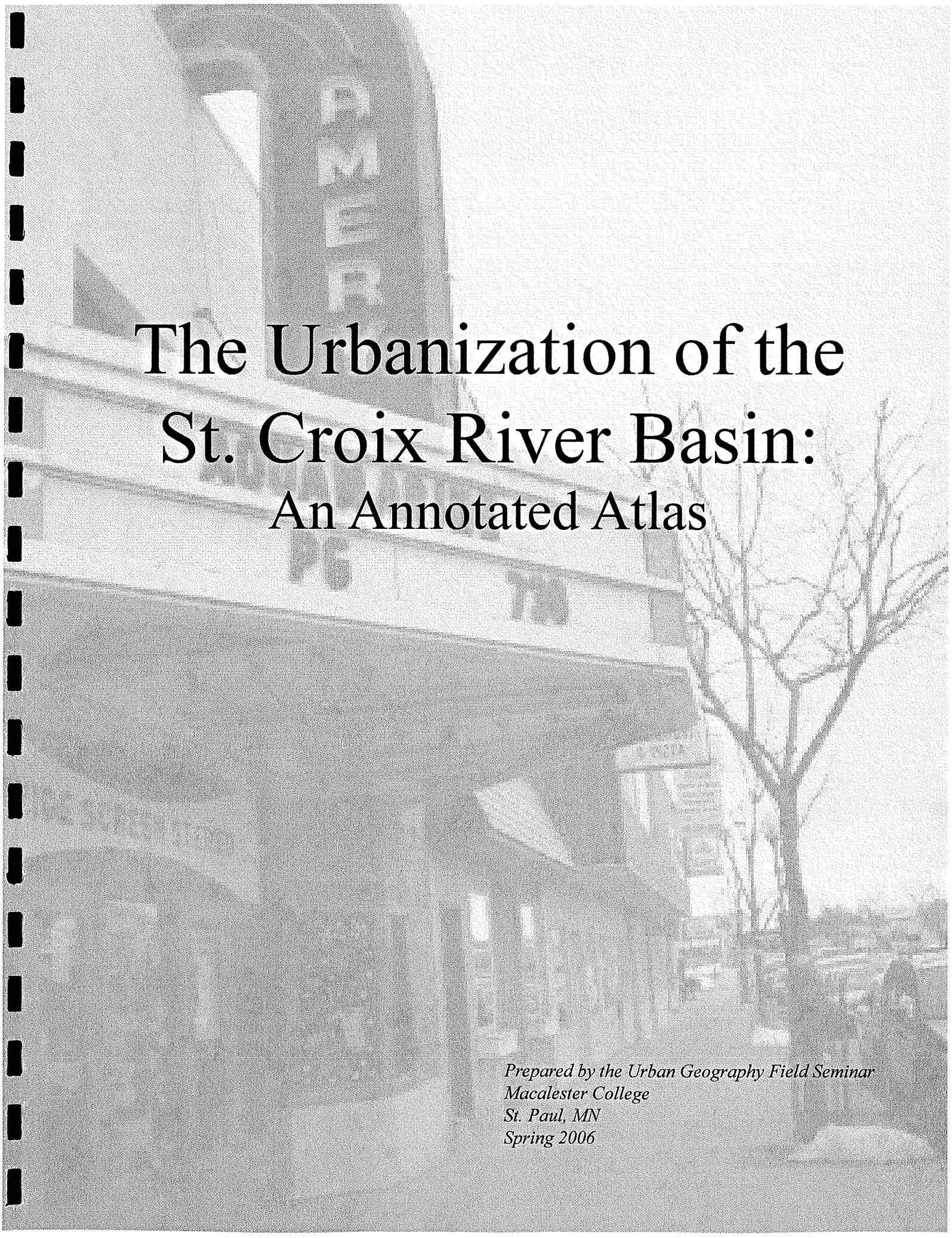

The Urbanization of the St. Croix River Basin:
An Annotated Atlas

Prepared by the Urban Geography Field Seminar
Macalester College
St. Paul, MN
Spring 2006

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Acknowledgements

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Urban Geography Field Seminar

Spring 2006

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Introduction

For most residents of the Upper Midwest, the St Croix conjures up visions of canoeing a swift flowing stream through forests or a power boat cruse in the broad part of the river between point Douglas and Stillwater. Designated a Wild and Scenic River by the Federal Government thirty years ago, the St Croix River and its watershed have become a signature landscape drawing visiting and new residents in ever increasing numbers. The newcomers threaten to change the features of the valley that attracted them. Therefore it is imperative that policies and programs be implemented that preserve the essential elements of the valley while the growth in population increases and the pressure on the land resources increases.

Stretching over 700 square miles the St Croix River Basin contains landscapes that range from the outer suburbs of a rapidly expanding metropolitan area through farmlands, small towns, resort developments and unoccupied wild lands. This is one of the very few places where one can travel from one of the largest metro areas on the continent to the isolation of wild land in less than two hours. The basin is a geographical region united by the flow of water but divided by state boundaries and occupied by citizens who are aware of the processes that unit them and are proud of their differences. The basin's history is a fascinating saga of cultural contract between various groups of indigenous people with Europeans and Americans. All the residents of the area have exploited the basin's resources, beginning with the fur trade, followed by forestry and agriculture, and lastly urbanization. In many respects the basin has been transformed from a landscape of production to one of consumption. This transformation from production to consumption is associated with the growing wealth and expanding leisure time of the metropolitan population. But not too many years ago the valley was defined by the hard work of trapping, logging, tilling the poor soils and housekeeping. Today the basin is described as a playground for all seasons, and a great place for commuters to raise children.

After a long period of stable settlements and slow population growth, the basin is not only urbanizing, it is on the brink of dramatic urbanization. Two freeways bring thousands of commuters in the region and a new bridge across the St Croix at Stillwater promises to expand the number of commuters even more. In addition, lakeshores and friendly small towns welcome retirees seeking tranquility and the comforts of moderate sized cities. Finally, commercial enterprises of all sorts are attracted to the basin's labor supply and growing market potential. The development of the basin, both intensive urbanization and extensive agriculture and recreation, has resulted in significant change, including but not limited to the degradation of the flowing waters that unit the region. The change in water quality has the potential of greatly altering the nature of the St Croix River, one of the nation's few rivers that has been designated a Wild and Scenic River and therefore deserving of special protection.

This is now an opportune time to describe the nature of the basin because the great change in the population and level of development has just begun. Therefore, we can create a baseline against which future change can be measured and evaluated. The maps in this atlas depict a series of themes we believe significant, but they are not the only dimensions of change worthy of examination. We hope other researchers and classes will build upon our analysis.

We open with a discussion of the general patterns of population change and growth of towns. This is followed by an examination of community and change in the form of towns. The response of the free standing towns to the population growth has produced several dramatic shifts in land use. Much of the population growth is fueled by commuters. The pattern of long distance community is examined in Chapter 2. Agriculture, the previously dominate economic activity is examined next. In this section we discuss not only the changes in land cover but several key dimension of agricultural shifts, changes in large farms, development of recreational agriculture, development of new types of linkages between food producers and consumers. A unique aspect of the urbanization of the basin has been the establishment of correctional facilities. Three large prisons impact the landscape in several ways. The most densely settled areas in the basin are the prisons. These facilities bring to the valley a group of forced

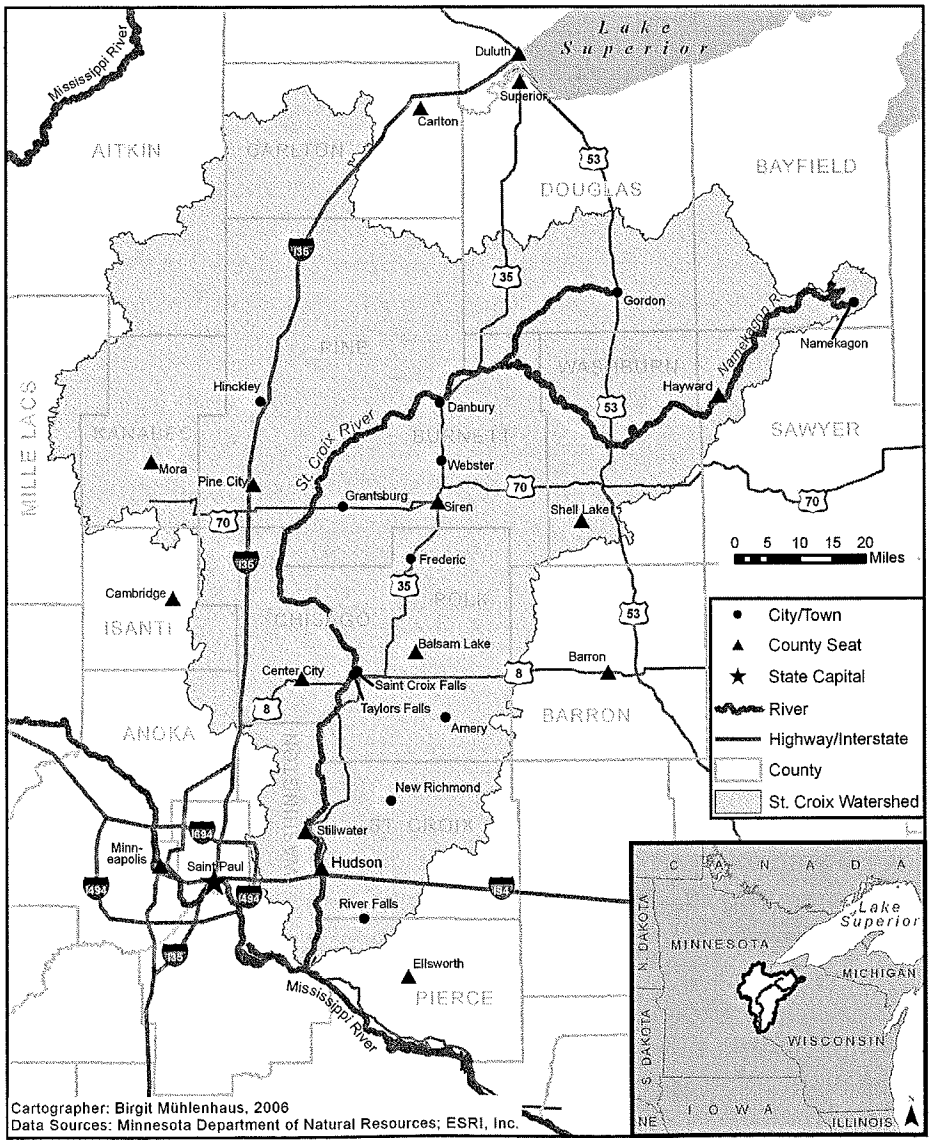
migrants whose needs create a steady and expanding demand for workers from the area.

Perhaps the clearest trends in the emerging landscape of consumption can be seen in the spectacular growth and concentration of two types of recreation, one motorized the other not. The basin is host to both the continent's largest mountain bike and cross-country ski races. These events cause a huge temporary population growth in the northern section of the basin. In addition, the growth of snowmobiles and all terrain vehicles brings large numbers people into the area and changes the landscape by the development of a network of trains.

We have tried to develop a model for predicting urbanization in the basin based on the three major streams of urbanization, commuters, retirement and recreational settlements. This model is the focus of Chapter 7.

The change in land use has had a measurable impact on the landscape. In addition to the planned clearing, leveling and paving of the land surface through urbanization there have been unintended changes. Paramount among them has been the change in water quality. Even though the banks of the St Croix receive special protection, changes in the watershed have impaired the quality of the region's surface water. This is discussed in Chapter 8.

The changing landscape has provoked several responses at several scales. The creation of land trusts is the most localized response. This practice is described in Chapter 9. At the mid-level, counties are trying to develop comprehensive plans for their urbanization as discussed in Chapter 10. However the expanding metropolitan area and the presence of the state boundary calls for innovations in both perceptions of the area and the processes affecting it as well as planning on a grand scale.



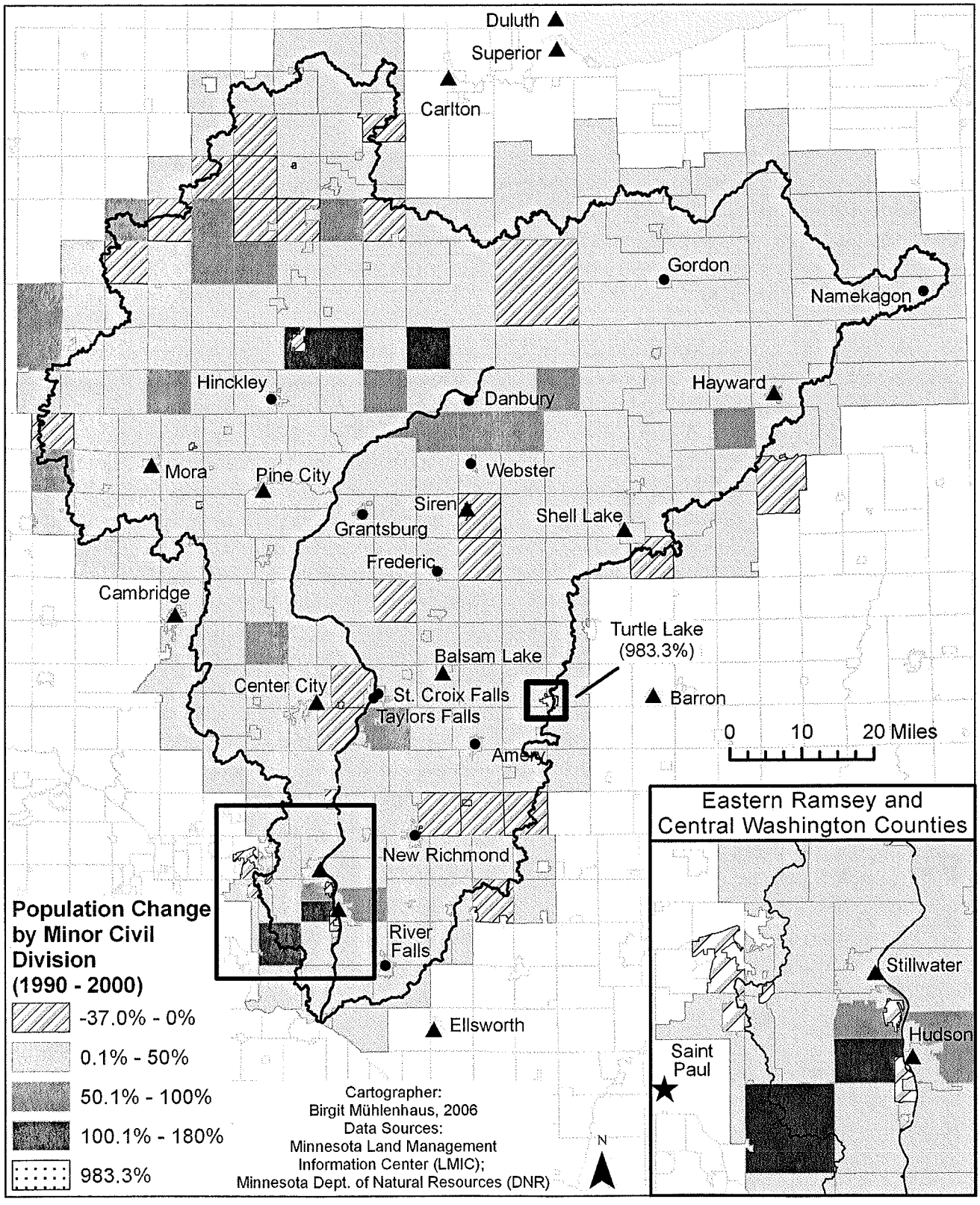
Population Change

Because the boundaries of the watershed do not coincide with the various political boundaries in the area it is not possible to derive a precise population of the watershed. However the minor civil divisions that are entirely or partially with in the watershed contained 446,997 in 1990. By 2000 the population had increased 25.9% to 565,622. Roughly three fourths of the basin's population resides in Minnesota and the Minnesota population is growing faster, gaining 29% while the Wisconsin population grew 20%. Obviously the expansion of the Twin Cities is causing the population change in the basin. The counties of Washington in Minnesota and St Croix in Wisconsin have the largest communities entirely contained in the watershed and those that are growing at the fastest pace. There are townships in the northern most reaches of the region that are losing population but because these areas have small populations, the decline amounts to a few score. The greatest growth in absolute numbers occurs in southern Washington County and western St Croix. Changes occurring between 2000 and 2004 follow the same general pattern with the exception of the rapid growth through out most of St Croix County and increased growth along US 8 and I-35 in Minnesota. While the change in the absolute numbers in the basin is not remarkable, the change in the levels of population is very dramatic. The change in density is the truest indication of how the process of urbanization and long distance community is likely to change the Basin's future. Map? shows a pattern that resembles of wave spreading north and east from the core cities.

The patterns of growing areas can be explained in large measure by the variation in accessibility in the region. The freeway and state highways and river bridge are the backbone of the transport system. High rates of population growth can be seen along I-35 between the northern suburbs as far north as Hinckley and Pine City. From the eastern edge of the Twin Cities all the way to the edge of the basin, I-94 is facilitating rapid growth and has created the potential for even more growth in the near future. Other highways, especially US 8 east from its junction with I-35 to the eastern edge of the basin and Wisconsin 35 north of I-94 to its junction with US 70, have also promoted rapid growth in recent years. We hypothesize that the new population in these areas are the families of commuters who have been willing to trade the aggregation of long commutes for the quality of life in smaller communities.

Population growth and urbanization north of US 8 is more focused on amenity landscapes than paths of accessibility. The population base remains small so high rates of growth do not result in large numbers of new residents. The area around Hayward and along US 53 north of Spooner seems to be experiencing an increase in retirees and long distance commuters to Superior and perhaps Duluth. Likewise the Minnesota side of the northwestern edge of the basin has experienced an increase in retirees and commuters going northeast to Duluth.

There are three general types of urban development visible in the basin. One is the growth of existing communities that were founded as farm trade centers or river towns that served either as ports during the steamboat era and as sawmilling centers during the timber era. The second is the contiguous spread of suburbs of the Twin Cities within the Metropolitan Urban Services Area (MUSA). The last are the free standing subdivisions spaced out along the interstates and highways that offer large lots, and independent sewage and water systems. The greatest absolute growth is in the expansion suburbs closest to the metro area and the river towns. The greatest relative change is occurring in the townships without an incorporated settlement. The dispersed settlements have the greatest potential impact on the environment of the basin. Unfortunately their distributions are the hardest to explain and their futures are the hardest to predict. While this pattern is clearly influenced by accessibility, within the transportation corridors many different site features attract developers and residents.


Duluth
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Gordon
Namekagon
Hinckley
Danbury
Hayward
Mora
Pine City
Webster
Siren
Grantsburg
Shell Lake
Frederic
Cambridge
Turtle Lake
(983.3%)
Balsam Lake
Center City
St. Croix Falls
Taylors Falls
Barron
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Amery
Eastern Ramsey and
Central Washington Counties
New Richmond
River
Falls
Stillwater
Hudson
Saint
Paul
Ellsworth
Population Change
by Minor Civil
Division
(1990 - 2000)
-37.0% - 0%
0.1% - 50%
50.1% - 100%
100.1% - 180%
983.3%
Cartographer:
Birgit Mühlenhaus, 2006
Data Sources:
Minnesota Land Management
Information Center (LMIC);
Minnesota Dept. of Natural Resources (DNR)
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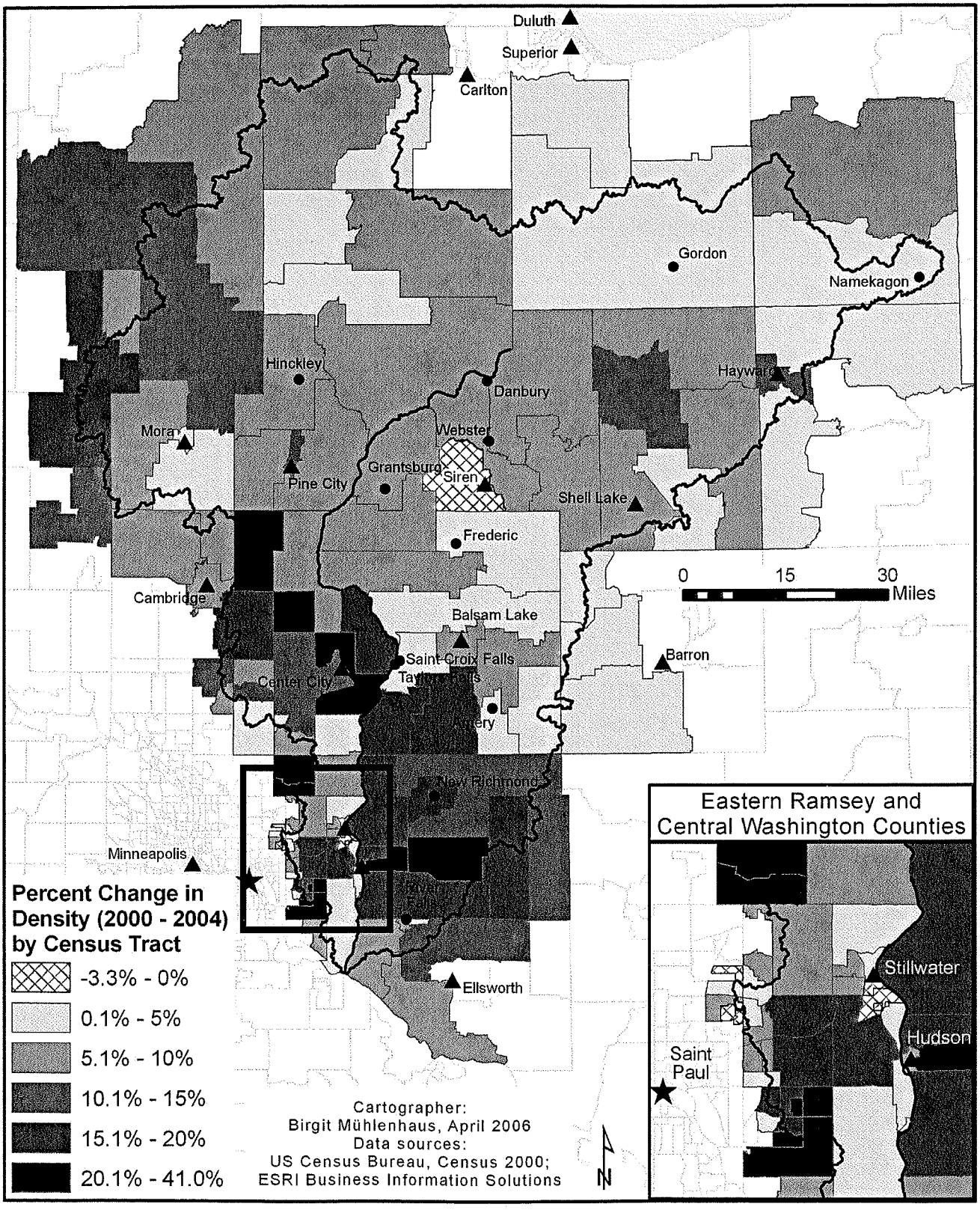
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Barron
Center City
New Richmond
Minneapolis
Ellsworth
Percent Change in Density (2000 - 2004) by Census Tract
-3.3% - 0%
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5.1% - 10%
10.1% - 15%
15.1% - 20%
20.1% - 41.0%
Cartographer:
Birgit Mühlenhaus, April 2006
Data sources:
US Census Bureau, Census 2000;
ESRI Business Information Solutions
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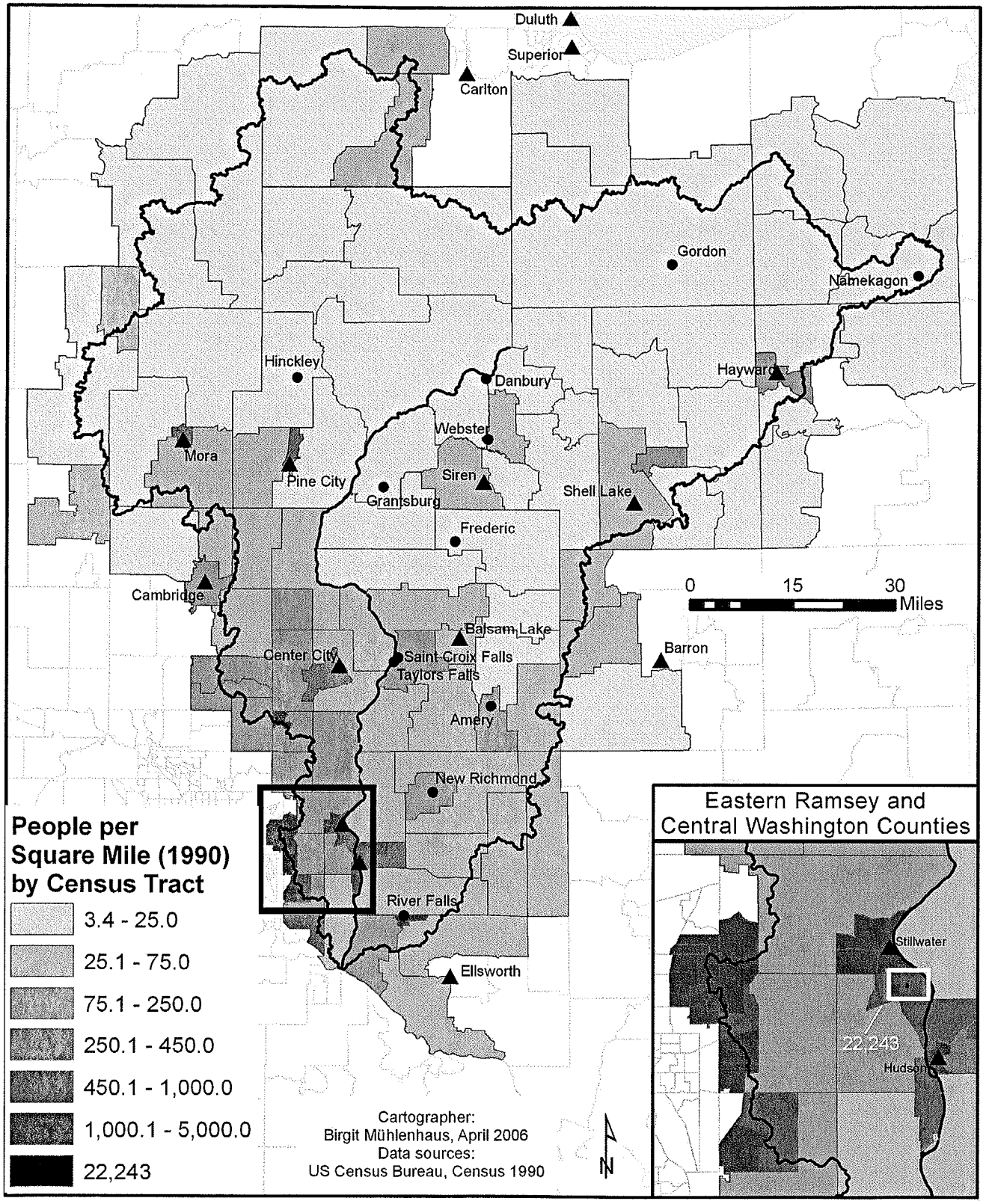
Eastern Ramsey and Central Washington Counties
Stillwater
Hudson
Saint Paul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Balsam Lake
Center City
Saint Croix Falls
Taylors Falls
Barron
Amery
New Richmond
River Falls
Ellsworth
People per Square Mile (1990) by Census Tract
3.4 - 25.0
25.1 - 75.0
75.1 - 250.0
250.1 - 450.0
450.1 - 1,000.0
1,000.1 - 5,000.0
22,243
Cartographer:
Birgit Mühlenhaus, April 2006
Data sources:
US Census Bureau, Census 1990
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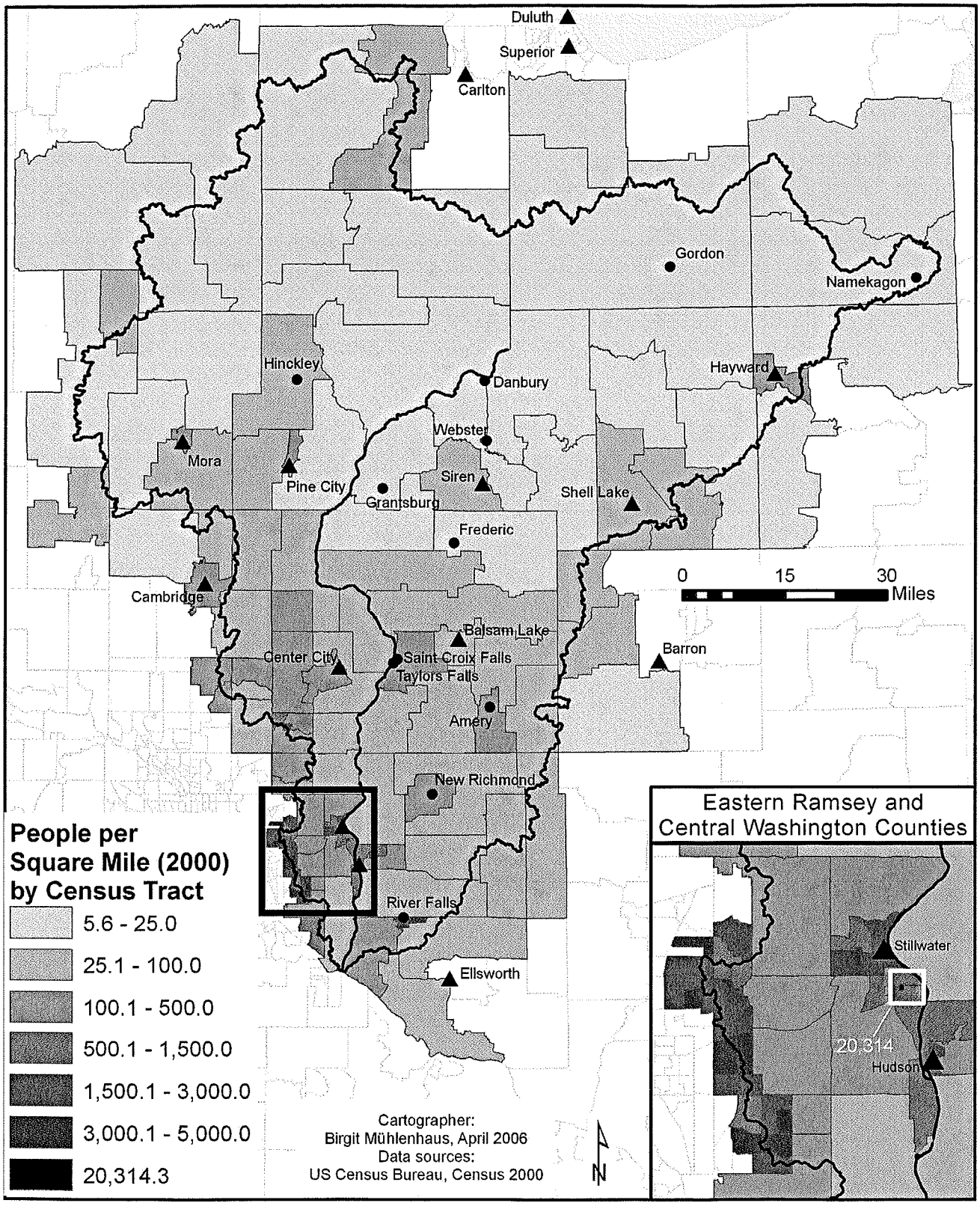
Eastern Ramsey and Central Washington Counties
Stillwater
22,243
Hudson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Pine City
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Frederic
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Miles
Cambridge
Balsam Lake
Barron
Center City
Saint Croix Falls
Taylors Falls
Amery
New Richmond
River Falls
Ellsworth
People per Square Mile (2000) by Census Tract
5.6 - 25.0
25.1 - 100.0
100.1 - 500.0
500.1 - 1,500.0
1,500.1 - 3,000.0
3,000.1 - 5,000.0
20,314.3
Cartographer:
Birgit Mühlenhaus, April 2006
Data sources:
US Census Bureau, Census 2000
N
Eastern Ramsey and Central Washington Counties
Stillwater
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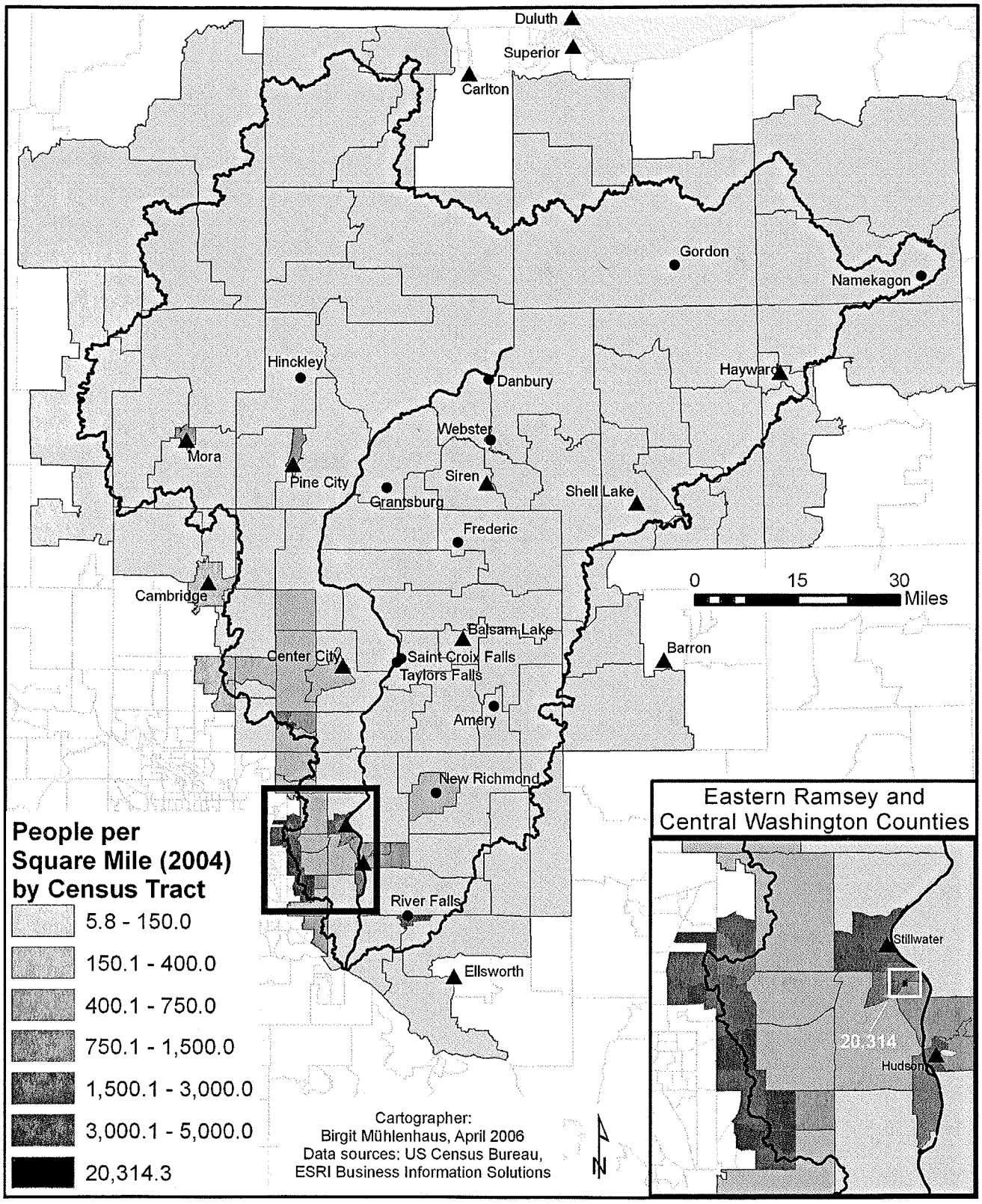
Hudson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Balsam Lake
Center City
Saint Croix Falls
Taylors Falls
Barron
Amery
New Richmond
River Falls
Ellsworth
People per Square Mile (2004) by Census Tract
5.8 - 150.0
150.1 - 400.0
400.1 - 750.0
750.1 - 1,500.0
1,500.1 - 3,000.0
3,000.1 - 5,000.0
20,314.3
Cartographer:
Birgit Mühlenhaus, April 2006
Data sources: US Census Bureau,
ESRI Business Information Solutions
N
Eastern Ramsey and Central Washington Counties
Stillwater
20,314
Hudson

Changing Main Streets

Main Street is where people in a community come to shop, eat together, talk, visit, run errands, and see who else is out doing those same things. It is the representation of the community or town to visitors. It is where news is spread, from who's going to run for mayor to when Sarah and Steve are getting married. Main Street is also the center of town where everything happens and everything is seen. At least that's what the idea of Main Street is. People are fond of Main Street because it reminds them of this sense of community and nostalgia for our past that most modern strip malls lack. It is also an idea that can be seen in most people's towns, whether it is only on block long or is a small downtown.

The buildings are often very close together with their facades built of local products such as sandstone, bricks from nearby clay, or wood from area forests. The styles of buildings are usually different depending on when each building was built and the status of the town's economy when it was built. During times of high economic activity, more construction occurs on Main Street because there is greater demand for goods and services. The buildings built during these times are generally reflective of the building styles popular then. From this, you can trace back the thriving economic times of a town through the architectural styles found on Main Street. Typically the building materials also reflect the prosperity of the town at the time of construction. Brick construction is more expensive than wood, so looking at the building materials of buildings on Main Street is one way of assessing how prosperous the town was when those buildings were constructed. This seemingly piecemeal development creates a unique architectural character for each Main Street.

Each good or service has a minimum population or number of people necessary to sustain its sale, this is its "threshold." Also, people are more willing to travel further for some goods or services than they are for others. The furthest distance that people will travel for a good or service is its "range." Generally speaking, the bigger central places are, the fewer and further apart they are. Also, the range, number of functions, and number of high-order functions a town has commonly increases as it grows.

Historically, Main Streets were where the functions, goods, and services in a town were located. They served as "collecting, shipping, processing, distributing, and service centers for the surrounding countryside."[1] Most towns in the upper midwest were founded during the railroad era when it was much more difficult to travel from one to another, so each Main Street had to provide the people in its region with the goods and services they needed. In geographic terms, this meant that each town was a "central place" that provided services for the people and communities around it. Towns had to be near enough so that people could get low-order goods (goods and services that they need to buy frequently; high-order goods are bought less often and are typically more expensive) easily on a regular basis.

Since auto-transportation became a norm in the 1950s, more of the functions provided by Main Street moved to highways which typically did not go through Main Street. People could travel much further in less time with cars and as a result had more options for where to shop. Traffic between towns is typically on highways and businesses moved to where their customers were.

Another development of the automobile age was that people had more options for where to shop and work. If a store two towns away has what they need for less or allows them to get more of their goods with fewer stops, then they are likely to travel the extra distance because it's almost as easy as shopping in their town. This expansion of a town's market area is beneficial to towns with many functions conveniently located near highways. Towns that don't provide as many functions or provide the same functions that other nearby towns offer and are not as conveniently placed consequently find themselves within another town's expanded market area.

Most towns' Main Streets were constructed in relationship to rivers, railroads, or highways. As technology changed and products or materials were decreasingly transported by water or rail, the utility of the position of Main Street declined, often along with its economy. If Main Street couldn't reposition

1 Hart, John Fraser. The Rural Landscape, "Small Towns and the Urban Edge." (Baltimore: The Johns Hopkins University Press; 1998) 307.

itself along the newer transportation lines, it lost its advantage over other locations -- locations that the businesses often moved to, leaving vacancies along Main Street. Some Main Streets were affected by this change more than others. Main Streets that have a highway running through them, bringing traffic and people, have tended to retain more businesses and functions. If the highway is far from Main Street, then it is harder and less likely that visitors will spend money there.

Those towns that initially lost much business to off-Main Street areas have taken different approaches to bring business, life, and community back to their Main Streets. Most towns have customized the functions on Main Street to the natural or man-made resources in the area. If there is much natural beauty in the vicinity, a town may have more functions catering to tourists. If there is a large employment center nearby, a town may have more functions for the workers so that they might want to live there. This is not unlike what happened when the towns were just founded and based their industry on the resources at hand. What is different today is more advanced technology and the changes in lifestyle and transportation that go along with that.

Main Streets also serve as a venue for entrepreneurship in towns. The floor space for each store or office is typically less than in buildings along the highway; this is more appropriate for new businesses. Rents in older and smaller buildings are cheaper and these characteristics hold true more for buildings along Main Street than on highways. Also, the buildings on Main Street are already built; new (and costly) construction is not required for businesses. In many cases, the entrepreneurs on Main Street have the support of the community, socially and economically. In turn they support their community by being more accommodating to local residents with they types of products and services provided than larger chain stores are.

Methodology

The objective of this study is to understand the processes of change affecting small-town Main Streets in the St. Croix Watershed. Of the towns in the watershed, we chose to explore only those that the U.S. Census qualifies as urban areas- places with a population of over 2,500. We assumed that towns with less than this population threshold would be unlikely to support their own Main Street. Some Minnesota urban areas close to the Twin Cities were also left out of this study because their development as commuter communities is well-established and their Main Streets (if they have one) clearly reflect this change. Time and transportation constraints further limited our selection to towns located south of Highway 70. In total, we studied Main Streets from ten towns in Wisconsin: Grantsburg, Amery, Frederic, Siren, St. Croix Falls, Hudson, Osceola, River Falls, Baldwin, and New Richmond; and four towns in Minnesota: Rush City, Lindstrom, Center City, and North Branch.

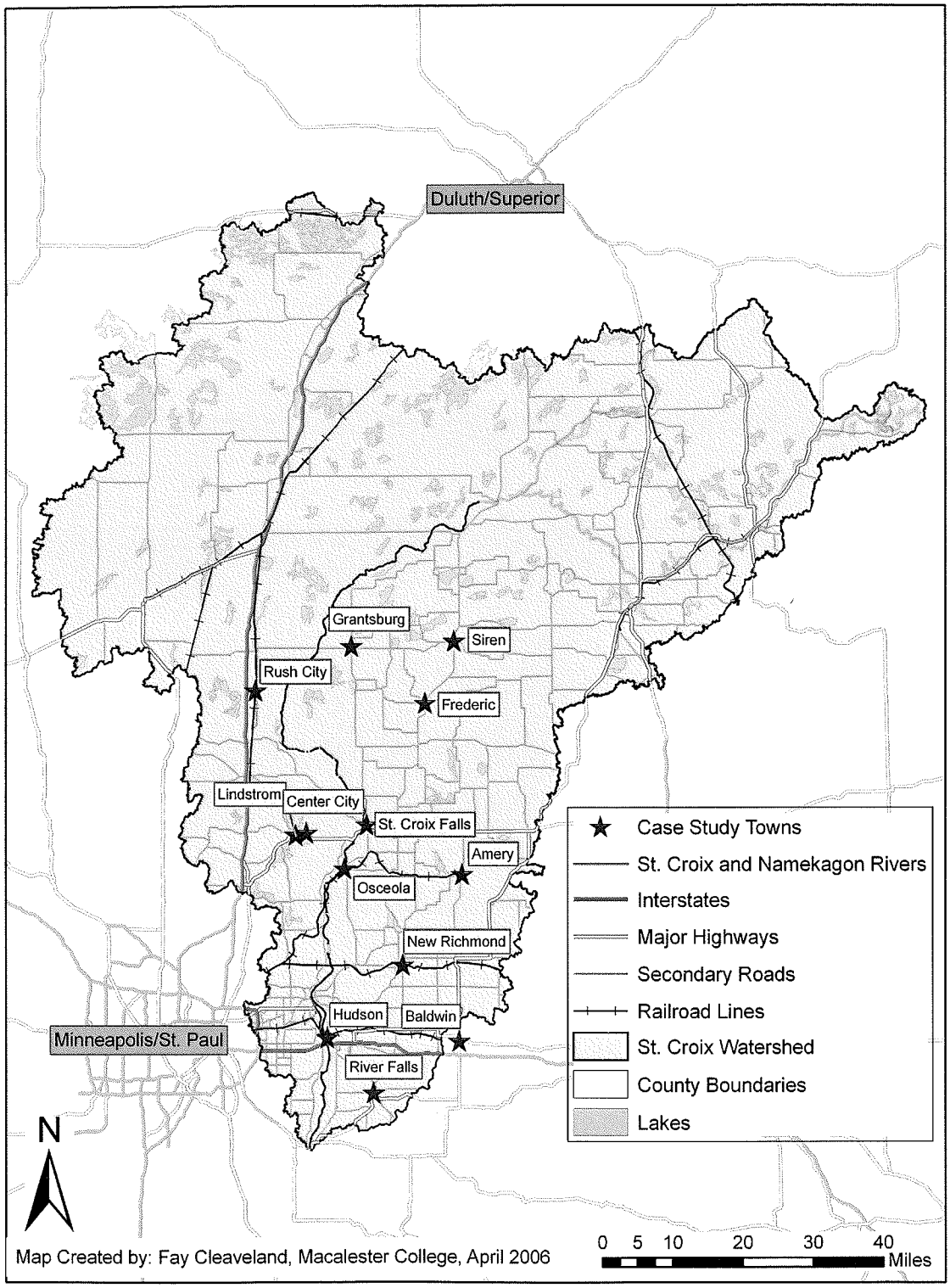
After selecting our towns, we visited each of them and surveyed the number, variety, and status of the functions on their Main Streets. We looked at local architecture and signage to determine periods of economic growth in each town, and spoke to Main Street proprietors to gain a sense of the local business climate. After comparing this information to the history of each town's development, we classified these towns into three main groups. The titles of these groups describe the evolution of Main Street's role in different towns: "Main Streets on the Agricultural Frontier: Service Centers in Transition," "River Towns Transitioning into Commuter and Recreation Towns," and "Agricultural and Railroad Centers in the Twin Cities' Commutershed.." Within each group, we selected a single Main Street to study more in-depth that best represents its category. Each of the these case studies and their broader categories is presented here along with our conclusions regarding the future of Main Street in the towns of the St. Croix Watershed.

Sources:

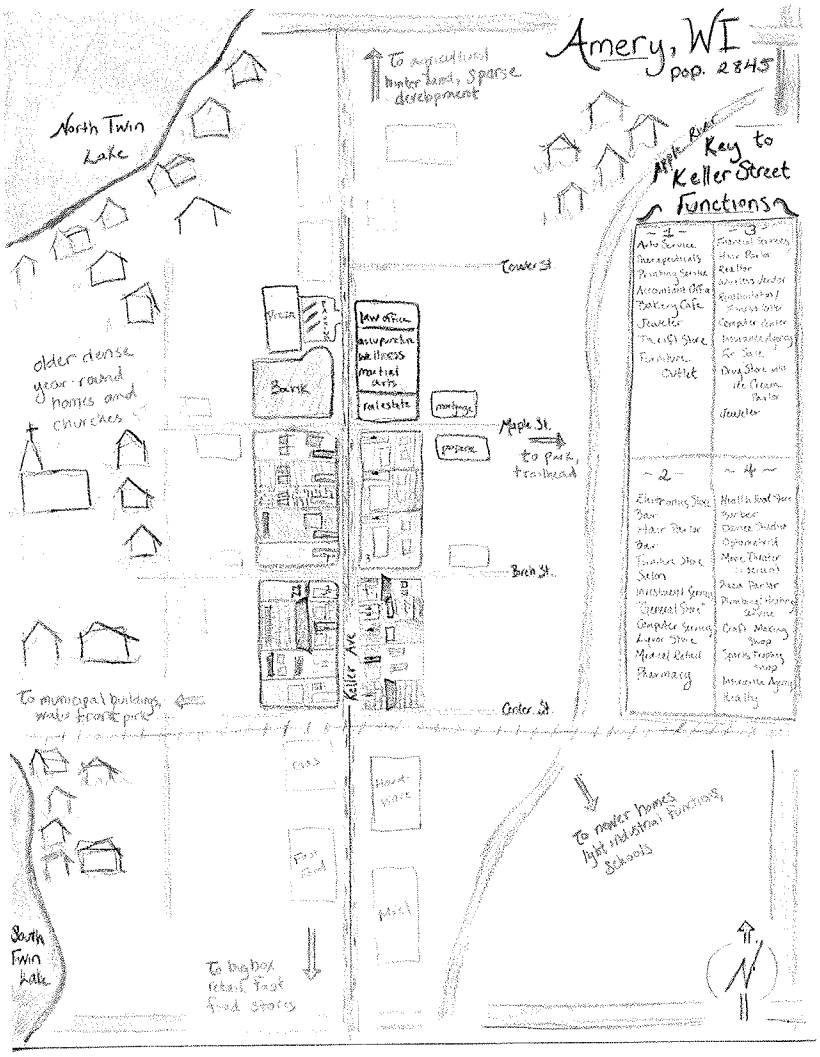
Francaviglia, Richard V. Main Street Revisited: Time, Space, and Image Building in Small-Town America. Iowa City, IA: University of Iowa Press, 1996.

Hartshorn, Truman A. Interpreting the City: An Urban Geography. "Chapter 10 Central Place Theory." John Wiley and Sons, Inc; 1992

Case Study Towns in the St. Croix Watershed

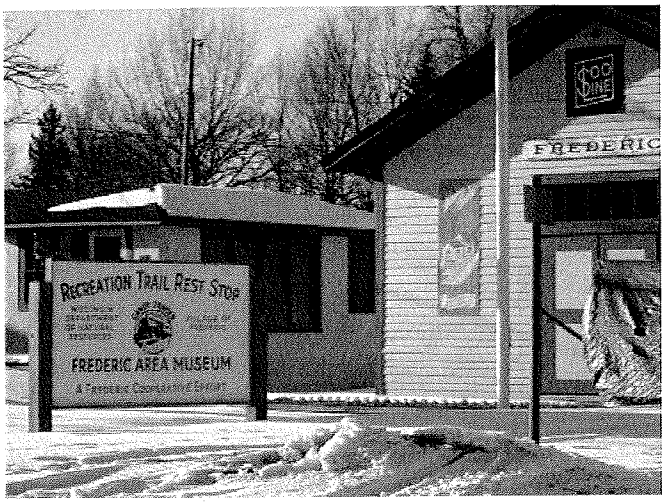


Main Streets on the Agricultural Frontier: Service Centers in Transition



Amery, Wisconsin represents small towns at the state's agricultural frontier evolving from farm service and logging centers into recreational hubs. Three other communities of this kind are also examined by this study: Grantsburg, Frederic and Siren. Each of these four towns developed in a transition zone between the "Northwoods" and cultivated farmland. Rail-lines spurred their growth, and both agricultural and extraction-based industries supported the towns' economies. Today, these towns are still beyond Twin Cities commuting range and have thus maintained some degree of functional dominance in their local area. With the declining profitability of primary industries, the Main Streets of these towns now reflect a shift toward tourist-based economies while continuing to offer local services. Because of Amery's relative isolation from other service centers, Keller Avenue has achieved some high-order functions, including a physical therapy center and pet shops, while sustaining traditional functions like a movie theater and family-owned pharmacy. Summer residents bolster the local economy and allow Keller to sustain more functions than Main Streets in other towns of this size. A health food store, restaurants, and a furniture store likely depend on summer business. In Amery, summer visitors stay in second homes, rather than resorts, so Keller Ave. is more functional than quaint. To varying degrees, all of the Main Streets in this category have embraced their situation in a recreational landscape as they continue to serve their local populations.

Images from Main Street: Frederic, Amery, Siren, and Grantsburg

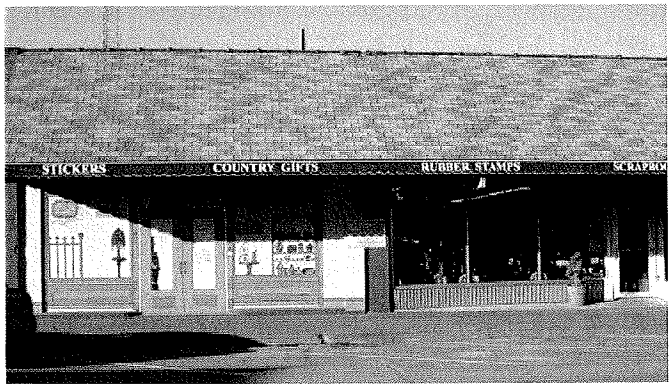


Frederic's Oak Street developed on Hwy 48 perpendicular to the former Soo Rail Line and Hwy 35. The original station on Oak St. (left) has been converted into a museum. Oak St. businesses reflect similar public interest in the town's heritage. Buildings are well-preserved and decorated with new awnings. This dedication ensures that the strip still functions as a local commercial hub.

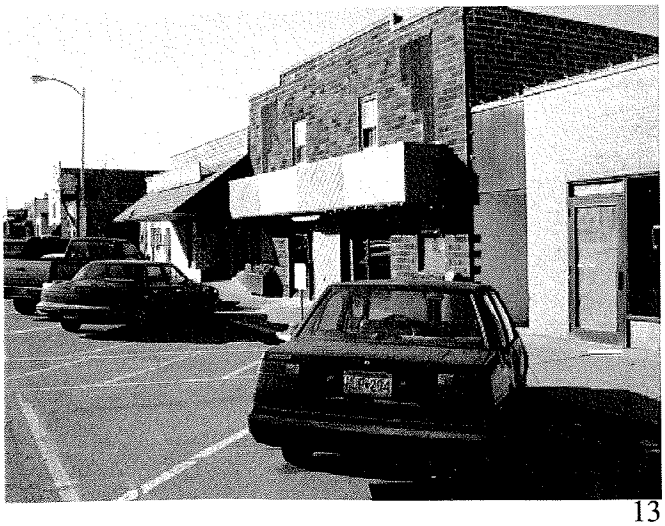
It was once said of **Amery**, "Saturdays its streets are almost impassible from the busy traffic. Automobiles are parked for many blocks, while the farmers and others from small villages do their trading. Then it has the appearance of a city many times its real size."[1] Today, Keller Avenue is still an active commercial strip serving a dispersed population, as evidenced by furniture stores and the physical therapy building.

1 Superior Evening Telegram, 1921

Siren's Main Street was largely destroyed by the tornado of 1999. New development along Hwy 75, such as the storefront pictured at left, emulate traditional Main Street styles with painted facades and awnings. Log walls are used to promote the town's image as a "Northwoods" destination. Unlike the densely packed brick storefronts on Main St, buildings are separated from each other and the street by parking lots. Main St, which runs perpendicular to the rail line, is no longer the heart of local business. Tourist spending along Hwy 75 has superceded Main Street's agricultural services as an important source of commercial activity.

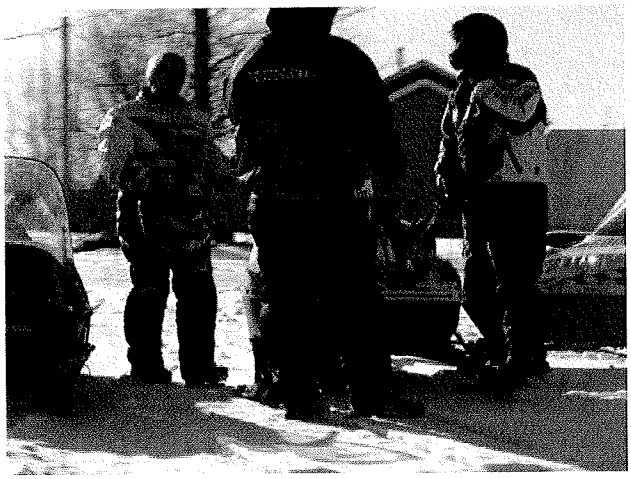


Though it sits at approximately the same latitude as Siren, **Grantsburg's** Main Street has been unable to capture any Northwoods tourism. This is partially because it is bypassed by major highways, and thus remains isolated to outsiders. Several of the businesses on the two-block strip are closed or for-sale, and there is little variety of function. Some operations must offer multiple services to stay in business, such as the video rental/shoe store/dry cleaning enterprise. Signage on all the businesses appears old and inexpensive, another indication of declining values on this commercial strip.

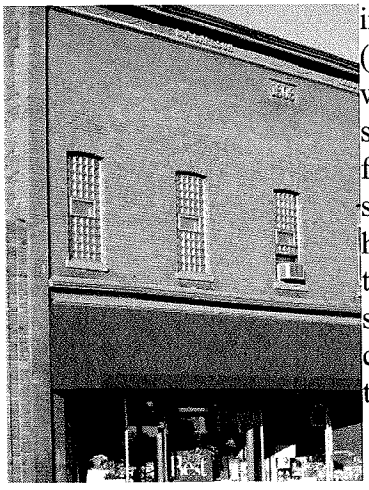


Characteristics of Main Street

The Soo Line Railroad through Siren and Frederic has been converted to trails that bring snowmobilers (and their dollars) right over Main Street (below).

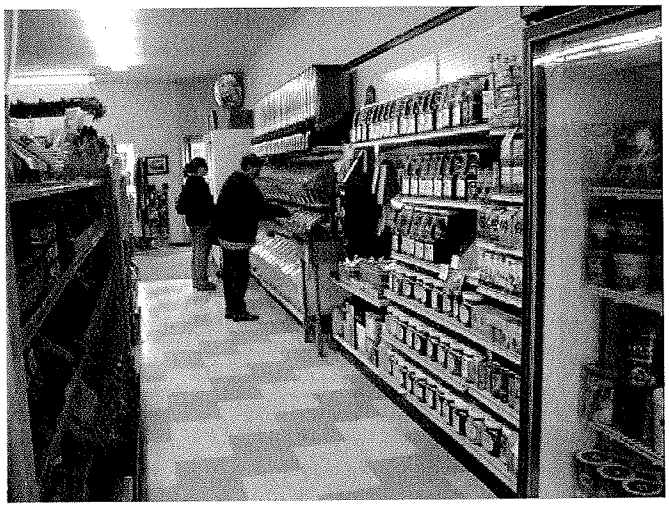


Dedication to Frederic's Oak Street is evidenced in this hardware store (left). The building, which was built in 1909, still serves its original function. Across the street, a former theater has been renovated into the Public Library, asserting the structure's continued importance to the community.

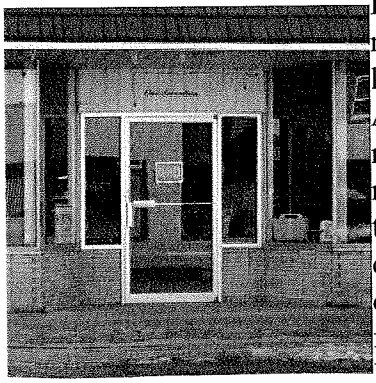


Signs like "MethWatch" posted in windows stress the importance of local concerns to Main Street retailers (right).

The Chet Johnson and Sons Pharmacy in Amery (left) doubles as a local gathering spot for coffee and ice cream. This small town atmosphere appeals to summer residents. In Siren, highway signs draw attention to its Northwoods location in order to market souvenirs to passing tourists (above).

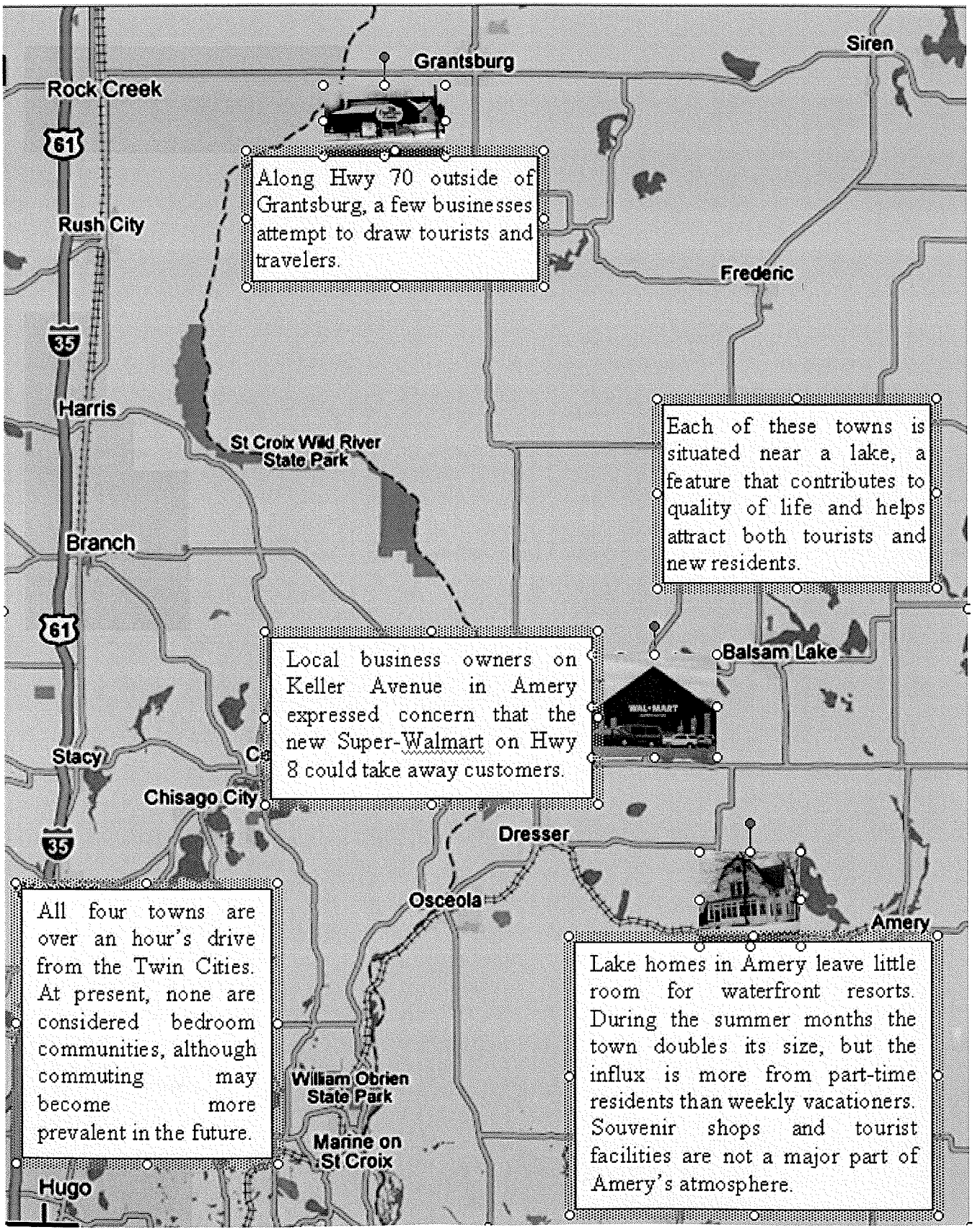


Main Street storefronts are economic opportunities to local entrepreneurs. Steve Ramin of Amery started the Indigo Iris health food market three years ago after he was laid off from his teaching position at one of the town's public schools (above photo). While Ramin earns his income from the store, he also uses his business to contribute to the life of the town. Locals gather at tables in the front of his shop and he offers prizes to children who can find the pixies hidden throughout his store. In addition, health centers on Keller complement the market and the two functions help generate each other's business.

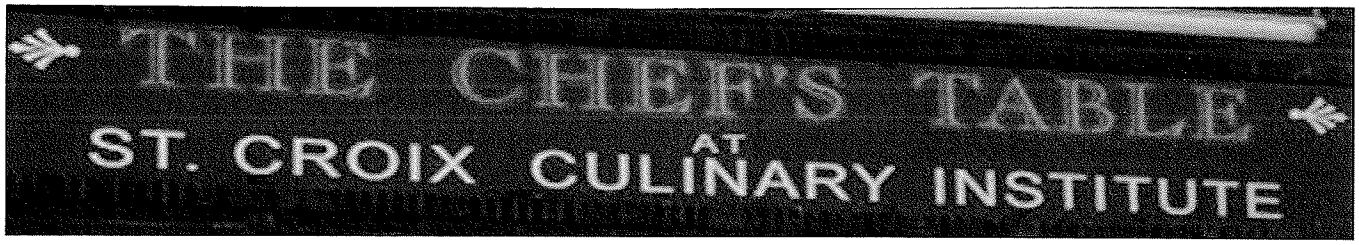


In Grantsburg (left), mom and pop stores are less successful than in Amery. Main Street's most profitable businesses operate under the name of major franchises, such as the Ford dealership, Curves for Women, and U.S. Bank.

Off Main Street: Opportunities for Development



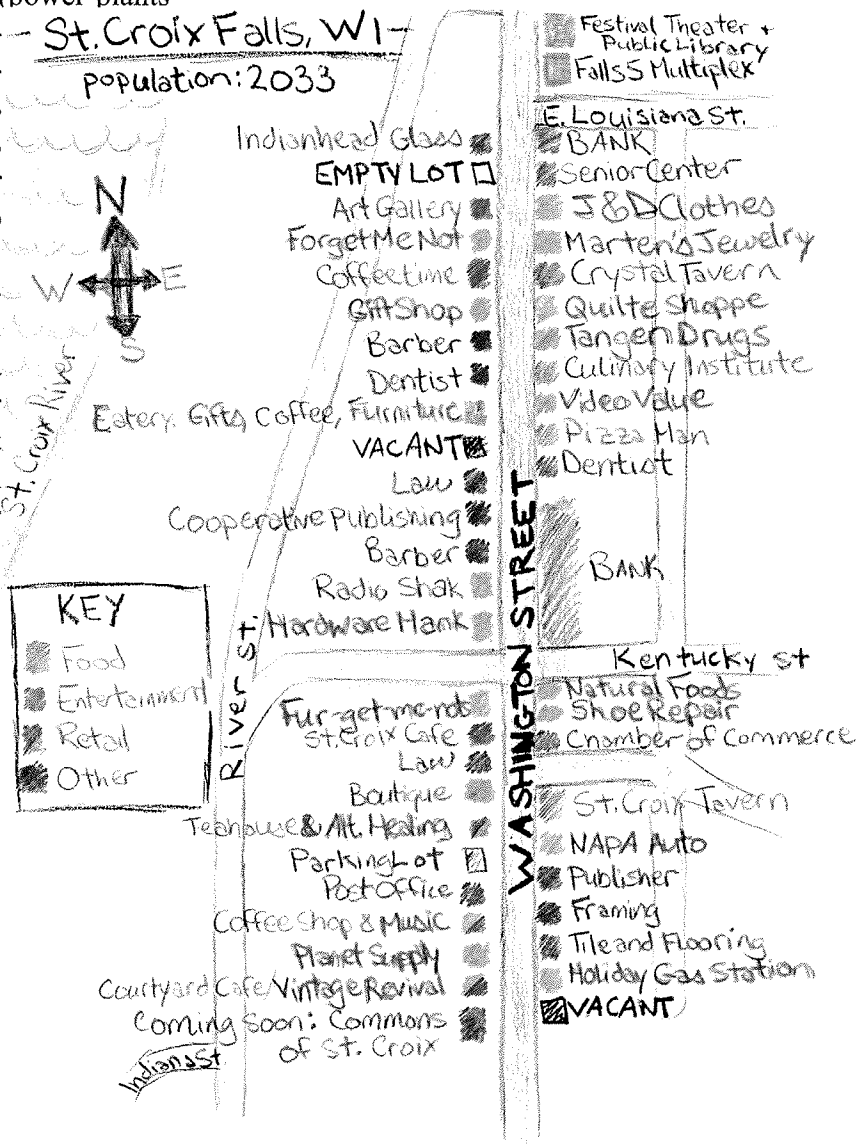
River Towns Transitioning into Commuter and Recreation Towns



These are towns that were founded next to rivers because of the St. Croix River's resources. Each town's function varied. They included steamboat building, grain milling, sawmills for the logs which came down the river, flour and grist mills, wood working and other shops.

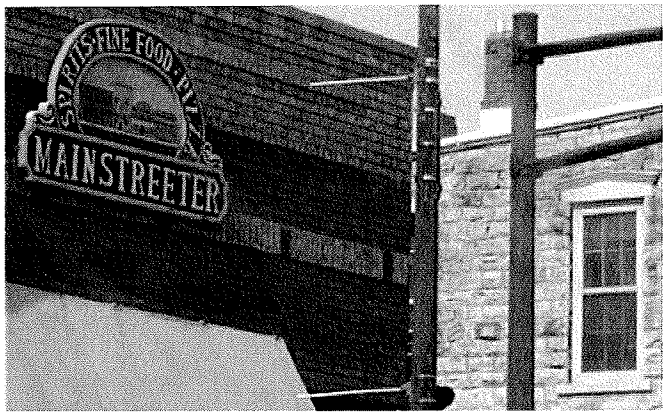
Over time, these river towns lost their industrial advantage as new energy sources (power plants and electricity) and transportation methods (cars and semi-trucks) gained dominance. However, the other side of this change in technology was that it was cheaper and faster to ship goods and for people to get to and from work. Due to their proximity to the Twin Cities, these towns became part of the commutershed with many of their residents working in the Twin Cities or other area towns. The appeal of the river and other natural beauty around them has brought tourists for recreation. This recreation includes everything from a summer home on a lake to snowmobiling, hiking, boating, and shopping.

St. Croix Falls will be our case study for towns in this category. It sits on the Wisconsin side of the St. Croix River nearly atop a 60 foot hydro-electric dam built 100 years ago. It was originally started by the St. Croix Falls Lumber Company to build a sawmill. When lumber sources were shrinking, the hydro-electric dam was built to make the town an industrial center, however the electricity was sent to Minneapolis. Today the town's Main Street (Washington Street) is lined with shops serving both residents and non-resident visitors who come to the town for its natural riverside beauty and small town charm. Many of the residents commute to jobs either in St. Paul, Minneapolis, or one of their many suburbs which are becoming employment centers in their own right. Many of these towns also serve as centers of employment and commerce for the rural areas around them.



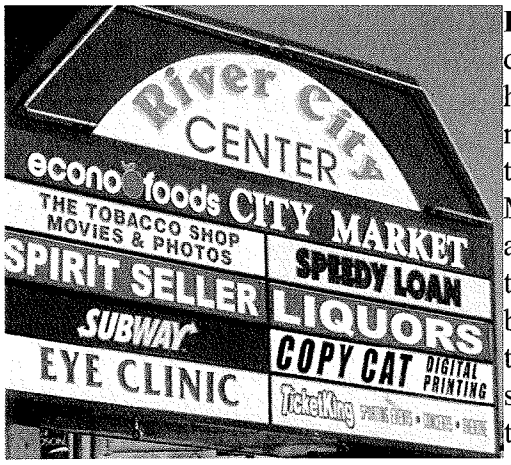
Images from Main Street: St. Croix Falls, Hudson, Osceola, River Falls

St. Croix Falls is using its historic Washington Street as a venue for tourism. In places it overlooks the St. Croix River and the hydro-electric dam. (Right) The functions which cater more towards the residents are mostly on the East side of Washington Street, away from the river, and those which cater more towards the visitors and tourists are almost exclusively on the West side, closer to the river. St. Croix Falls' Main Street has by far more shopping/retail functions than of any other type.



Hudson's Main Street has grown, like the other towns, from its river origins in shipping and production to visitor-centered commercial activity that also provides functions for its residents. This cabinetry shop is an example of local functions which also may appeal to the middle and upper-middle class visitors. (Below) Hudson is both a tourist destination as well as being within the commuter shed of the Twin Cities, providing it with a higher income market than if it was located further away from the Twin Cities or the access to Minnesota across the St. Croix River. Photo from http://www.hcfineinteriors.com/contact.htm

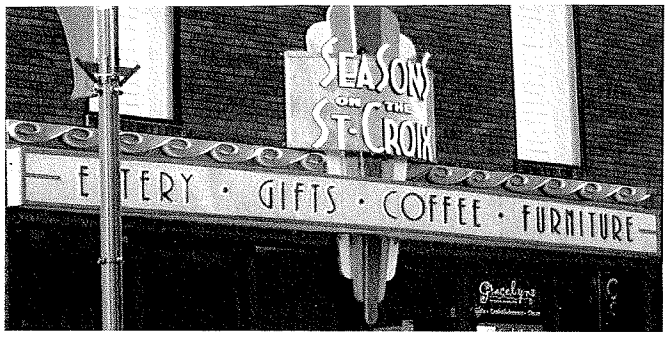
Osceola's Main Street appears similar to St. Croix Falls' with many retail and specialty options for the middle and upper-middle classes. This business took advantage of Main Street's identity in its name and sign which also helps to form its own identity as a space for community. (Left) Many of the residents of Osceola commute to the Twin Cities for work where there are more and higher paying jobs. Osceola doesn't have to provide all of the jobs for its residents.

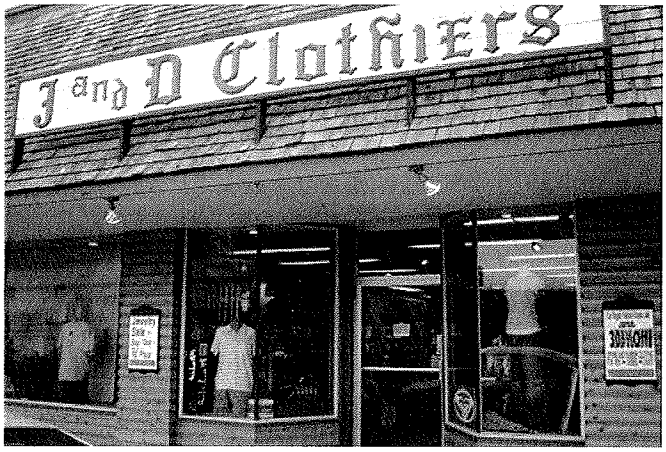


River Falls does not have as many functions on its Main Street aimed at trendy urbanites like the other sample towns in this category and has more chain stores. (Above) Main Street here has been developed along patterns more common to highways than to town centers. The presence of students attending the University of Wisconsin River Falls may provide the demand for the many bars in the historic Main Street. Surprisingly, Main Street in River Falls was not as successful as others with similar origins. This may be connected to the chain stores or highway style development away from the center of town.

Characteristics of Main Street

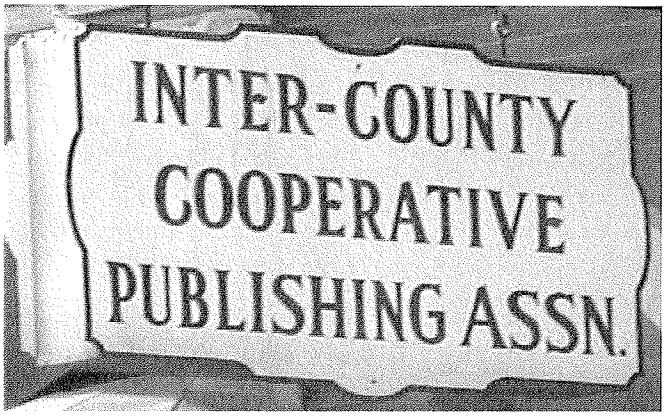
St. Croix Falls Main Street functions:
Shopping/Retail for Residents and Visitors
(Functional: 13, Quaint: 9)
Dining/Bars (10)
Professional Services (8)
Arts (2)
Hair Care (2)
Financial (2)
Community/Government (2)

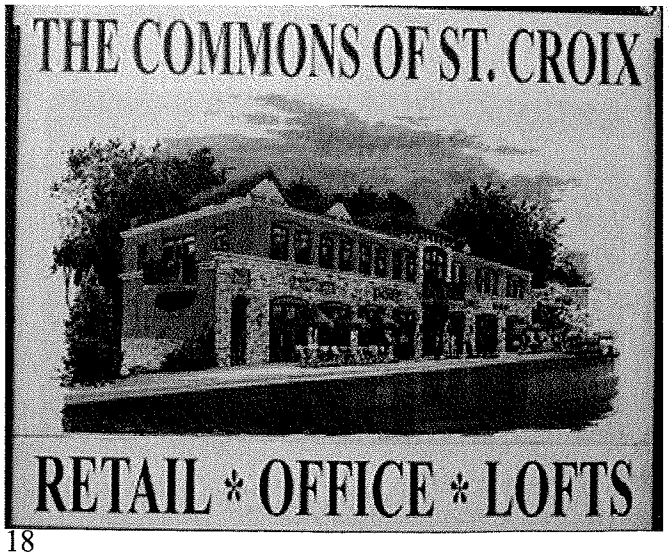




Retail and Shopping vastly outnumber the other types of functions in towns of this category. Their current functions as places of recreation and tourism mean that many of the people coming to visit expect entertainment in the form of boutique shops, fancy coffee shops, and interesting antique stores. Nearly all of the Quaint stores (see Above Left) are on the west side of Washington Street as are the Coffee Shops and Cafes. The signs for these functions are all well kept up and most are modern signs in an older style.

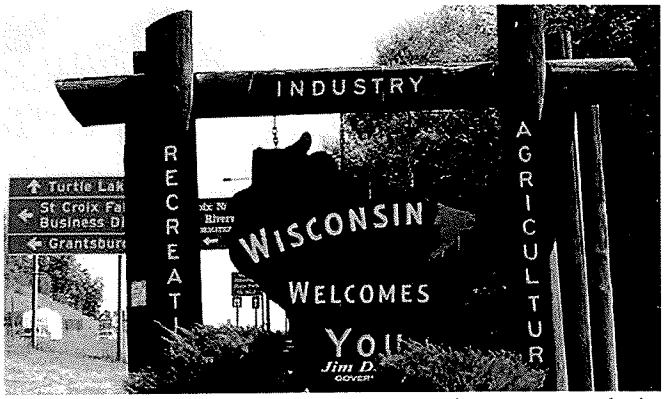
St. Croix Falls will most likely continue to gain population, mostly from people who work in the Twin Cities and commute. It will also be a tourist destination for people who live in the nearby commuter shed towns for its natural beauty, recreational opportunities, and shopping options on Main Street which are aimed at middle to upper-middle income tourists with urban/yuppie tastes. Washington Street also has many professional services, such as this publishing association. (Right)





In the old Fire Hall, condo renovations are occurring, turning this once municipal use into new residential and commercial spaces right between the historical and trendy Washington Street and Highway 8. (Left) This is one example of how living styles common to big cities are finding their way into small towns whose residents may wish for the amenities of a big city with the charm and neighborliness of small town life. St. Croix Falls also has a small entertainment district at the north end of Main Street which includes Festival Theater, Falls 5 movie theater, and an art gallery, together representing old and modern forms of entertainment.

"Off Main Street" Development and Growth



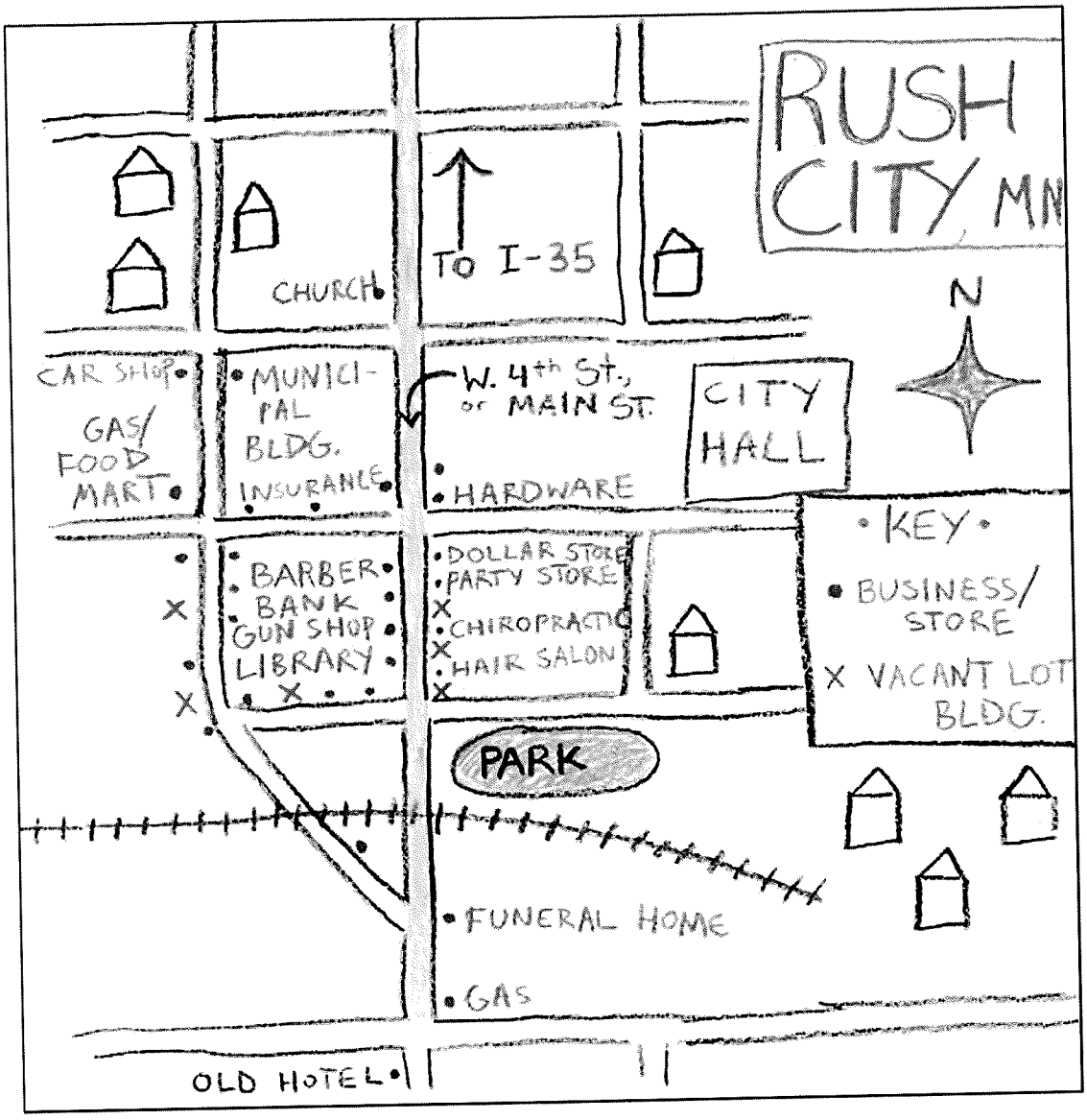
The St. Croix's falls have played an important role in its industrial development, from its beginnings with logging and mills to its current function for the hydro-electric dam. The electricity from the dam was originally thought to bring industrial development to the area, but was sent to Minneapolis instead. The town does not currently rely on industry for its economy.

New growth in St. Croix Falls is mostly occurring along Highway 8 east and south of the historic town center. Increased car use and commuting routes bring more traffic and customers along the highway, especially because of the bridge between Minnesota and Wisconsin west of St. Croix Falls. Also, there is more open space available along the highway which is more conducive to large national chain stores that have pre-set floor plans and building designs. If this new development provides similar functions to those of Main Street, then it will likely bring business away from Main Street. However, if the functions are different, then it should only increase the market area of St. Croix Falls, benefiting both the highway businesses and the Main Street businesses.
Image from: maps.Google.com

St. Croix Falls is on Hwy 8 near one of four entrance points between Minnesota and Wisconsin. This increases its residential value for people who find work in Minnesota, but want to live and play in Wisconsin. Since there are so few bridges connecting the two states across the St. Croix River the land near the bridges, or near the highway that connect to the bridges, increases in desirability and value.
Image from: http://www.cityofstcroixfalls.com/Gallerybody.htm

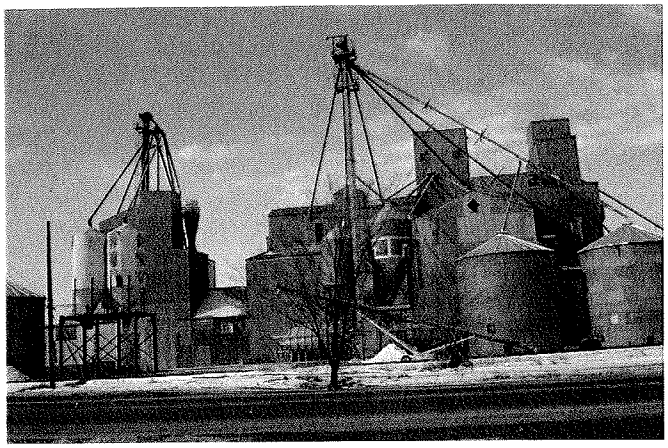
St. Croix Falls is near Interstate Park which attracts many visitors each year. Also, the St. Croix River area offers many types of recreation all year-round including: fishing, hiking, eagle watching, canoeing, kayaking, ice fishing, snowmobiling, skiing, and snowshoeing. This attracts people to the area who enjoy the outdoors and have the time to take vacations and travel. By providing functions which cater to this type of visitor, St. Croix Falls can benefit from the natural beauty that brings people to the Interstate Park.
Image from: http://www.cityofstcroixfalls.com/Gallerybody.htm

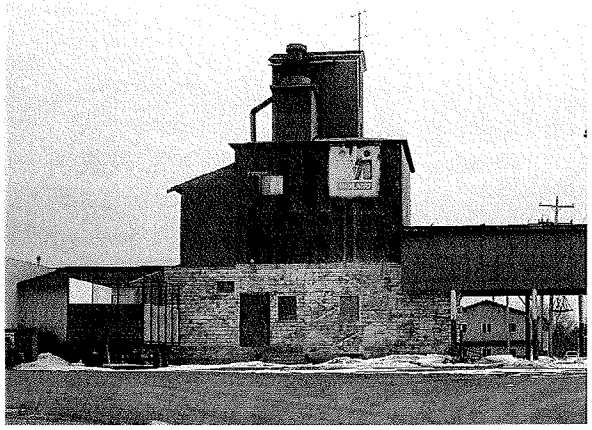
Agricultural and Railroad Centers in the Twin Cities' Commutershed

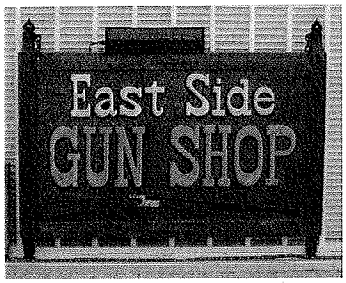


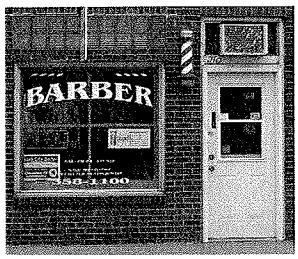
Rush City, Minnesota is representative of the class of towns in the St. Croix Watershed that once functioned chiefly as agricultural centers and railroad hubs, and now are home to many commuters who work in the immediate surrounding area as well as the Twin Cities. Other examples of towns in this category include North Branch, New Richmond, Baldwin, and Center City/Lindstrom. Originally, these areas developed due to the railroads that passed through the towns, moving timber and agricultural products, as well as people and manufactured goods. Railroad stations were often located near a body of water so as to attract settlement, and thus these nodes along the rail line became agricultural centers, eventually developing into the towns present today. The Main Streets reflect the early dominance of the railroad by their proximity to the line, as in Rush City, where the railroad is perpendicular to W 4th. Street. Rush City shows a lack of commercial investment on its Main Street, as shoppers are drawn to Pine City to the north due to Wal-Mart and North Branch to the south, which features an outlet mall. Main Street, also known as West 4th Street, houses—amongst others—a few vacant storefronts, a Dollar Store, a party supply store, a bank, a barbershop, a gun store, and a library/community center. These functions appear to see little traffic aside from the local population, resulting in a landscape that appears rather isolated.

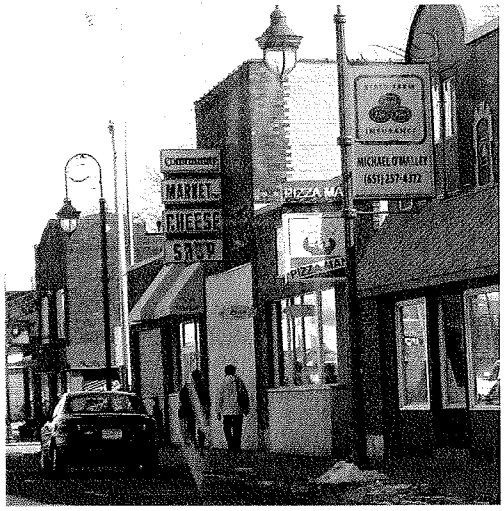
Characteristics of Main Street





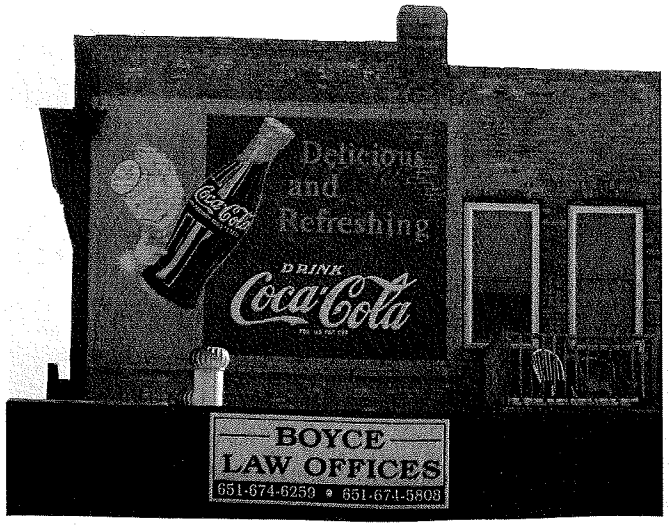




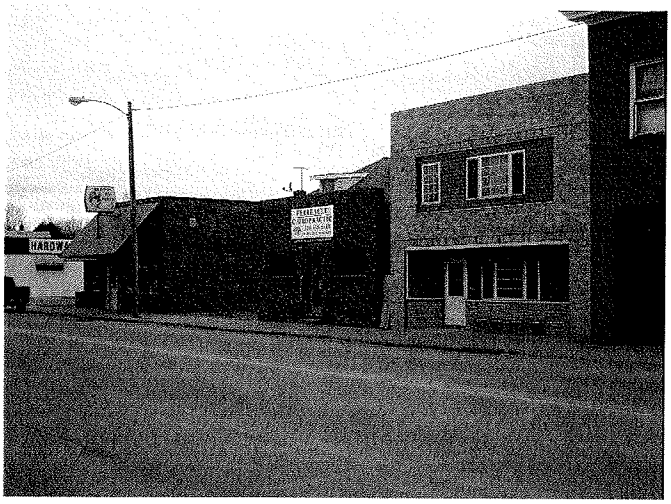


The towns in this category often have signs of their agricultural- and railroad-dominated past within view of Main Street, such as these grain elevators in Baldwin (upper left) and Rush City (above). The commercial presence is generally a "one-of-everything" design, with basic functions such as banks and barber shops (left). Beyond that, Rush City has a gun shop (far left), and Lindstrom features insurance offices, a pizza place, and small market (lower left).

In some towns, history is visible in the Main Street landscape, such as this advertisement in North Branch (bottom left) or the Old Gem Theater in New Richmond (below). Lindstrom makes its Swedish history clear as one drives along Lake Boulevard (bottom of page). Rush City has some buildings left to neglect, but does feature a hotel converted to apartments.

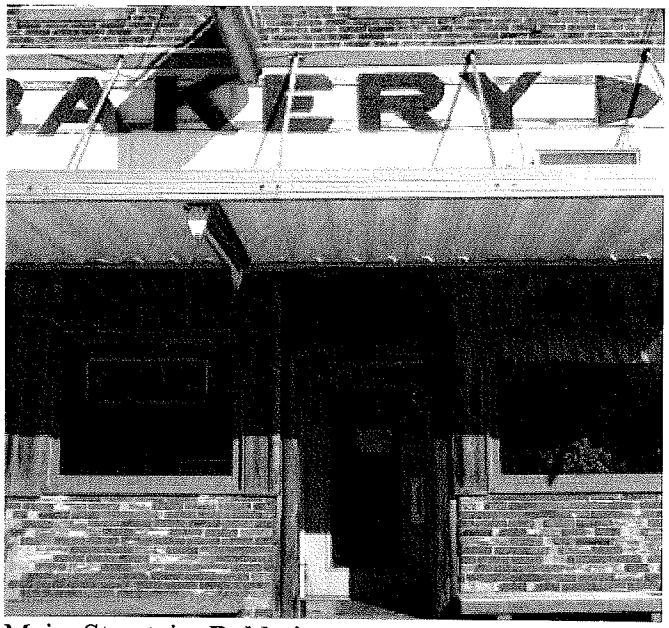


Images from Main Street: Rush City, North Branch, New Richmond, Baldwin



Rush City's West 4th Street, left, is the main artery of the town, but lacks a vibrant commercial atmosphere due to shopping attractions in nearby towns that draw local residents. Functions include, left, a hardware store, party supply store, and chiropractor. On a Saturday afternoon, most of the stores are closed, and the only visible cars are those passing through, rather than parked.

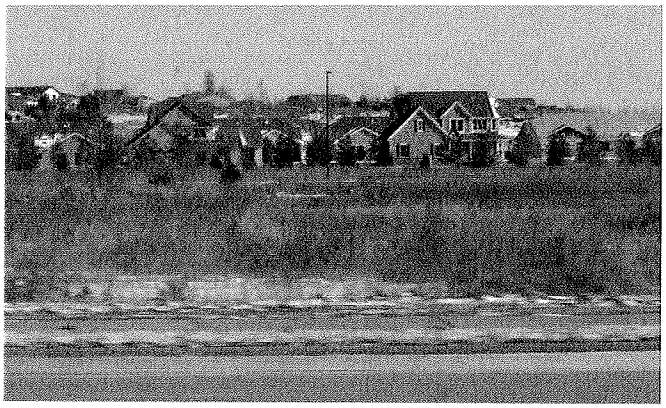
The Main Street of **North Branch** doubles as Highway 95, bringing customers to the various services. The city is just off of I-35 and is home to the Tanger Factory Outlets, which bring visitors to North Branch and its relatively busy Main Street. The functions include various restaurants, a Hallmark store, a florist, and more recently added, a Blockbuster Video. Real estate offices, counseling, and other services are located within the Main Street Center, right.

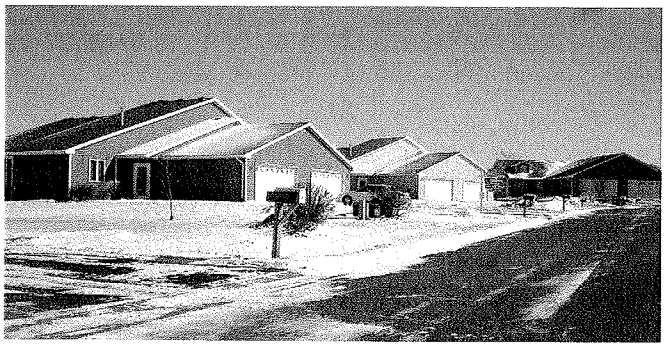


New Richmond is a pleasant town located within easy commuting distance of the Twin Cities. The population here has created a sense of community on its Main Street of Knowles Avenue, which features a bowling alley, community theatre, and a handful of pubs and other gathering places (below), as well as typical functions such as a bank and craft store.

Main Street in **Baldwin** runs perpendicular to the main highway through town, which detracts from the vitality of businesses located on this strip. Some functions are open, but other buildings are vacant or closed (above). The main grocery store in town is located on the outskirts, and Baldwin is near I-94, allowing access to other functions in nearby towns.

Off Main Street: Development and Growth

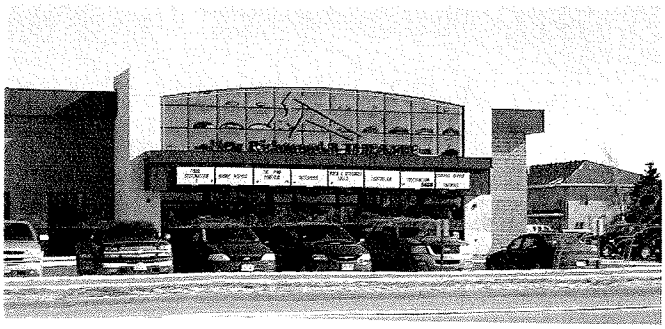




The towns in this category are changing, albeit in different ways. On Main Street, one does not necessarily notice the transformation, due to the establishments that have existed there for years and still manage to continue functioning. But on the outskirts of town, the changes are clear.

New homes are a sign of the growing populations and the infrastructure needed to accommodate them. Subdivisions such as this one in Baldwin (top) feature clusters of similar houses constructed on the once-available open land. With a large grocery store within walking distance and I-94 down the road, many residents here have little reason to venture directly to Main Street. Meanwhile, new housing outside of New Richmond is visible directly from the highway (second from top) as people move to this community ideal for raising a family and within 40 miles of the Twin Cities. North Branch, of a similar size, is also constructing homes so quickly that the streets are still unpaved in areas (center). Rush City has constructed new homes and a new church for employees of its small industrial area as well as commuters.

The second form of new development is commercial. The Tanger Outlet Center (second from bottom), part of a nationwide chain, attracts shoppers and thus new businesses to North Branch, such as hotels and restaurants. The number of highway functions has also increased significantly in recent years. New Richmond has added a Wal-Mart, a multi-screen movie theater (bottom), and strip malls to its outskirts. Rush City and Baldwin, meanwhile, have not invested in much new business, aside from a small complex with a coffee shop and boutique in Baldwin. Rather, these former centers suffer as new commercial functions elsewhere draw the populations, creating a more decentralized urban form and making Main Street largely a thing of the past.



Commuting Patterns: An Introduction

In order to effectively view the St. Croix Watershed as an area of rapidly increasing population growth and suburbanization, the commuting patterns of the area must be examined. Central to the idea of a suburb are relationships involving workers, the residential unit, the work unit and the manner in which workers transport themselves from the residential unit to the work unit. All such relationships must be explored to better understand the rapid pace of change in the St. Croix Watershed.

Using data from the 2000 Census and Geographic Information Systems, three sets of maps have been produced. The first, titled "The Pull of the Twin Cities," shows with varying levels of detail the ultimate work destinations for people in the St. Croix Watershed. It emphasizes the fluidity of the Minnesota-Wisconsin state line, and the astronomical effect the state of Minnesota has on the St. Croix Watershed. The second map series, titled "Length of Commute," displays the frequencies at which people are commuting particular distances to work throughout the St. Croix Watershed. These distances are expressed in time rather than mileage, as it is the time spent commuting, rather than the distance traveled, that is influencing the daily lives of these commuters. The third map series, titled "Time of Commute," displays the frequencies at which people are commuting at particular hours of the day throughout the St. Croix Watershed. The second and third map series together reveal a distance decay model in the commuting patterns of the St. Croix Watershed that shows the immense impact the Twin Cities metro area has made on the St. Croix Watershed, particularly in the last ten years. In short, the map series identifies the commuting patterns in the St. Croix Watershed in the year 2000 and the trends that seem to be gaining momentum with each passing decade.

Following the map series is a qualitative section adding depth to the GIS analysis. It seeks to explain why the identified patterns have emerged, as well as speculate into their potential to be maintained over several decades. In this section is information gathered from a number of government planners and private citizens who have both observed and lived these patterns. These people bring a perspective and level of understanding that GIS or a general quantitative analysis cannot bring, providing the geographer with additional insight into rapid change in the St. Croix Watershed and its future ramifications.

The Pull of the Twin Cities: Analysis

On a state scale, the patterns of commuters are very strong. Simply stated, in the St. Croix Watershed, the state of Minnesota has a drastically stronger economic pull than that of the state of Wisconsin. In all Watershed block groups on the Minnesota side of the St. Croix River, a minimum of 78% of all workers work in Minnesota. The vast majority of these Minnesota block groups keep a minimum of 92% of the workers within state boundaries. On the Wisconsin side, the patterns are much different yet no less strong. In short, the Minnesota influence is strongest in block groups that are in the southern tip of the Watershed, particularly in block groups closer to the state line. In Western St. Croix County, between 50% and 75% of the workers are employed in Minnesota. To the east and the north, the influence of this trend is reduced, yet still significant, as many block groups in eastern St. Croix County and Polk County are still seeing between 35% and 50% of their workers working in Minnesota. The pull of Minnesota and corresponding push of Wisconsin is reduced significantly in the extreme northeastern corner of the watershed, yet never completely disappears. There is no point along the state line in which the percentage of workers working within the state of residence is higher on the Wisconsin side than the Minnesota side.

The Pull of the Twin Cities

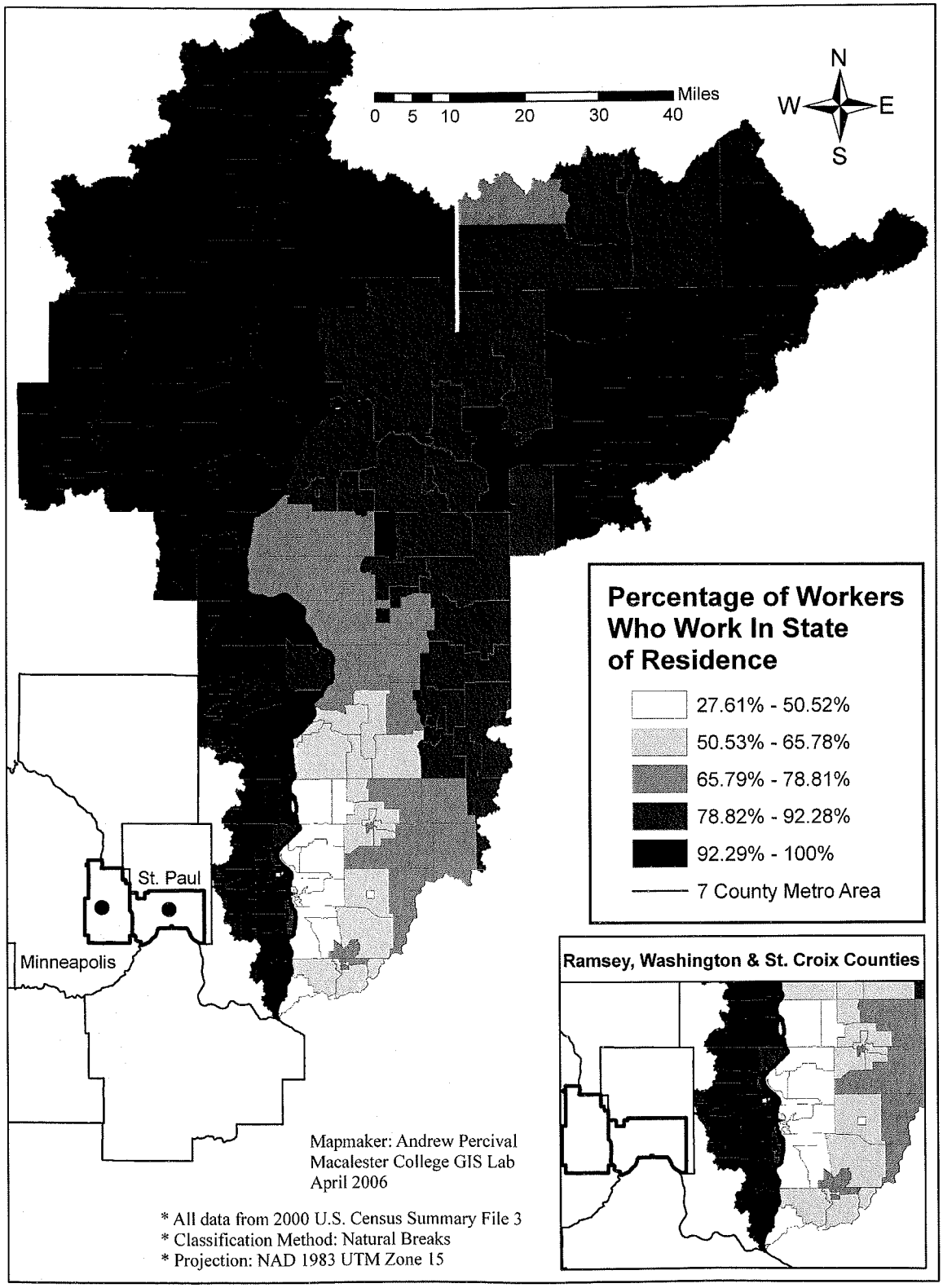
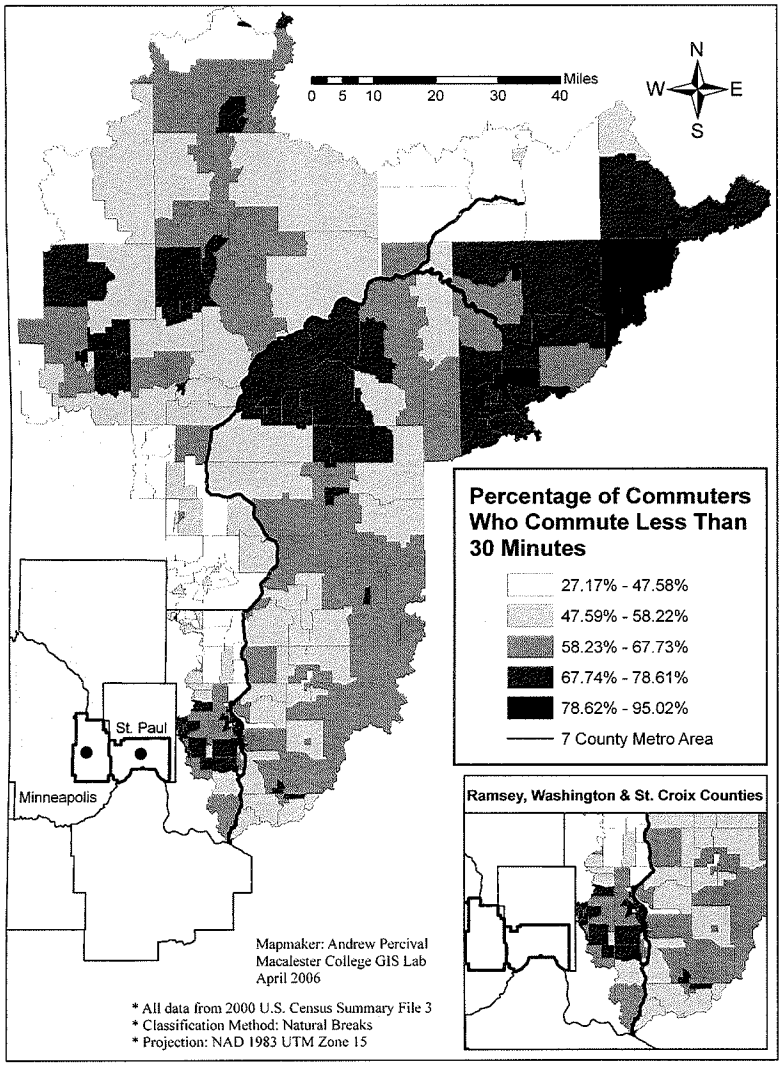


Figure 2.1 *Percentage of Workers Working in State of Residence by Block Group, 2000*

Length of Commute: Short Commuters



Fgiure 2.2 *Percentage of Commuters Commuting Less Than 30 Minutes by Block Group, 2000*

Length of Commute: Super Commuters

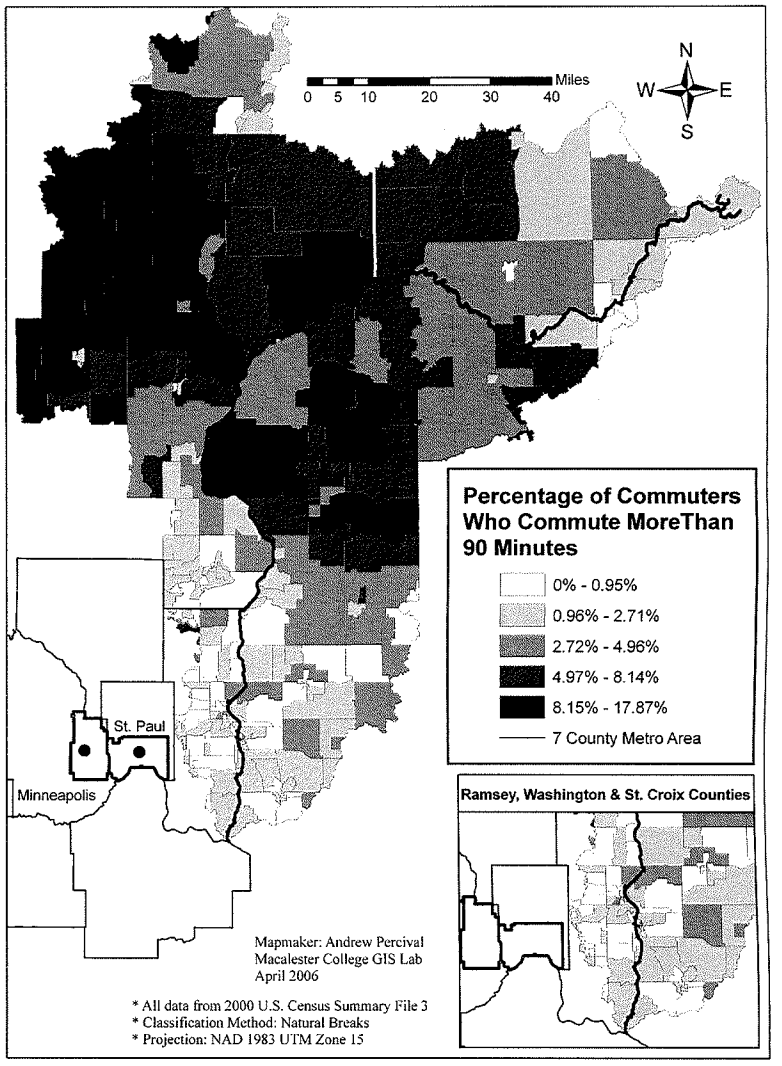


Figure 2.3 *Percentage of Commuters Commuting More Than 90 Minutes by Block Group, 2000*

Length of Commute: Analysis

With the economic relationship between the Twin Cities and the St. Croix Watershed revealed in the earlier map series, it is not surprising that patterns in the length of commute experienced by workers in the St. Croix Watershed are essentially a distance decay model from the Twin Cities. The highest concentrations of short commuters (0-30 minutes) are found in Washington County, Minnesota, as well as areas to the far north and northeast where the influence of the Twin Cities is not felt. In these areas, between 67% and 95% of the commuters need less than 30 minutes to travel from the home to the work place. In Washington County, these figures are the result of a population that works in the Twin Cities metro area, and a location within the Twin Cities metro area, and more specifically, a location closer to the major job center of Hennepin County within the Twin Cities metro than that of any other area in the St. Croix Watershed. In the far northern and northeastern block groups, specifically those located in Burnett County, Wisconsin, these high figures are the result of a location far enough from the Twin Cities that the proportion of the Twin Cities commuters is very small.

The map of "super commuters," those who are commuting over 90 minutes to work, shows that the areas with the highest percentage of super commuters are areas close enough to the Twin Cities to have a small portion of the working population commuting to the Twin Cities, but not close enough to offer those people a commute of less than 90 minutes.

All in all, with a Geographic Information Systems analysis of the commute times in the St. Croix Watershed, a very clear distance decay model emerges that is applicable to the vast majority of the watershed. The closer a block group is located to the Twin Cities, the higher the frequency of commutes under 30 minutes. The farther a block group is located from the Twin Cities, the higher the frequency of commutes in the over 90 minute interval. In short, in the St. Croix Watershed, more than ever before, distance from the Twin Cities and commute times are directly proportional. Only the extreme north and northeast sections of the Watershed remain untouched by this distance decay model, as they are the only remaining areas in the Watershed to not feel the pull of Minneapolis-St. Paul.

The overall prevalence of super commuters on the whole, is relatively small, with the highest concentrations within block groups ranging from 8.15% to 17%. However, when considering the enormous impact these extremely long commutes have on the daily lives of these super commuters these somewhat modest percentages are alarming. If between one and two commuters out of every ten commuters in these remote sections of the St. Croix Watershed were commuting to the Seven County Metro in 2000, it is not unreasonable to predict that between four and six of every ten commuters will be making this daily journey in 2020.

Time of Commute: Analysis

With the impact of the Twin Cities on commute times in the St. Croix Watershed comes the impact on the particular times of day commuting is occurring. Because it is highly unlikely that employers are adjusting the start of the work day to accommodate commuters from the St. Croix Watershed, many of those who are commuting to the Twin Cities from the Watershed are forced to start their commute earlier in the day. Both the long segments of time required to drive from much of the Watershed to the Twin Cities and the desire to reduce this segment of time by avoiding rush hour traffic on the highways have created essentially the same distance decay model seen in the GIS analysis of commute lengths.

The highest concentrations of "traditional commuters," those who depart for work between 6 A.M. and 9 A.M., are found in Washington County and St. Croix County, the sections of the Watershed closest to the Seven County Metro area. With this proximity to the work place comes a shorter commute at a traditional time of day for commuting. The highest concentrations of "early commuters," those who depart for work between 12 A.M. and 6 A.M., are found in the areas directly north of the traditional commuting zone. With the logical coherence of these two maps, as well as the reemergence of a traditional commuting zone out of the range of the Twin Cities to the far north and northeast, the impact of

Time of Commute: Traditional Commuters

Figure 2.4 *Percentage of Commuters Departing For Work 6 A.M. – 9 A.M. by Block Group, 2000*

Time of Commute: Early Commuters

Figure 2.5 *Percentage of Commuters Departing For Work 12 A.M. – 6A.M. by Block Group, 2000*

the Seven County Metro area is once again realized. Although rural industries do demand work at non-traditional workday hours more frequently than their urban counterparts, it is unlikely that these differences in the times of day at which people are departing their watershed homes for work have more to do with differences in economic structure and more to do with the prevalence of Twin Cities commuters.

Interview Response: Why Do People Super-Commute?

We now know that people are commuting, incredibly long distances in the St. Croix Watershed. We know that at an increasing rate, people are commuting over an hour to the Metro Area, from mostly rural areas of the watershed. We know that they are commuting at off-peak times as a way to reduce their commute time, which can be almost 3 hours total a day. To many, this would seem like a worst case scenario but instead, it seems to be more and more acceptable to this population. Why would people be willing to work so far from home and spend so much time in transit? What is their gain from the situation?

To answer these questions, there is really only one place to go, and that is straight to the source, to the commuters who take these long trips, and to the planners, engineers, planning departments and highway commissions that have to deal with the changing choices of the workers of the watershed[1]. After many calls to find commuters and delve into their heads, the best responses came from a group of 10 in both Minnesota and Wisconsin. The interviews consisted of asking them about their choices and their motivations in making the commute, as there are likely patterns as to why they work so far from home. This was the information that was used for follow-up conversations with the planners and others who are making decisions on the current and future state of the watershed. Their answers were somewhat expected, but not entirely, as some did stray from our preconceived rationales.

The first pull of the rural home is the family history in the area. This is the case for the more established families in theses small towns. While this was not the most common reason for living far from work, it was high on the lists of a number of commuters mostly due to the fact that for them this is their home, and it is such a focus that even though they may have gone to the city for more pay, they still feel that the only place where they are truly home is the place where they grew up. The cost of travel time is minor compared to the cost of urban communities where they would feel safe. The planners noted that this was not a major reason in their mind mostly because they found that it was newer residents who were likely to be doing the long commute rather than those that have been in the area for a long time. Michael Kornamnn, a member of the Development association of Burnett County noted that, "A lot of people who grew up in small towns anywhere, want to live in a small tows when they move because this is the lifestyle they've known their whole life." Even if it is not the exact place they have lived previously, it is small town lifestyle that leads to the "super commute." It is exactly these people that are commuting the longest distances who feel the small town allure who will continue doing it for the long tem.

The most logical reason to commute this distance is that people have to work where the good-paying jobs are, and they increasingly tend to be in the Twin Cities Metro Area. This was also tops on the list of people who planned on doing the commute for a shorter time. They essentially were willing to deal with an inconvenient commute for a while, if it meant a better job in the long haul. Those simply seeking better employment would in general, not commute as far and be more willing to do it for the short- term only. Tara Flaherty of the Chisago County Planning Commission has found in general, that there is a higher turnover of residents with abnormally long commutes, because they are more willing to change their home or workplace to end the commute. These are likely to be people who have just moved into a community and then leave once they realize how long the commute will be. This does not follow for others who claim that people have become more acclimated to the idea of commuting a long distance to work, and are willing to accept super commuting as a necessary evil to possess the ideal work-home situation. Regardless, the number one situation for these super-commuters is that they lived in a rural location and then found a new job, for more pay, or they were transferred. Either way, it is usually only if they have lived in the rural environment for a long time that they are unwilling to move their home to a

1 Based on interviews with 10 commuters in Burnett, Pine, Chisago and Polk Counties from March and April, 2007 as well as interviews with Mike Kornmann, Development Commission of Burnett County, Tara Flaherty, Planning Commission of Chisago County, Robin Matthews, Surveyor of Pine County, Gregory Nikodym, Engineer of Kanabec County and Andy Hauley of the Arrowhead Regional Development Commission

location in the Seven County Metro.

A third minor reason mentioned by only a few of the commuters and planners was the cost of living in the small-town. Before our interviews, this was believed to be major draw of the rural areas, but due mostly to the increase in gas prices, cost of living has disappeared as a major reason to live far from work. In addition, a number of the engineers and planners mentioned that only low-order business is done in their communities, and so while this is a substantial part of a family's purchases, the incremental decrease in price at these stores probably was not a significant draw, especially since many of these purchases have to be driven a considerable length to be obtained. With gas prices as a high as they have ever been, and even higher in some of the counties in the watershed, the choice to super-commute cannot be solely economic.

If the number of people willing to commute long distances is increasing, then there must be ways to make it more palatable. Two of the most common ways to accomplish this are to commute at off-peak hours and to car pool. Many of those commuting over an hour to work go in early and leave late to avoid the rush, they would rather spend less time actually on the road even if it means more time in the office. Commuters reported leaving as early as 5:30 in the morning to avoid having an even longer commute. This actually uses up more of the day, but is less frustrating for workers. As we saw earlier, this seems to be a major trend, as more people are commuting from Burnett, Chisago, and Pine counties to the Seven County Metro Area. These are also the counties where people are more likely to car pool. Car pooling is not overly prevalent anywhere in the watershed, but is especially significant in the distant counties, like Pine, where one planner noted that as gas prices have gone up, that there has been more interest in organized car pool programs, to cut some of the expense. Only one of the commuters interviewed had ever been part of a car pool, and no longer was because of the inconvenience.

The most surprising response from the people making the commute was that they were almost all willing to continue the commute for as long as it needed to be done, because they enjoyed living where they live and working in the Metro Area. That they had found a system that worked for them, and had grown to accept the commute as a reality. When this information was brought before the planners, none of them were really surprised as they were all well aware that people were willing to make that sacrifice, and were sure that the trend would continue, with the only possible stop being the increase in gas prices.

Of more concern to many is the impact of this change in the population on the small towns. This was not of major concern to many of the developers or planners, however, for two reasons. First, as long as people still live in the town, they will use the lower order businesses. In fact, some of these same people conjectured that this change in the workforce could be good for many businesses because it was increasing the population of the towns. Second, as to concerns that it could change the tight knit nature of many rural communities, most planners were skeptical. This is due mostly to the fact that super-commuters like their homes enough to continue the drive, and also care enough about the town that their house is in. On an interesting side note, two planners noted that commuters were only the second largest growing population in their county, that the number one was far and away retirees. While they both considered commuters having more of an impact, they doubted whether they would ever out pace the retired population.

At the rates we have seen over the last 15 years, it seems that there is no end in sight for the growth of super commuters. The real question will be whether new housing will be built in the small towns designed specifically for a commuting population, and if these new communities will reduce much of the small town appeal. In the opinion of nearly everyone surveyed, it will become more common to have a long commute to work because people simply value having both a good paying job and a small town home. Some believe that it is only a matter of time before Chisago County is added to the metro area and in Burnett County, it is already common to commute to work in the Twin Cities. Whatever the future brings, super-commuters will continue to become more prevalent, so that everyone can have both the home and job that they desire.

Get Big or Go Local
Changing Agricultural Trends

The face of U.S. agriculture has changed greatly over the past century. At the beginning of the 20th century, agriculture was characterized by small family farms with a wide range of crops and animals which were either consumed on the farm, traded, or sold locally. Today, most agriculture is concentrated in large, mechanized farms that focus on one or two cash crops which are sold all over the world.

Agriculture has followed similar trends in the St. Croix River Basin. A traditionally rural area, the river basin has limited arable land. The northern part of the area is mostly forests and not ideal for agriculture. Lands best suited for farming are mostly in the southern half of the basin. St. Croix and Polk counties of Wisconsin in particular have substantial land devoted to agriculture. Agricultural production in the watershed focuses on the cash crops of corn, hay, and increasingly soybeans. Dairy farms are also an essential component of the agricultural scene.

This area is also experiencing national trends of expanding suburbs and the conversion of rural land into a recreational landscape. Suburbs of the Twin Cities are beginning to stretch further into the watershed. However, despite the spread of urbanization, agriculture remains an important facet of the area. In fact, agricultural activity has increased over the past decade. According to the Census of Agriculture, the St. Croix watershed experienced an increase in the number of farms, total farm acreage, and acreage of harvested cropland between the 1992 and 2002.

The number of farms increased in every county in the watershed, and overall the area experienced an increase of 3100 farms - a 24% increase.

Agricultural acreage also increased but only by about 2%. Acres of farmland rose by 57,655 acres, and acres of harvested cropland increased by 37,700 acres. At the county level, change in acres of farmland varied but most still experienced growth. Six of the eighteen counties dropped acreage, including Anoka, Washington, and Chisago counties of Minnesota. Counties in the northeastern part of the watershed, including Douglas, Bayfield, Washburn, and Burnett counties of Wisconsin, were big gainers.

Changes in acres of harvested cropland also varied across counties in a pattern similar to total acreage. Chisago and Washington counties of Minnesota are among the five that decreased. Counties in the northeastern section gained here too, as well as surprisingly, Anoka county of Minnesota which is part of the metro area.

As the suburbs sprawl outward, the prospect of developing land into subdivisions of large houses

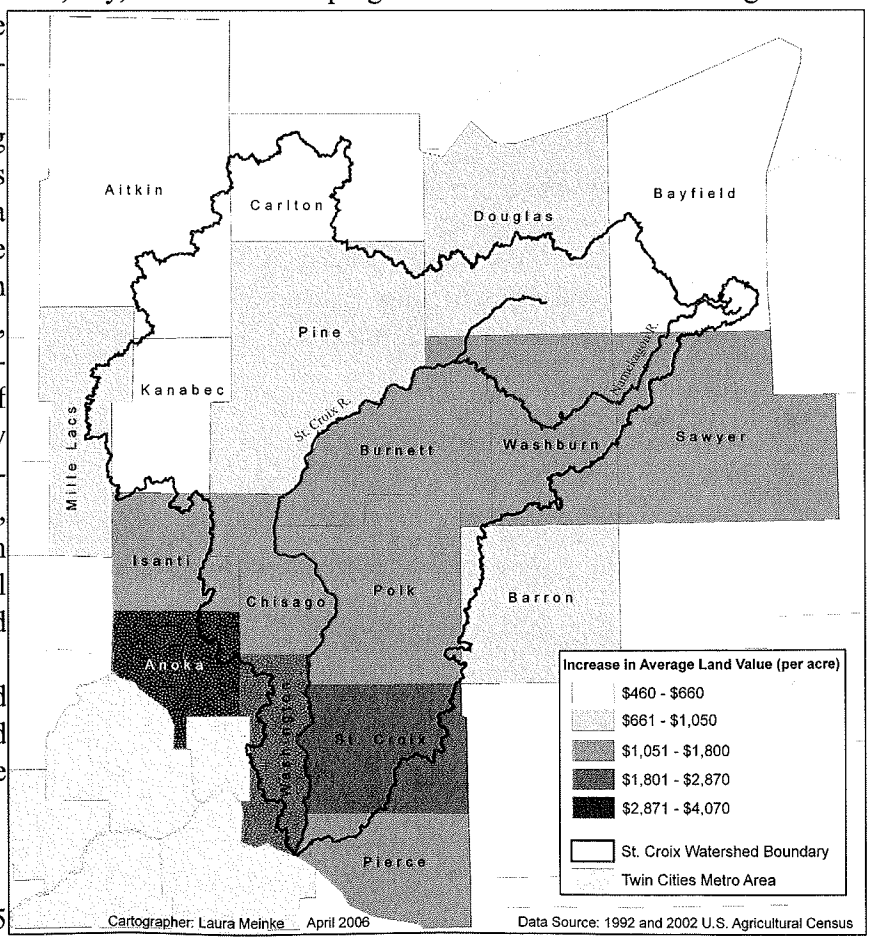


Figure 3.1 *Increase in Average Land Value by County St. Croix Watershed 1992-2002*

with expansive lawns has driven up land values across the watershed. Land values in the metro area are logically the most expensive and have risen the most in the past decade. For example, the estimated value of agricultural land in Anoka County rose from $1961 per acre in 1992 to $6025 per acre in 2002 and has continued to rise. Interestingly, the relative increases in land values are highest in areas outside the metro. Estimated land values in Burnett County, Wisconsin increased by 272% between 1992 and 2002, and St. Croix and Washburn counties both increased over 265%.

This increase in land values has resulted in many farmers abandoning traditional crops and planting specialty crops. Many small farms struggle to keep pace with large farms that grow the same crops with more efficient equipment and more land for growing. So many farmers have switched to a more specialized crop or activity. The most successful of these have been activities and products that are attractive to the near-by urban population or people in the smaller cities of the area. One popular specialty crop that has done increasingly well is the Christmas tree. The number of Christmas tree farms in the watershed rose nearly 75% between 1997 and 2002. Polk and Chisago counties lead the area in the number of Christmas tree farms, with 35 and 29 farms respectively in 2002, compared to 13 and 17 in 1997.

Organic farming and Community Supported Agriculture (CSA) are another alternative for farmers in the area. These modes of farming are more profitable than traditional cash crops because consumers are willing to pay a premium for healthier, cleaner

Image 3.1

foods from organic farms and locally grown food from CSA farms. Currently, consumer demand for organic products is soaring, which makes the switch to organic farming quite attractive for many small farms. Dairy farms are finding this route particularly successful thanks to the demand for organic milk and cheeses. As of October 2004, there were about 22 organic farms scattered across the watershed.

Another specialized agricultural function that has flourished in the area in the past few years is the equestrian facility. These facilities are becoming increasingly popular, especially around the metro area.

A University of Wisconsin extension service agent commented that "the trend in agriculture seems to be get bigger or get local." The following sections will concentrate on how the changes in agriculture in the St. Croix River Basin fit that description or deviate from it, looking specifically at farm size and two types of specialization – community supported agriculture and equestrian complexes. Urbanization and national trends in farming have both instigated change in the agricultural character of the watershed, and it will be interesting to watch it continue to evolve for many years to come.

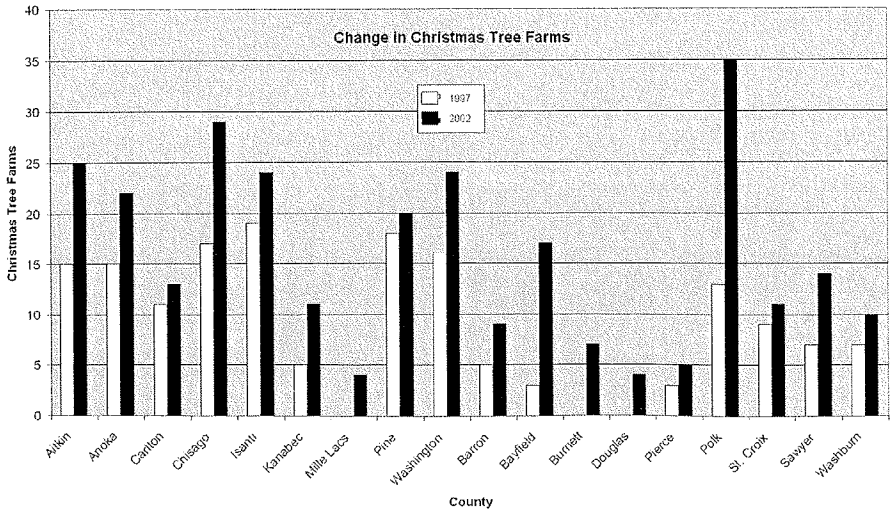


Figure 3.2 *Change in Christmas Tree Farms, St. Croix Watershed 1997-2002*

Growth of Size and Numbers: Trends in Large Farms

Given the brief introduction to the theme of 'get big or go local,' this section investigates the trends in large farms located throughout the St. Croix River Basin. While previous work has drawn on a number of variables to define and quantify farm size, this study defines 'large farms,' as all those properties that are classified as farms, and hold over 1,000 acres of land.[1] The ability to understand patterns in the number of large farms throughout the watershed, however, requires an awareness of national trends.

Throughout the latter half of the twentieth century, the American understanding of the 'family farm,' has shifted. While most people lack a clear understanding of the extent and cause of such change, the number of farms in the United States has decreased dramatically over the past 80 years. Based on the definition of a farm as any household that produces greater than $ 1,000 worth of agricultural goods each year, the number of farms in the US peaked in 1935, at 6.8 million[2]. During this period, 21.5% of the total workforce was involved in agriculture, and contributed 7.7% to America's GDP. By 2000, these respective figures had dropped to 1.9% and 0.7%[3]. This dramatic decline in the number of farms and ensuing contribution to the national economy began in 1935, as significant technological advances led to greater mechanization, while a pre-war economy created an unprecedented amount of off and non-farm employment opportunities. The movement away from family farms exploded following WWII, as millions of people left the agricultural sector. While the number of farms decreased dramatically during this period, the total amount of farmland remained relatively constant. It necessarily follows, therefore that the average size of farms in the United States was increasing.

As the total number of farms continued to decrease, the rate of decline had slowed by the mid 1970s. During this period, the number of mid-sized farms - between 50 and 499 acres - continued to drop, while those with holdings smaller than 50 or larger than 500 acres grew significantly. Movement out of mid-sized farms continued to occur, although the rate of decline slowed due to growing numbers of farms at opposite ends of the size spectrum. As a result, by the late 1990s US agriculture had completely shifted away from medium sized enterprises to an overwhelming dependence on large farms.

Although smallholdings accounted for 90% of the total number of farms, they contributed to only 28% of yearly production. Conversely, by 1997 the largest 2% of farms accounted for more than 50% of gross sales in agricultural goods[4].

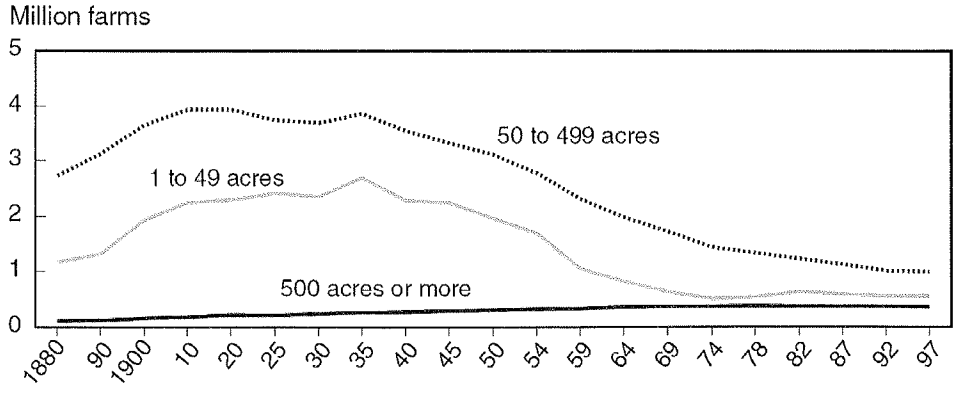


Figure 3.3 *Source: USDA, Economic Research Service, Hoppe & Korb*

Given this brief history of the evolution in farm size in the United States, we assumed that the trends would change as we narrowed our investigation away from the national and state scales, to regional and county levels. Due to the dramatic population growth in the counties surrounding the Twin Cities, specifically those located in the St. Croix Wa-

1 Numerous studies have shown that level of farm sales is often a better indicator of farm size than number of acres. Given the focus of this report on increasing population pressure and land use changes in the basin, however, total number of acres was selected as we are interested in the amount of land dedicated to agriculture. Furthermore, by selecting total acreage, our data did not require adjustment for purchasing power parity.

2 Hoppe, Robert A. & Korb, Penni. 'Large and Small Farms: Trends and Characteristics.' *Structural and Financial Characteristics of U.S. Farms.* USDA Economic Research Service. Pg. 1-17. http://www.ers.usda.gov/publications/aib797/aib797c.pdf.

3 Dimitri, Carolyn. Effland, Anne. & Conklin, Neilson. 'U.S. Agriculture and Farm Policy.' USDA Economic Research Service, *Economic Infromation Bulletin* Number 3. June 2005. Pg. 1-17. www.ers.usda.gov

4 Hoppe & Korb

tershed Region, we predicted that the number of small farms would have increased dramatically over recent years. Differing from national trends, we believed that the number of large and medium sized farms would have declined as a result of rising population pressure and land values. Using data collected by the NASS (National Agricultural Statistics Survey) and represented at the county level, however, we found that – similar to national trends – the number of small farms (1-49 acres) has increased throughout the region. These farms are a direct result of the expansion from the Twin Cities, as large numbers of families seek shelter in rural areas via the construction of acreages and hobby farms. Much more surprising than this expected trend, however, is that between 1997 and 2002 the number of large farms also increased throughout the area of study, most notably in those counties directly east of the Twin Cities. Despite a significant amount of population growth and overall decrease in average farm size, the number of farms holding over 1,000 acres is increasing. As shown on the map, while these numbers are relatively low, this change is significant given the limited amount of land available, as well as percent increase in numerous counties.

Having found that national trends have remained applicable despite continued growth in population pressure from the Twin Cities, we sought to explain the continued emergence of large farms in these counties, most notably those close to the metro-area. We found that the first – and predominant – factor influencing the growing number of large farms has been the drive to capitalize on economies of scale. Indeed, the changing demographics of these areas have not altered the fact that full time farmers have to make a living. Similar to national trends, full time agriculturalists throughout the basin have had to increase farm size and specialize in one or two crops in order to improve their opportunity to remain financially solvent when facing high input costs required

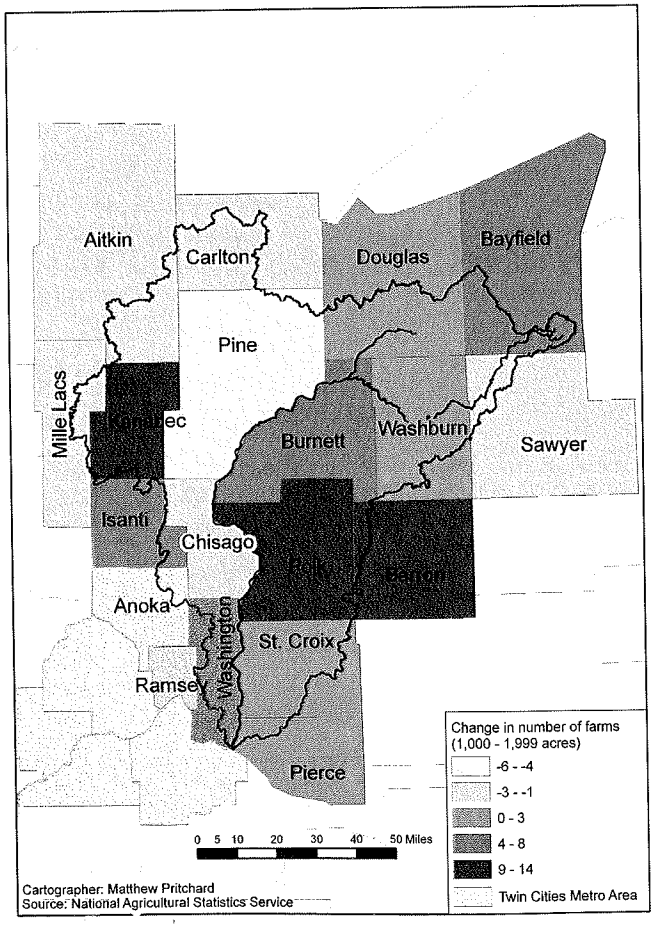


Figure 3.4 *Change in Large Farms 1,000 – 1,999 Acres, 1997 – 2002, St. Croix Basin, By County*

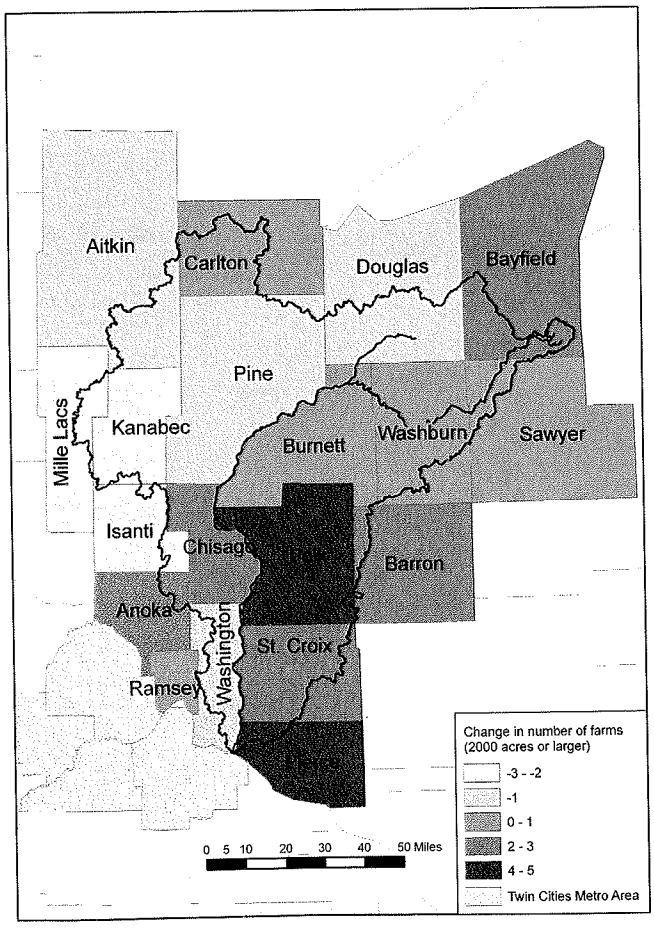


Figure 3.5 *Change in Large Farms over 2,000 Acres, 1997 – 2002, St. Croix Basin, By County*

by mechanization as well as the purchase and rental of land. Current estimates state that in MN, a farmer requires at least 1,344 acres of land to support a family[5]. The transition away from mid-sized farms as well as the general exodus from dairying[6] therefore, has coincided with the growth of small farms, as new settlers purchase and fragment mid-range tracts of land. Competition for these plots vacated by medium sized farms, however, is not-only coming from part-time hobby farmers, but also full time agriculturalists striving to buy and rent land as it becomes available. The general increase in the number of farms holding over 1,000 acres, therefore, is not occurring due to the influx of new farmers into the area, but medium-sized farms increasing their holdings to better profit from economies of scale, and moving into a new size classification. These findings are also supported by parcel data from numerous counties that show very few – if any – single lots holding 500 acres. Rather, these farmers are buying up and renting land over a larger area as it becomes available.

The second factor accounting for the general growth in large farms is the change in registration techniques by the NASS. Between 1997 and 2002, there was a significant amendment made to the methods that the USDA gathered information on Agriculture, most notably with regards to land held under the Conservation Reserve Program (CRP). Introduced in 1985, the CRP remains a voluntary program and a method of preserving at risk land – highly erodable, environmentally sensitive crop and pasture land – by retiring plots from production for a period of 10 to 15 years. For participating in the program, volunteers receive annual payments from the government to help pay for rent and lack of production. In 1997, the agricultural census did not count CRP areas as farmland. In 2002, however, these areas were included[7]. A significant amount of land that existed in 1997 but was not counted as farmland, therefore, suddenly appeared on the 2002 census. Furthermore, the effect of CRP registration on trends in large farms is supported by the disproportionate amount of land protected by the program in MN and WI. The above map shows that Minnesota counties in the basin have not gained as many large farms as their Wisconsin counterparts, – indeed some states lost large farms – this trend is supported by the fact that the given MN counties have considerably less land held under CRP.

County	Amount of Land Held In CRPs (2006)
Kanabec (MN)	285.9 acres
Washington (MN)	557.6 acres
Isanti (MN)	828.8 acres
St. Croix (WI)	29,347 acres
Pierce (WI)	20,582.5 acres
Barron (WI)	4,121.5 acres

Figure 3.6

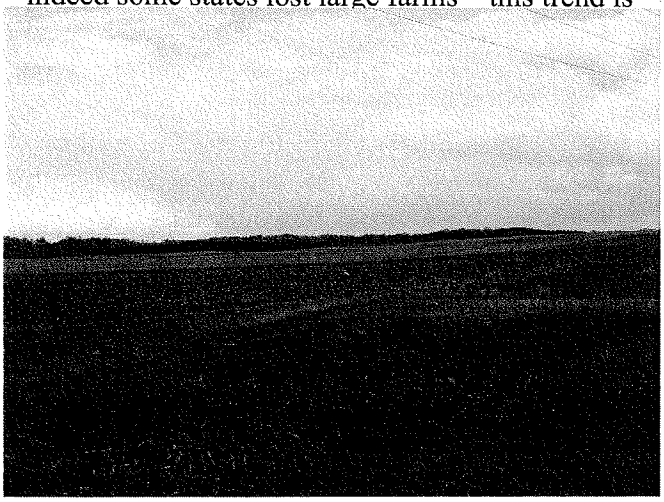


Image 3.2 *Large farm in Washington County*

Despite significant increases in population pressure and land values, the number of large farms has continued to increase throughout most counties located in the St. Croix Basin. Given this increase in numbers, however, full time farmers continue to struggle to make a living on very tight margins. Unfortunately, this is not the only challenge large farms will face in the near future. According to numerous individuals, the growing population in the counties surrounding the Twin Cities has often led to a challenging and unpleasant agricultural environment. Traffic volumes make it difficult to move tractors, cattle, sheep, etc. on or across roads, and farmers running large operations constantly struggle against the desires of the newly arrived population to live closer to nature, but not fertilizers, pesticides, and large amounts of manure. Indeed, the future relationship between these two interdependent communities will be interesting to monitor, as full time farmers strive to overcome not only rising costs and shrinking land availability, but also the assumptions and desires of the recently rural-ized population.

5 *Minnesota Farm Guide*
6 UMNEX, Personal Communication
7 UMNEX, Personal Communication

Going Local with CSA Farms

One agricultural specialization technique that is growing in the St. Croix watershed is community supported agriculture (CSA). This strategy involves operators selling "shares" of their crop yield – typically vegetables – before the growing season starts. By pre-paying, customers provide farmers with working capital to manage their farm for the season, rather than relying on day-to-day sales at farmer's markets, grocery stores, or other outlets. Farms are marketing organic or sustainable products that are grown locally to their potential customers. CSA farming, however, is not simply a marketing strategy, according to farmers; it is a tool for forging relationships. Successful CSA farms use a set of tactics to form a connection with customers and consequently, the farms are necessarily local. While most of the CSA farms in the watershed sell small amounts of their crop to grocery stores, co-ops, restaurants, and members in the immediate vicinity, the majority of their yields are sold in the Minneapolis/St. Paul area.

In a practical sense, the community formed between the CSA farm and its members is important because it promotes customer base stability. Unsurprisingly, the community focus is evident in both the farms' marketing and the "extra features" offered that one is unlikely to get from a large farm or grocery store, for instance. In the St. Croix watershed, such features include regular newsletters, member work days, pot-luck and harvest festivals, and other events. Many farms are either certified or nominally ("member-certified") organic and some have gone so far as to create land trusts and add easements to their land

Image 3.3

Image 3.4

to ensure it remains in agricultural use. All of these features contribute to the community and culture of the CSA farm, and are attractive to a particular subset of the population.

In addition to successful growing season and quality products, creating this community is one of the keys to the success of the CSA farm. A number of farms interviewed have moved from their original location (typically near the Minneapolis/St. Paul) and taken their much of their customer base with them. One farm moved over one hundred miles away from the Twin Cities and still draws much of its membership from the metropolitan area. CSA requires members to breach the typical farmer-consumer relationship in order to maximize their experience.

Clearly, then, there are benefits to the CSA model: farmers are paid ahead of the season, have the freedom to plant a wide variety of crops (some farms claim over 150 varieties of fruits and vegetables), and can foster a repeat customer base through farming philosophy, not what crops are actually produced. There are benefits for customers as well; they know where their food is coming from, who is producing it, and can have the personal satisfaction of being involved in the farm. Perhaps simply knowing that their individual share is important to the farmer contributes to personal satisfaction as well. Furthermore, the extra features of CSA membership appeal to the niche market looking for so-called healthier goods grown with concern for the earth and the future of local agriculture. Nevertheless, customers still cite access to healthy produce as of prime importance.

As a specialization method, CSA farms face several serious challenges. First, their promotion of community may not be successful and thus they may not develop a stable customer base year to year. This is a major hurdle because it requires more marketing each year and uncertainty for each season. One experienced farmer in the watershed expressed frustration at trying to implement a CSA approach due to difficulty building a customer base. Average retention rates for most CSA farms, however, are 50-70%, with most of the turnover in new members. To help avoid strict dependence on selling shares, many CSA farms complement their CSA business by branching out into other agricultural production, such as raising sheep, chickens, cows, and bees; planting orchards; growing herbs, flowers, melons; and even baking natural breads. Some farms also assist each other by cross-marketing goods that they do not produce themselves but that they can use to either sell on the side or include in their farm shares, such as honey, fruits, and coffee.

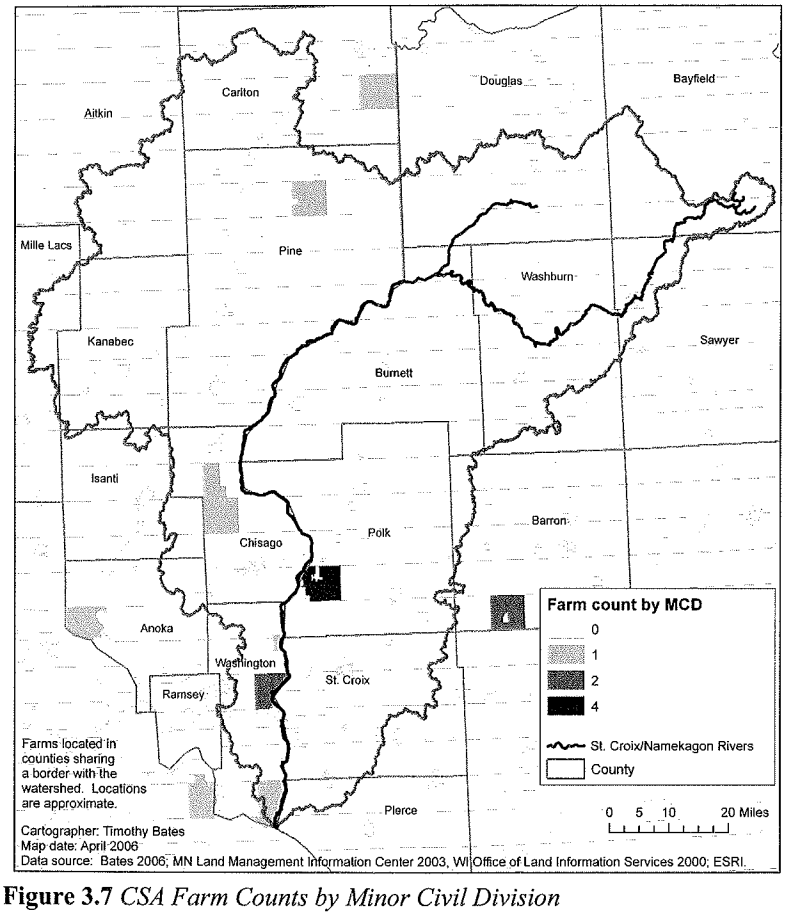


Figure 3.7 *CSA Farm Counts by Minor Civil Division*

Second, CSA farms are affected by urban expansion, as is any type of smaller-scale agriculture. Population movement continues outward from the Twin Cities, coupled with land value increases, creating pressure on agriculture in the St. Croix watershed from the Southwest, but farmers also report that recreational land is influencing land prices further away from the urbanizing fringe. As a result, it is harder and harder to find affordable land that is close enough to market for a CSA farm to start and develop a customer base. Of the surveyed farms, the average distance from the primary Twin Cities market was ~43.6 miles; more than 2/3 of farms were within 50 miles of the cities and all but two were within ~75 miles. Of the five farms that were started in the last five years, three are less than 30 miles from the market, but only two own their land.

Approximate land value increases per year (calculated by dividing the total increase by the number of years owned) ranged from 10% to 327%. Older farms (12-17 years at the current location) typically show the greatest increases in land value, reflecting the great increase in values during the last decade and a half. Some farmers have chosen to view extreme land value increases in a positive light – such as the fact that farmland will fund their retirements – but generally farmers are concerned with the value increases[8].

The oldest CSA farms in the watershed are only 17 or so years old, and more than half of the farms using this alternative approach for five years or less. Comparing total farm acreages to harvested

8 Summary data from author-conducted survey, based on 12 responding farms, are as follows:

	Total Acres	Acres Harvest	Shares	Years	Years CSA	Land value inc.	Increase per year	Share price	Share weeks	Weekly price
Mean	135.3	37.1	114.7	10.8	7.1	756%	53%		19	$25.32
Median	80	8	114.7	10.8	3	300%	25%		19	$24.25

Land value increases are approximate (as reported by farms). Not all farms provided this information. "Per year" value increases divide the total land value increase for each farm by the number of years the land has been owned.

acreages, the CSA farms are not utilizing all of their land for agriculture (CSA or otherwise). Many farms have fields, woods, and wetlands in varying proportions. Three farms do not own any of the land they cultivate for CSA business, while only two land owners rent additional land for agriculture. Compared to nationally, the St. Croix valley CSA farms are slightly older (with 75% of farms in operation seven years or less nationally, compared to the watershed's 58%) and have more total and CSA acres.

What remains to be seen is whether CSA farming can truly be effective in withstanding urban growth in the St. Croix (and elsewhere). Already farms have moved (some several times) to avoid land value pressures, others have shut down, and it seems that CSA is an excellent first step in larger scheme of farmland preservation. Some farms are actively pursuing land trust options, easements, and other creative solutions to help ensure their farms are not consumed by urban growth. One such solution is the creation of an Agricultural Tax-Increment Financing district (TIF) to allow farms to borrow money to build infrastructure, purchase farmland conservation easements, and build training facilities; then, over a set repayment period, property taxes would pay back the loans.

	St. Croix mean	St. Croix median	National mean	National median
Total Acres	135.3	80	44.4	14.3
CSA Acres	37.1	8	7.4	3
Years as CSA	7.1	3	5.5	5

Figure3.8

The future for CSA farms will be interesting to observe. While this farming strategy seems to have taken advantage of a market niche, certainly it must be a limited one. There can only be so many consumers who are willing to purchase a farm share in advance and not know what they will get in their vegetable box each week, who desire the connection to the farm, who desire organic foods, and who will contribute to the community that many CSA farms are trying to foster. However, some farms indicate that they are confident that through greater education and awareness, the market has great growth potential.

Image 3.6

There is a distinct CSA culture that a new farmer can either internalize to increase his or her chances of success or ignore and face a difficult experience. It seems that simply setting up a CSA technique is not sufficient; the farmers themselves often believe in their sustainable farming practices as fervently as their customer base. It is an inclusive community, though, and farmers are eager to spread the word on their style of farming.

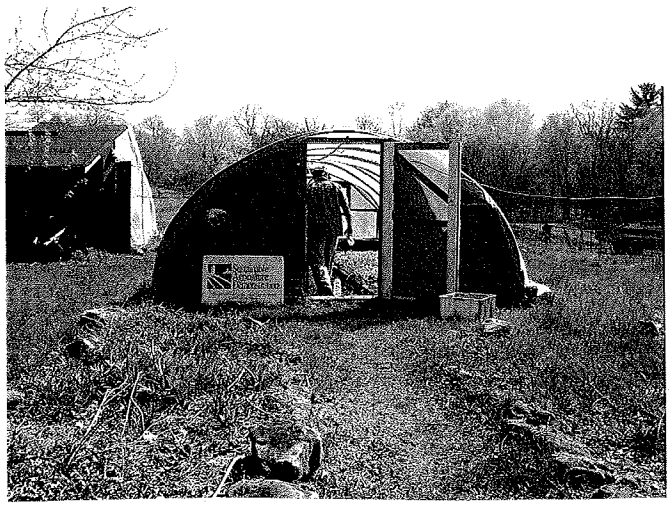


Image 3.5

Mapping the Urban Fringe: The Case of Horse Farms

One of the trends contributing to the new face of agriculture throughout the United States is specialization. As farmers employ alternative methods to keep pace with rising land values and to stay competitive in the market, the landscape reflects a rise in non-traditional crops. Across the urban fringe of the St. Croix River basin, Christmas trees, exotic livestock (llama, alpaca, ostrich, etc), and recreational horse functions are on the rise. For this case study, recreational equestrian functions such as riding schools, barns where riders can board their horses, and horse rental business functions are considered.

Agricultural officials are careful to distinguish between recreational equestrian and agricultural equine functions. The Equestrian Land Conservation Resource discusses the historic ambivalence between federal agricultural statistics and the equine industry, which leads to a largely underrepresented equestrian functions in federal statistics.[9] Due to the nature of client based service necessary for recreational horse functions, locational patterns displayed on the landscape are different from those exhibited by traditional farms.

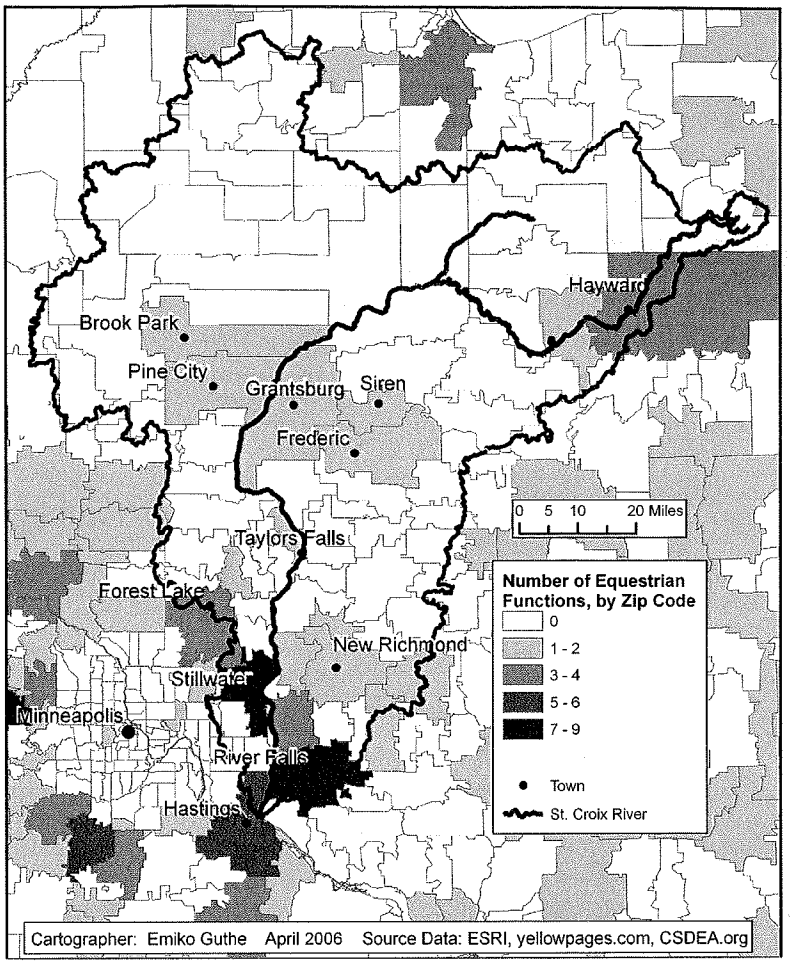


Figure 3.9 N*umber of Horse Farms, St. Croix River Basin*

Horse barns are often some of the last agricultural functions to be forced out of a developing landscape because of the nature of equestrian sport as it services an affluent clientele. The high cost of boarding a horse and the ability to afford riding lessons and shows, creates a specialized market strongly geared to the affluence concentrated in urban areas. The nature of the business requires that equestrian functions are not located at too extensive a distance from its clientele. In this region, riders from Minneapolis-St. Paul are able to easily travel to the southwestern edges of the St. Croix watershed in pursuit of equestrian functions. The accessibility of the area makes it an easy commute for riders while land values are not too exorbitant and development is not too dense as to force the stables further from urban areas.

Image 3.7

Mapping equestrian services provides an excellent example of the urbanizing fringe in the St. Croix watershed. Trends in the area are likely no dif-

9 "When is a Horse Farm Really a Farm?," Equestrian Land Conservation Resource, <http://www.elcr.org/Default.aspx?tabid=173> (21 April 2006).

ferent from those across the nation where riding stables and boarding barns are some of the last agricultural functions to be forced out of developing areas. "Right to Farm" acts and nuisance suits have resulted in efforts to preserve land for horse functions to stay in business.[10]

Data collected supports the hypothesis that equestrians travel from urban areas to less developed ones for riding services. The yellow pages online and data posted on the Central States Dressage and Eventing Association's (CSDEA) website formed a base for research. The farms were geocoded by zip code into ArcGIS 9.1. There is some concern that Western style riding is the most popular in the region, but numbers are underrepresented due to lack of knowledge of a corresponding association to CSDEA.

Patterns in the region are quite strong, reflecting the high numbers of equestrian functions in the urbanizing fringe of the St. Croix watershed. Thirty-three farms are included in the study area. Most farms are located within a fifty-mile radius of Minneapolis, with specific clusters in Stillwater, with nine farms, and River Falls, with seven. The farms in the central region of the watershed are not a concentrated cluster, but tend to be ranches or serve trail-riding purposes. The northeast corner of the watershed close to Hayward also shows significant numbers of farms.

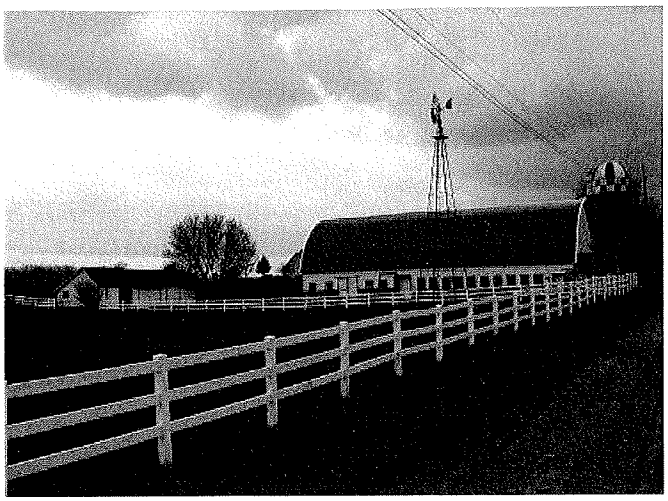


Image 3.8

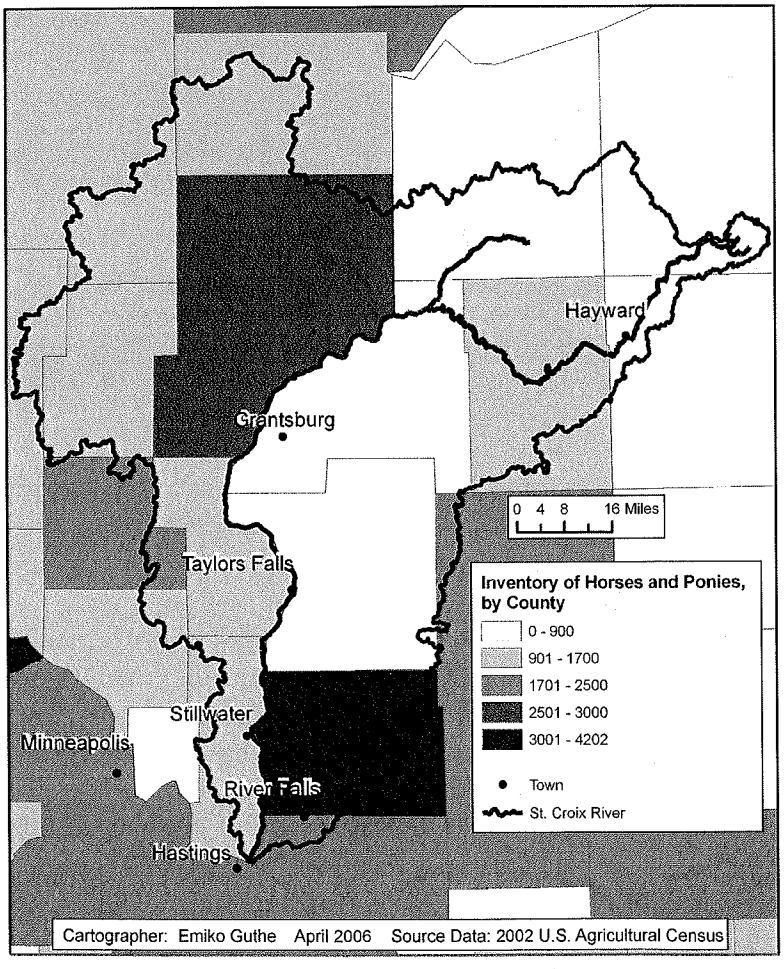


Figure 3.10 *Inventory of Horses and Ponies in the St. Croix River Basin, 2002*

Besides locational patterns of horse farms in the region, different scales of functions also vary across the region. As the study is based on data from an online resource, it only captures larger riding schools and boarding barns – places that need to advertise. Fieldwork in the area indicates a wide range of size and scale of horse based services. Individual homes often have a paddock with small numbers of horses.

Though the data underlying horse services in the region are incomplete, riding schools and boarding barns provide a very distinctive pattern, clustering in areas easily accessed by clients commuting from the Twin Cities. The specialized nature of the agricultural, or arguably, recreational, nature of equestrian farms results in locational patterns which provide an interesting perspective of the urbanizing fringe in the St. Croix watershed.

10 "The Farmlands Project – Protecting Horse Country," Conservation Trust for Florida, <http://www.conserveflorida.org/projects.html > (21 April 2006). "Agricultural Protection Acts" University of Texas at Austin, <http://utopia.utexas.edu/explore/equine/nuisance/nuisance.htm> (21 April 2006).

St. Croix Watershed Farmland Change, 1992-2001

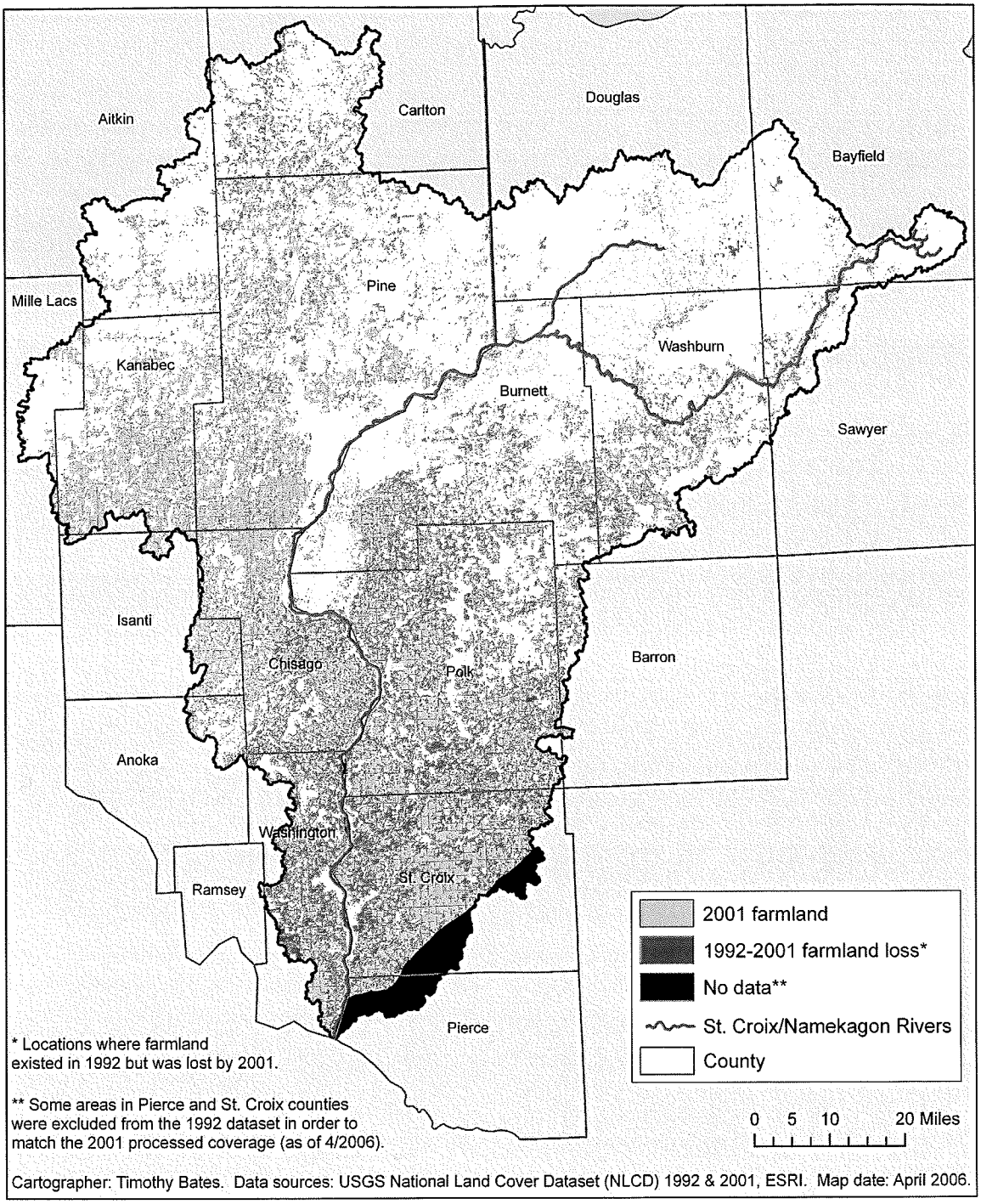


Figure 3.11

Using the USGS National Land Cover Dataset, we compared the 1992 and 2001 (the most recent available) land classifications to determine the total farmland area for each year and to evaluate the percent change. Our calculations indicate a 24.2% decrease in agricultural land, representing approximately 376,652 acres lost (588 square miles). This is an overestimate of change in farmland (see next page for details). Furthermore, this finding contradicts our conclusions from the USDA Agricultural Census regarding farmland change between 1992 and 2002 for both total farm area and harvested land. Each dataset has clear discrepancies and it is difficult to determine which is more accurate. Therefore, to understand the true trends in farmland change in the St. Croix watershed, further in-depth study is necessary.

St. Croix Watershed Farmland Change, 1992-2001

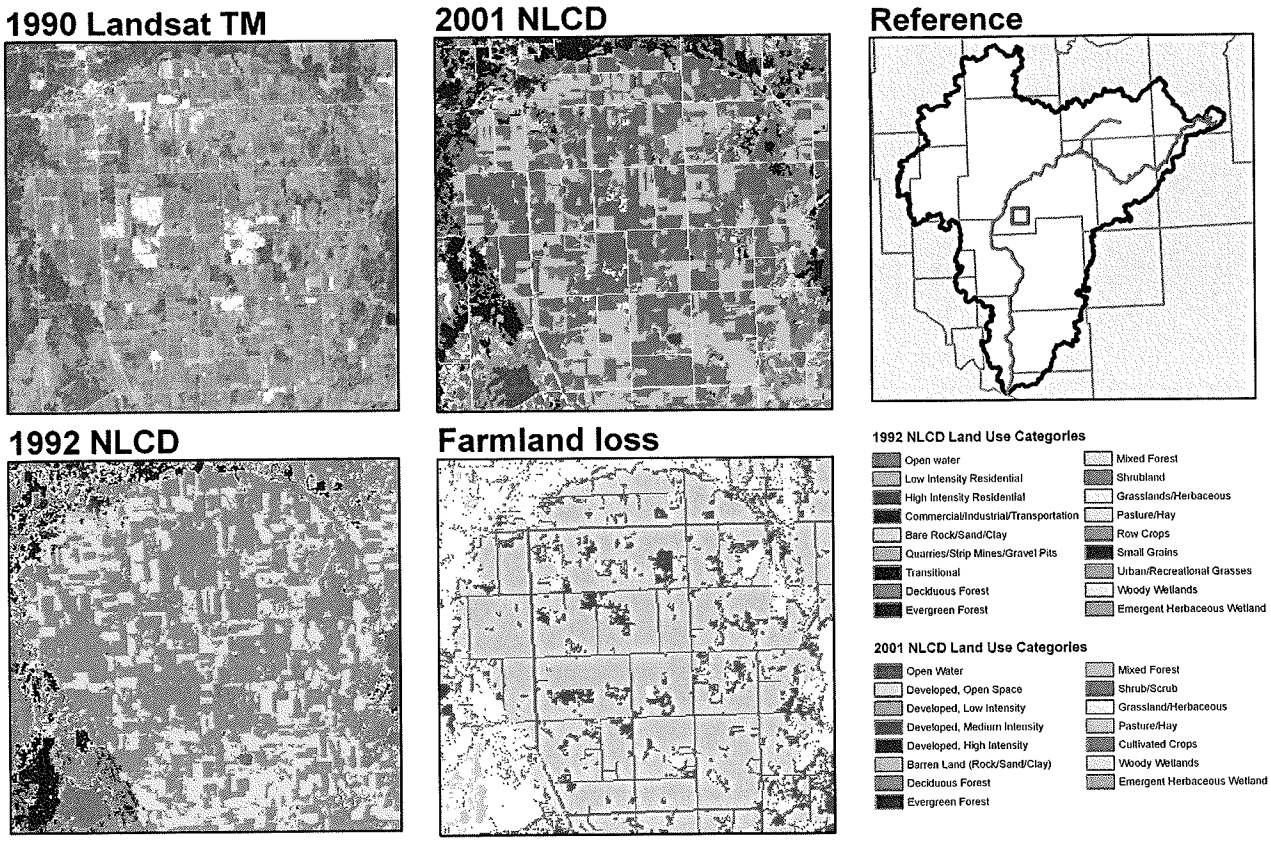


Figure 3.12
Cartographer: Timothy Bates. April 2006.
Data sources: USGS National Land Cover Dataset (NLCD) 1992 & 2001; USGS Landsat TM WRS-2, Path 027, Row 028 (09/01/1990)

Accuracy concerns

Comparing the 1992 NLCD land use classifications and the 2001 NLCD classifications, we encounter a number of issues. First, the categories used by the USGS are similar but different. Of particular interest in our study were the developed land and agricultural use categories, but not only did we encounter different numbers of classes, but that the classes themselves did not match. For example, "low intensity" in 1992 meant "Constructed materials account for 30-80% of the cover." In 2001, "low intensity" meant "Impervious surfaces account for 20-49% of the total cover."

Second, and more frustrating, is the issue of how the data was processed, apparently. When comparing agricultural land use in 1992 and 2001, we noticed that roads were showing up as "lost" farmland. It is clear that in 1992, most minor roads were not classified as impervious. Looking at 1990 Landsat TM imagery, we can see that the Landsat 4/5 satellites (which produced the data on which the 1992 NLCD is based) were capable of producing high enough resolutions to pull out roads separately from farmland. In 2001, while it is surely beneficial to have roads not classified as farmland, the difference in the data dictates that our farmland loss calculations overestimate the true change in farmland.

Thus, while we are aware of the inherent data issues with comparing the 1992 and 2001 National Land Cover Datasets, we believe that presenting our findings is important, especially in the context of data inaccuracies and the contradicting results from the USDA Agricultural Census. Our calculated farmland decrease should not be interpreted as a definitive result.

Prisons In The Valley:

Invisible Landscapes

In Minnesota there are four correctional facilities that exceed the medium security category. Three of these facilities, Oak Park Heights, Stillwater and Rush City are in the Saint Croix River Valley[1]. While these three facilities differ in architectural style, age and capacity, they all exist as part of a cultural, economic and physical landscape that is undergoing increasing change. If we are to examine the Saint Croix River Valley and its increasing dynamism we must also look at the place of prisons within that landscape and their impact on these changes.

Carl Sauer in his work, "The Morphology of Landscape", defines landscape as, "a land shape, in which the process of shaping is by no means thought of as simply physical. It may be defined, therefore as, as an area made up of a distinct association of forms, both physical and cultural."[2] It is this definition that allows us to examine the impact of prisons not solely on the physical landscape but the cultural and economic landscape of the Saint Croix River Valley. Sauer is also helpful when he writes, "every landscape has individuality as well as relations to other landscapes, and the same is true for the forms that make it up."[3] This definition allows us to look not purely at what surrounds the prison but the internal landscape of the prison itself. This chapter presents a view of the relationship between the internal landscape of the prison and the greater landscape of which the prison is only a small part.

Stillwater

Of the three prisons in the Saint Croix River Valley, Stillwater Correctional Facility is the oldest. Built in the city of Bayport in 1914, the Stillwater facility houses 1,399 inmates and employs 557 staff. The Stillwater facility was constructed in response to the problems of space and living conditions that plagued the older territorial prison. The older prison, constructed in 1853 and located just north of what is now downtown Stillwater was built as the city exploded as a regional lumber power. One local story states that Stillwater was selected as the site of the territorial prison because of what officials saw as the potential for prison labor in the saw mills. While there is no evidence to corroborate this story, the current economic benefits to Bayport and the surrounding areas are real. The annual payroll for Stillwater prison is $24,427,000.00. Physically the Stillwater facility is both imposing and beautiful. A façade of brick and doric pillars masks an internal space characterized by control and surveillance. Wooded areas bound Stillwater prison on all sides. There is no signage in Bayport that indicates the location of the prison.

Inside the Prison

Of the 368 total employees at the Stillwater correctional facility 129 live in Washington County. St. Croix and Polk County, both in Wisconsin, rank as the highest in terms of employees as a percentage of the total county population. Of the 1,381 offenders, 414 were committed in Hennepin County. Mahnomen County has the highest number of offenders as a percentage of the total county population. Mahnomen County falls directly within the borders of a reservation. Figures 4.1 and 4.2 show the number of offenders and employees by county as well as the extent to which each county, given its population, is reflected in the Stillwater facility.

1 Minnesota Department of Corrections website: http://www.doc.state.mn.us/

2 Sauer, Carl. "The Morphology of Landscape" Vol. 2(2). University Of California Press: Berkeley, 1925. P 321

3 Sauer. P. 322

Stillwater

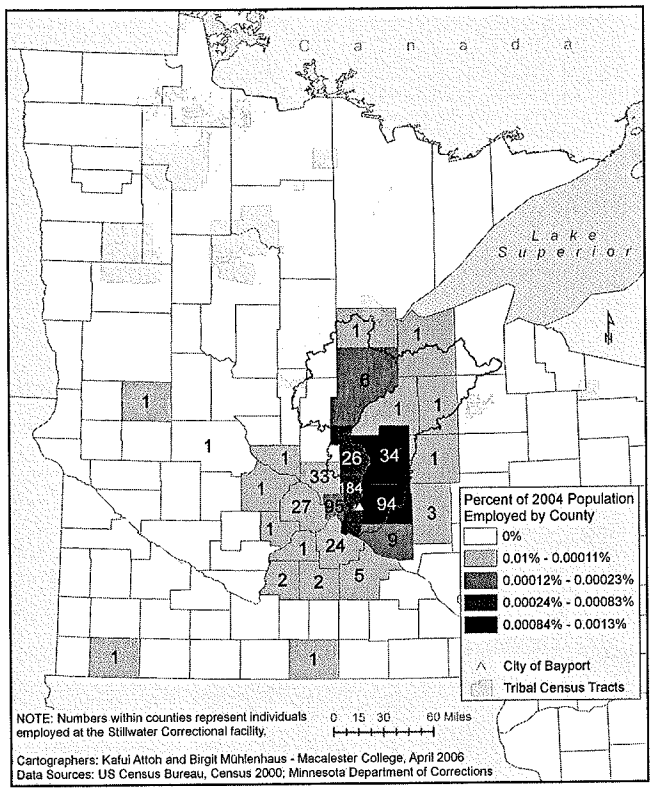


Figure 4.1

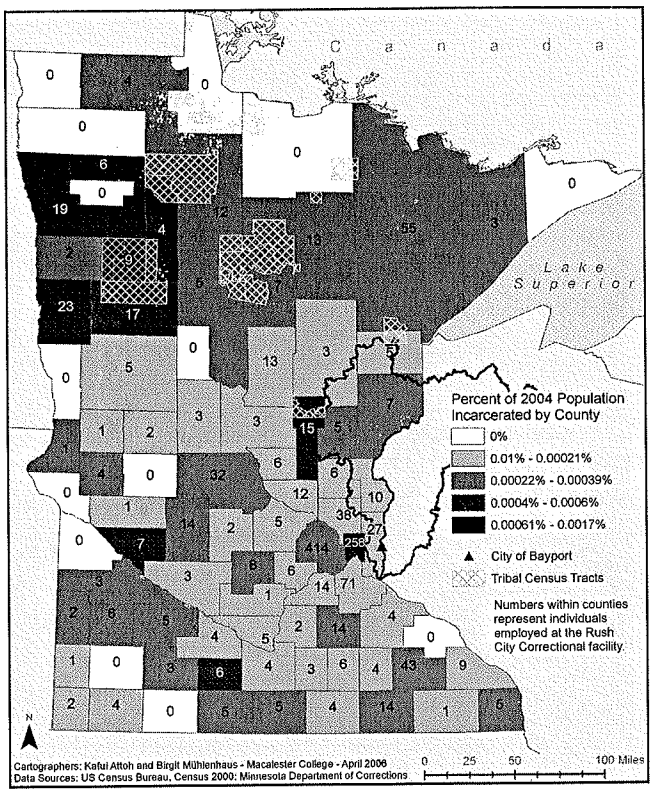


Figure 4.2

Oak Park Heights

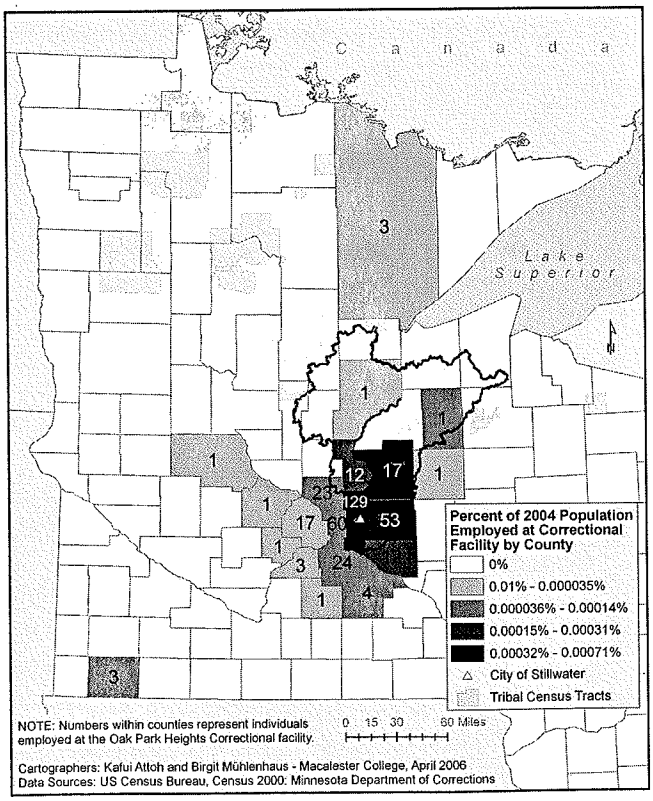


Figure 4.3

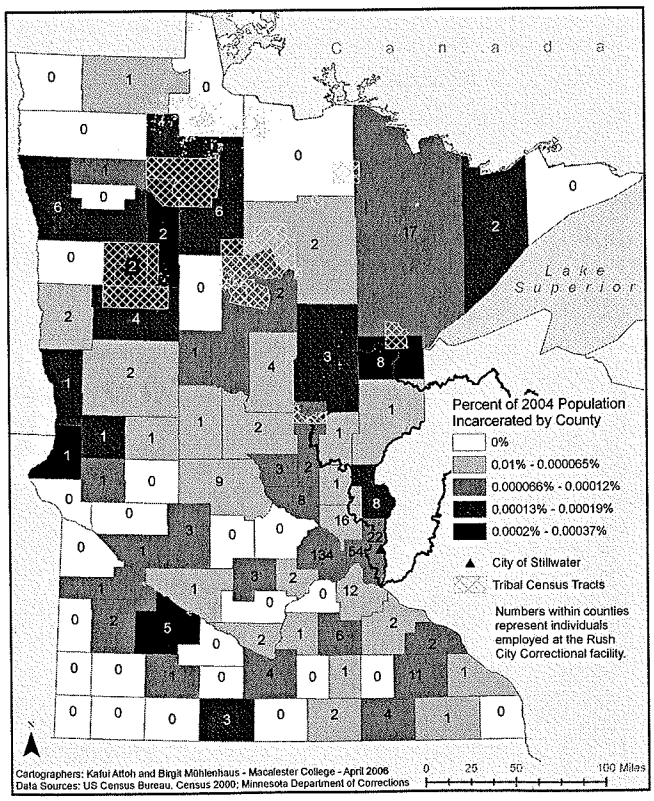


Figure 4.4

Oak Park Heights

Oak Park Heights Prison opened in 1982 and houses 430 offenders. It is the highest security facility in the state and is home to those inmates deemed by the state to be the most dangerous. Oak Park Heights has 350 employees and has an annual payroll of $15,347,500. The most fascinating aspect of Oak Park prison is its design. Oak Park Heights prison is built into a hillside and most of its residential units are underground. In the comprehensive plan brought to the Minnesota legislature in 1977 the aesthetic benefits of this design on the surrounding community are emphasized. In a section entitled *Site and Environment* the authors write:

"The concept blends well with the site selected which will utilize the hillside as a design strength. The design characteristics of the proposed concept are most comparable to those of terrace housing. This design fits well within the suburban setting in which it is placed [...] only the executive administration area is visible from the entrance, where central control is located"[4]

The use of landscape by the planners of the Oak Park Heights facility renders it virtually invisible from the highway.

Inside the Prison

Of the 368 employees at the Oak Park Heights facility, 129 live in Washington County. Polk, Washington and Saint Croix counties rank the highest in terms of employees as a percentage of the total populations. There are 134 offenders committed from Hennepin County. The highest ranked counties in terms of percentage of population incarcerated at Oak Park Heights are Clearwater, Mahnomen, Redwood, Carlton and Traverse counties. Figures 4.3 and 4.4 show the number of offenders and employees by county as well as the extent to which each county, given its population is reflected in the Oak Park heights facility.

Rush City

Rush City Prison is the newest of Minnesota's correctional facilities and according to the warden, is "probably still somewhat of a novelty to the community."[5] Opened in February of 2000, the Rush City prison houses 1,015 offenders. While many of Minnesota's small towns voiced an interest in opening up their community to a prison when the call for a new facility arose, it was Rush City's civic leaders that rallied to win the prison for themselves. These leaders raised $700,000 in individual and business donations along with $40,000 worth of city contributions to buy the necessary acreage for the prison building site. Since its construction, the Rush City prison has continually courted controversy. Much of the controversy has emerged from the possible role of private companies in either the construction or the administration of the prison. Because of local protests, both attempts at privatization were stymied. The annual payroll for the facility is $15 million and it is one of the larger employers in the area. Approximately 220 of the 320 staff live within a 20-mile radius of the prison. The prison is bounded by cornfields on all sides and according to Tim Lanz, an employee at the Minnesota Department of Corrections, is perhaps even less visually intrusive than the Oak Park Heights facility.

Inside the prison

Of the 358 employees at Rush City Prison, 138 live in Pine County. Pine County also ranks the highest in terms of employees as a percentage of the population. Of the 974 offenders, 255 were committed from Hennepin County. Mille Lacs ranks the highest in terms of offenders as a percentage of the total county population. Mille Lacs County is also home to a reservation. Figures 4.5 and 4.6 show the number of offenders and employees by county as well as the extent to which each county, given its population, is reflected in the Rush City facility

4 MN Department of Corrections. *Master Plan for a High Security Facility: Report to the 1977 Legislature* February 1, 1977
5 Personal Communication, April 20, 2006

Rush City

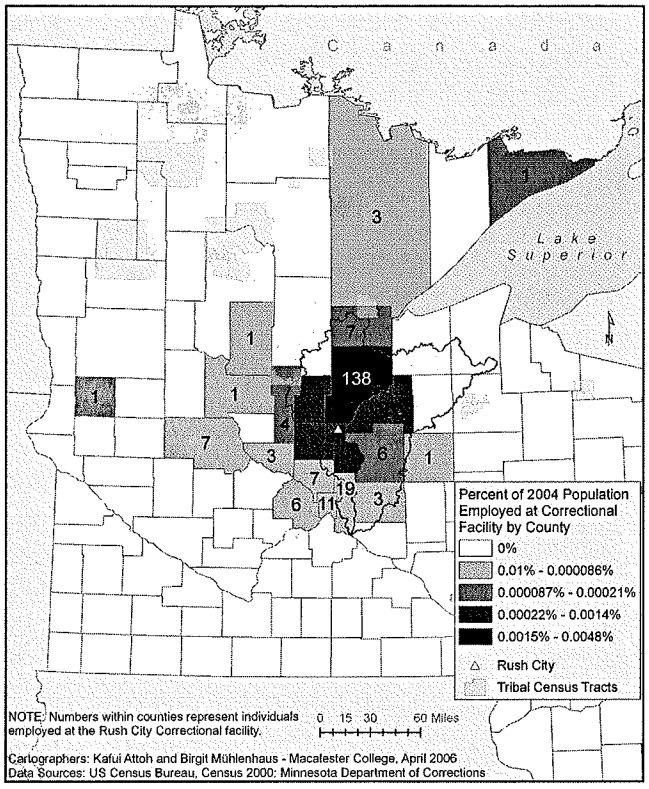


Figure 4.5

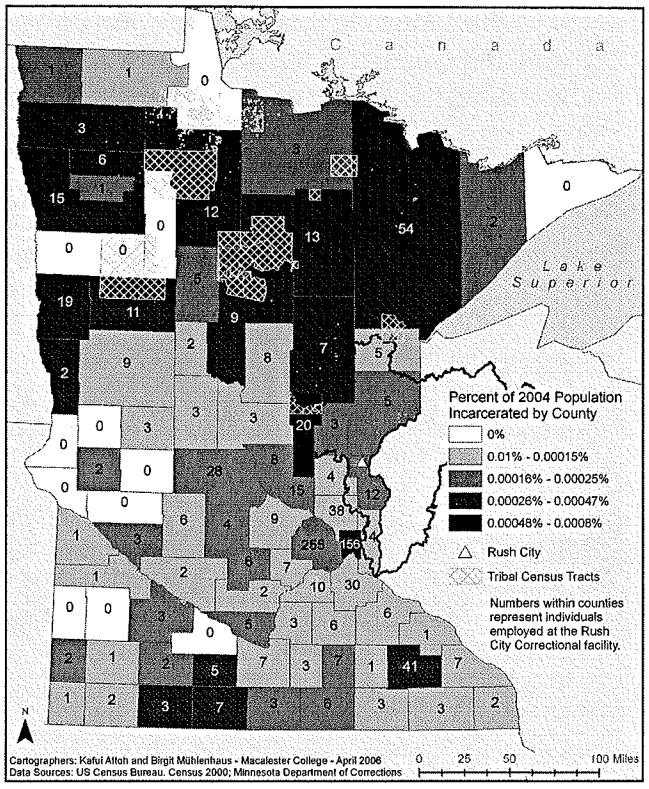


Figure 4.6

Economic Landscape

The movement of correctional facilities into small towns is not a new phenomenon. The potential for economic benefit drives local governments and other local supporters to advocate for prison construction. Apart from the obvious benefits of jobs, counties also benefit in other ways. Douglas Clement writes in the Fedgazzete of the less obvious but still substantial benefits of prisons for small communities. The addition of prisoners to the total population of a small town increases the federal funding allocated to the town. Clement writes:

> In Minnesota, state officials estimate that the census directs $200 to $300 per year per resident in federal funding. So a town like Rush City, for example, which currently has 950 beds and might be expanded to 1,550, could theoretically add nearly half a million dollars to its annual revenue because it houses the prison.[6]

Within this frightening framework the bodies of prisoners themselves become commodities and sources of revenue. In 2000, nine months after the opening of the Rush City facility Michelle Ostrom, in an article entitled "Being a Good Neighbor: The Economic Impact of Rush City Prison," estimated the economic benefits of the Rush City Facility. She wrote "Assuming that the operational costs and salaries remain as projected, full-capacity operation of the correctional facility will pump $3.7 million annually into the five county area, certainly a major economic boost."[7] Based on phone conversations with residents of Stillwater and Oak Park Heights both groups view the Stillwater and Oak Park Heights facilities as crucial sources of jobs for the community. Everyone believes that these three facilities have a positive impact on the economic landscape. A fundamental question underlying this discussion is who is benefiting from prisons, and who is not?

6 Clement, Douglas. "Big House on The Prairie" Fedgazette January 2002. http://minneapolisfed.org/pubs/fedgaz/02-01/house.cfm

7 Ostrom, Michelle. "Being a Good Neighbor: The Economic Impact of Rush City Prison" Minnesota Employment Review November 2000 http://www.deed.state.mn.us/Lmi/publications/review/1100rs.htm.

Physical Landscape

Stillwater prison, Oak Park prison and the Rush City prison are set apart from city centers. There is an utter absence of signs on the roads nearest the prison that indicate the facility's whereabouts. In the case of the Stillwater facility, a wooded area acts to buffer the facility from the surrounding communities. The Oak Park prison is perhaps the most dramatic in regards to its impact on the physical landscape. Built underground, much of the prison is invisible. The Rush City prison is surrounded by cornfields and is not visible from the major roads. The ways in which each of these facilities have been situated in the environment suggests a need for isolation and invisibility. The physical landscape has thus been used to make prison structures invisible. Figure 4.7 is an image from the comprehensive plan for Oak Park Heights brought to the legislature in 1977.

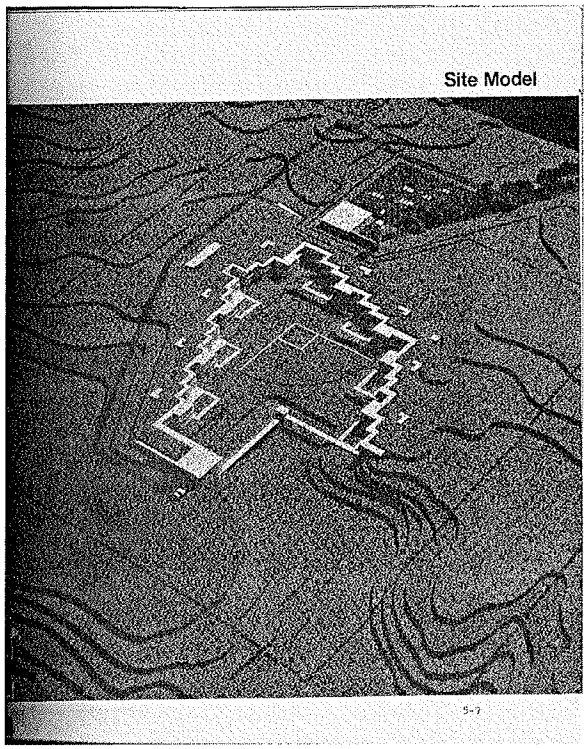


Figure 4.7

Cultural Landscape

The central question at this point is: how have prisons affected the culture of the surrounding areas? In a number of phone conversations, emails, and casual interactions with residents of Bayport, Stillwater and Oak Park Heights, I asked two questions: How has the presence of a prison near where you live affected you? And how do you think the prison affects the larger community? These very open ended questions were meant to open up a more free conversation on the impact of prisons on the community. The answers for residents in Bayport, Oak Park Heights and Stillwater ranged from neutral to positive[8].

A parks manager and resident of the area wrote:
[The prison} doesn't affect us at all. People worry about prisoners escaping and coming into a neighborhood, but if they do escape they are going to get away as fast and far as possible. I personally don't mind it. The correctional facilities provide many jobs for local residents. We are able to purchase products through prison industries.

An Oak Park Heights resident wrote:
[The prison is] like somebody else's house

Another Washington county resident wrote:
In my daily life, I never give it a single thought thus it has virtually no effect. In the greater community, I think it provides jobs and an economic base. I do not believe people fear anything from its presence that I have ever heard.

I was also able to talk to a Holton resident who, while a photographer by training, conducted bible readings in the Oak Park Heights prison. He commented that in regards to the prison, "people from outlying areas have a different perspective than those who live here." He also added "the inmates on worker release programs do tremendous work assisting the elderly." For most, the cultural impact of the prison on the landscape is negligible, for others it is wholly positive.

8 Personal Communications, April 20, 2006

Internal Prison Landscape

Prisons are like miniature cities. There are nurses, plumbers, technocrats, planners, psychologists, teachers and security personnel. Prisoners work in industrial jobs, publish their own newspapers and have their own social clubs and religious groups. Just as we can look at the cultural landscape of a city so can we look at the landscape of a prison. While we have explored the impact of prisons on the suburban landscape of the Saint Croix River Valley, what are the ways in which we can begin to examine the landscape in the prison? One way to tackle this question is to look at where prisoners come from and where staff come from. Among the inmates of the Stillwater, Rush City and Oak Park Heights facilities a large majority come from Ramsey and Hennepin Counties. In the three separate facilities, offenders committed in either Ramsey or Hennepin County account for over 75% of the total offender population. In terms of employees, we encounter something different. Of Oak Park Heights employees, 35% reside in Washington County, 16% reside in Ramsey County and 14% live in Saint Croix County, Wisconsin. At Rush City, 38% of the employees live in Pine County and 5% live in Washington County. At Stillwater, 33% of employees live in Washington County, 17% live in Ramsey County and 16% live in Saint Croix County, Wisconsin. Reflecting national trends, non-white offenders are over-represented within the Oak Park Heights, Rush City and Stillwater facilities. In Minnesota this is particularly true in the case of black and Native American offenders. In the Rush City prison, blacks make up 35% of the prison population and Native Americans make up 11% . In Stillwater blacks make 41% of the prison population and Native Americans 6%. In Oak Park Heights blacks make up 38% of the prison population and Native Americans make up 12%. Juxtaposed to the percentage that each of these groups represent in Minnesota's population, these numbers are staggering. In Minnesota blacks only make up 3.5% of the population and Native Americans only make up 1.1%[9]. With the explosion of Methamphetamines there is a growing number of offenders from rural areas. The vast majority of these offenders are white.

Conclusion

The impact of prisons on the Saint Croix River Valley landscape can be described as culturally benign, physically invisible and economically positive. By looking at the internal landscape of the prison I have sought to ask: What exactly lies hidden behind the economic benefits and who exactly is rendered invisible by the physical landscape? What I have found is a pair paradoxes that deserve further exploration. The first paradox emerges from comparing the internal landscape of the prisons with the greater cultural landscape of the Saint Croix River Valley. The internal landscapes of these three facilities are characterized by extreme racial and economic disparities, numerous offenders with mental illness and an increasing number of offenders with substance abuse problems. This dystopic landscape of the prison exists paradoxically within a landscape revered for its beauty and rustic character. The second paradox is not limited to the Saint Croix River Valley but is rather coming to define the national prison landscape. While prisons provide jobs to a predominantly rural or suburban populace, prisons themselves are filled with individuals from communities plagued with unemployment. In this relationship the body of the prisoner becomes a commodity for which the surrounding community reaps the revenue. The communities of Stillwater, Rush City, Bayport and the communities of both St Croix and Polk counties in Wisconsin have benefited from the presence of correctional facilities. As the Saint Croix River Valley faces increasing pressures to deal with an encroaching urban population, prisons have been sadly omitted from the discussion of a transforming landscape. While great attention is now focused on preserving the rustic character of the Saint Croix River Valley, advocates of prison reform should take the opportunity to reveal another landscape that is all too often buried.

9 US Census 2000