping, poorly-drained to excessively-drained loamy and sandy soils on floodplains, till plains, terraces, and bluffs adjacent to stream channels.

Hydrography

The lakes, streams, and groundwater of Sibley County are some of its most significant resources. Water quality has become one of the most important environmental issues facing the county and state. Water is used for domestic and residential purposes, industry, agriculture and recreation. The health, safety and welfare of the public are directly linked to the county's water supply and, as indicated in the *Sibley County Comprehensive Local Water Plan*, steps should be taken to eliminate or minimize our negative impacts on this resource.

Groundwater

Groundwater is found in unconsolidated glacial deposits and in the underlying bedrock. Glacial drift and meltwater streams created drainage; the sand and gravel deposits left in these areas form good aquifers. The majority of groundwater available to residents, from known aquifers, can be obtained from two bedrock aquifer systems in Sibley County. They are the Franconia-Ironton-Galesville aquifer system and the Mt. Simon-Hinckley aquifer system. Most



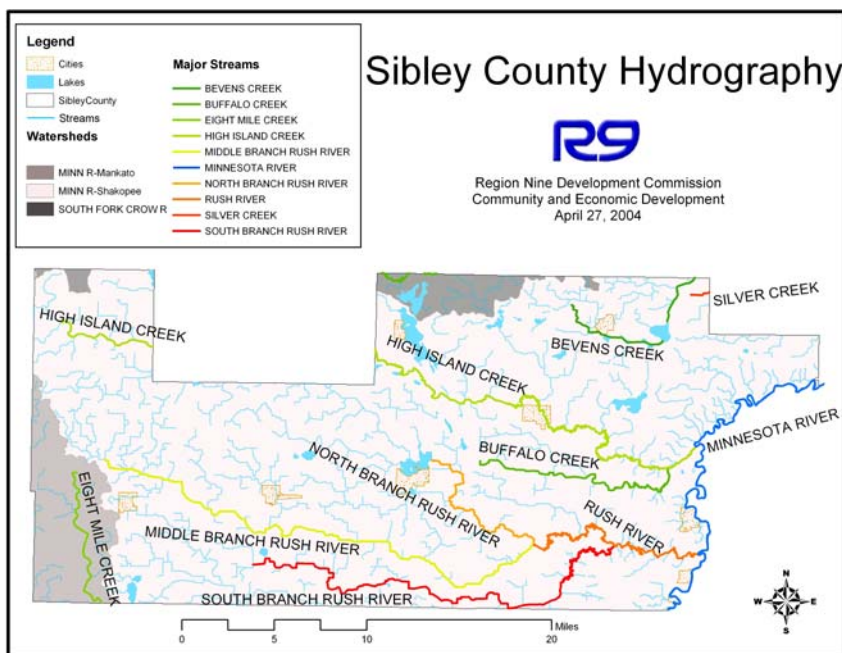
of the eastern end of the county, including Green Isle, is supplied by the Franconia-Ironton-Galesville aquifer system, while well records indicate that Henderson, Arlington, and Winthrop wells draw water from the Mt. Simon aquifer.

Arsenic is a concern to many residents living in Grafton Township because water in the cities of Stewart and Buffalo Lake (both in McLeod County) has exceeded the Environmental Protection Agency's standards in the past. Natural arsenic is commonly found in the glacial drift from the Des Moines lobe in the late Wisconsin advance, a drift that once spanned what is now Sibley County.

Watersheds

Lower Minnesota Watershed.

Ninety-one percent of Sibley County, or 349,828 acres, is in the Lower Minnesota Watershed. This watershed contains High Island Creek, Bevens Creek, and the Rush River. Bevens Creek flows west to east from northeastern Green Isle Township into Carver County. High Island Creek and the Rush River flow from west to east at a stream gradient of four feet per mile until each is approximately eight miles from the Minnesota River. There the streams increase to thirty feet per mile and a system of deep valleys and ravines occurs along the bluffs. The Middle Branch of the Rush River is the only minor watershed that lies within the political boundary of Sibley County, although Sibley County maintains shared jurisdiction for the High Island Watershed with McLeod and Renville counties and for the Crow River Watershed with McLeod and Renville as well as Carver and Kandiyohi.



Middle Minnesota Watershed

Approximately 6.16% of Sibley County is located in the Middle Minnesota River Watershed on the western end of the county. This watershed contains Eight-Mile Creek and a portion of Little Rock Creek.

Crow River Watershed

Buffalo Creek, of the Crow River Watershed, drains approximately eleven sections of New Auburn Township and approximately four sections of Washington Lake Township, or 2.79% of the county.

Wetlands

Over half of the wetlands once located in Sibley County have been artificially drained or filled.

Land Cover and Use

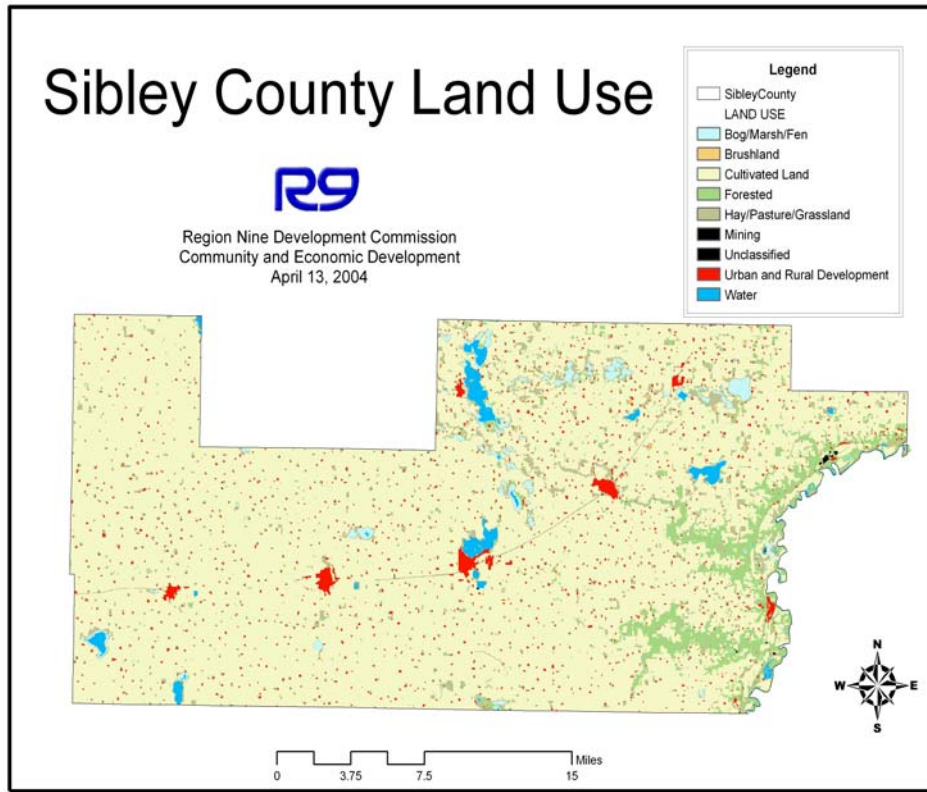
Sibley County has a total of 386,480 acres of land of which approximately 381,230 acres are privately owned. Publicly-owned land, including municipalities, county, state and federal lands, covers 5,250 acres.

Land in Sibley County is primarily used for agricultural production - Corn and soybeans are the predominant crops, however, with vegetable canning industries in the area, peas and sweet corn are included in many rotations. The Southern Minnesota Beet Sugar Cooperative recently increased their acreage by 40,000 acres, creating a significant increase in the amount of sugar beets grown.

Sibley County Land Use Overview

Land Use	Percent
Agriculture	84.9
Urban	2.7
Forest	5.1
Wetland	1.1
Water	1.4
Hay, Pasture, Grassland	4.8

The number of dairy producers in Sibley County is steadily declining due to low milk prices; the remaining producers are increasing their operations for profit. This large-scale trend reduces forage crops throughout the county although the acreage of forage in the areas surrounding the large-scale dairy operations is expected to rise.



Comparisons of land cover information and recent aerial photography indicate that some residential development is expanding into forest and agricultural areas, especially in the northern portions of the county or those areas with access to major transportation corridors. This growth is consistent with county zoning, however, and undeveloped land within existing city limits is sufficient to handle all projected population and household growth.

Transportation

Sibley County's transportation system is composed of roads, highways, airports, public transit, railroads and trails. This system is designed to serve residents, businesses, agriculture and tourism.

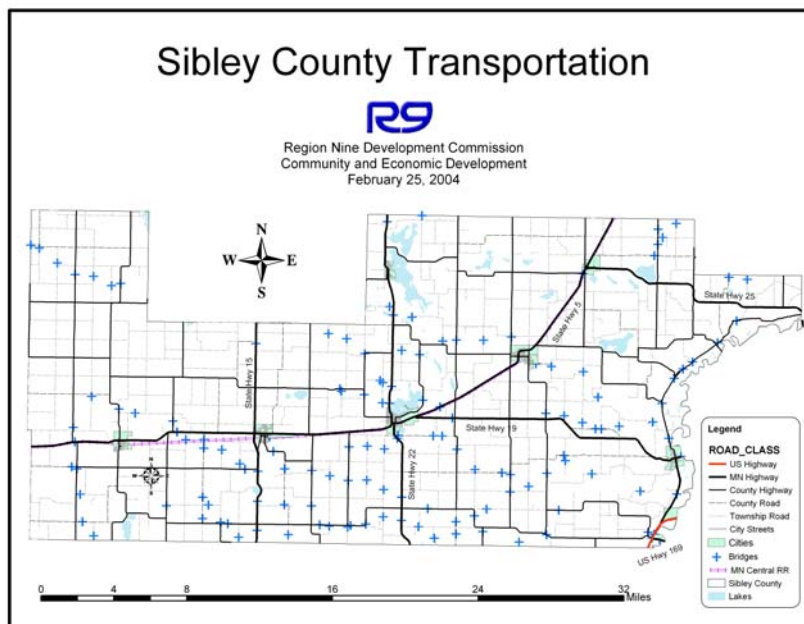
Roads and Bridges

Sibley County maintains about 390 miles of road, 280 miles of them paved and 110 of them gravel-surfaced. Maintenance activities include placing gravel, snow and ice control, signing, mowing the roadside, patching pavement, sealing cracks, and controlling weeds. Motor patrol operators, truck drivers, heavy equipment operators, and mechanics comprise the staff responsible for these functions. Our construction staff is responsible for implementing construction projects such as earthwork, paving, seal coats, and highway striping.

The Public Works Department is responsible for the inspection of Sibley County's 129 bridges. (There are 67 County, 58 Township, and 4 City bridges.) Public Works handles funding sources and the other local government units when maintaining or replacing a bridge.

Railroads

A railroad operated by the Minnesota Valley Regional Rail Authority in Redwood Falls, Minnesota, runs through Winthrop, Gibbon, Gaylord, Arlington, and Green Isle.



Emergency Capabilities

A county's ability to respond to an emergency situation or event is based on service areas, facilities and equipment. An understanding of response times and abilities is critical in protecting the citizens of Sibley County. The existing facilities and equipment in the county are intended to address local needs and support regional needs. Sibley County is considered a mutual aid county and provides and receives support from adjacent counties through the Meeker-McLeod-Sibley County Community health service plan. The following summary and description serve as an inventory of the response facilities for Sibley County:

Medical Facilities

Sibley County is served by the Sibley Medical Center and Clinics in Arlington; the hospital recently signed a management agreement with Allina health systems to bring in more health care providers, improve service, and widen access through renovation and new construction at the

Arlington site. (Access improvements are also underway at the clinics in Gaylord and Winthrop.) These service improvements include investment in technology.

Sibley County has five ambulance services, as follows:

- Arlington/Green Isle Ambulance service.
- Gaylord Ambulance service.
- Winthrop/Gibbon Ambulance service.
- Henderson/Le Sueur Ambulance service.
- New Auburn/Glencoe Ambulance service.

Nursing homes in Sibley County include the Arlington Board and Care, Arlington Good Samaritan, and the Winthrop Care Center.

Fire Services

Fire protection in Sibley County is the responsibility of the seven municipal fire departments within the county. There is no full-time fire departments- all municipal fire departments are volunteer-based. Sibley County has a “county fire chief” responsible for the fire and rescue plan and seven municipal fire chiefs. All municipal fire departments have mutual aid agreements with one another that are on file in each city.

The seven municipal fire departments in Sibley County are:

- Arlington fire Department
- Gaylord Fire Department
- Gibbon Fire Department
- Green Isle Fire Department
- Henderson Fire Department
- New Auburn Fire Department
- Winthrop Fire Department.

Public Safety Operations

Emergency Operations Center: The emergency operations center, or strategic command, is located in Gaylord. The alternate EOC is the Winthrop Public School in Winthrop.

Emergency Warning Systems: Mankato NAWAS is responsible for disseminating all watches and warnings to Sibley County, except warnings for conditions generated within the county itself. The Sibley County Warning Officer is the sheriff. The alternate is the deputy. The warning officer is responsible for ensuring all warnings are properly received and disseminated.

When there is an immediate threat to life, actions taken are as follows: the warning is received from NAWAS in Mankato; for a weather emergency, the affected municipalities are notified by radio or telephone. Sirens are activated in Gaylord and Winthrop and police from other cities are notified to activate their own sirens. Requests are made to radio stations for activation of an emergency broadcast and it is verified with the Minneapolis Weather Service that warning was sent over Weather Alert Radio. Others are alerted through outdoor warning systems, TV, telephone or route-alerting including the deaf, blind and non-English speakers. The county emergency management director is notified along with key staff members and some businesses and facilities.

Economic Synopsis

About 70 percent of Sibley County's population aged sixteen and older is in the labor force; only 2.7 percent are unemployed. The vast majority of the employed in Sibley County are private wage and salary workers. The median household income for Sibley County in 1999 was just less than \$41,500. The largest employment sector in Sibley County is manufacturing with 27 percent of the county work force. Education, health, and social services employ another 17 percent.

There are two automotive dealerships located in the county, but there is no longer an implement dealer so farmers must leave the county for parts and to service their equipment.

Tourism has the potential to increase due to the Minnesota River Scenic Byway and the Audubon Society's selection of local bird watching routes. Winthrop is looking to capitalize on tourism through local efforts to restore Eagle Lake and the Minnesota Waterfowl Association is in the preliminary process of planning a project on Lake Titlow. Gaylord is also interested in increasing use of Lake Titlow for tourism and recreation.

Sibley County Labor Summary

	Number	Percent
Employment Status		
In labor force	8,192	70.4
Civilian	8,187	70.3
Employed	7,969	68.4
Unemployed	218	1.9
Percent of the civilian labor force	2.7	(X)
In Armed Forces	5	0.0
Not in labor force	3,452	29.6
Occupation		
Management, professional, and related occupations	2,128	26.7
Service occupations	940	11.8
Sales and office occupations	1,622	20.4
Farming, fishing, and forestry occupations	147	1.8
Construction, extraction, and maintenance occupations	886	11.1
Production, transportation, and material moving occupations	2,246	28.2
Income in 1999		
Less than \$10,000	449	7.7
\$10,000 to \$14,999	367	6.3
\$15,000 to \$24,999	814	14.0
\$25,000 to \$34,999	790	13.6
\$35,000 to \$49,999	1,183	20.4
\$50,000 to \$74,999	1,422	24.5
\$75,000 to \$99,999	457	7.9
\$100,000 to \$149,999	206	3.6
\$150,000 to \$199,999	71	1.2
\$200,000 or more	39	0.7
Median household income (dollars)	41,458	(X)