Skiing and Biking in the North Woods

According to the 2000 census, the towns of Cable and Hayward, Wisconsin, on the upper reaches of the Namekagon River, have a combined population of 2,955. Every year, two outdoor races more than double the region's population. The American Birkebeiner (cross country skiing) and Chequamegon Fat Tire Festival (mountain biking) are the largest such events in North America and, at least for a weekend, the epicenter of these sports in the region and nation. Both the Birkie and Fat Tire Festival have spawned major trail systems in and around the town, and have fueled two sports which are taken part in by thousands of residents of the Saint Croix basin and region as a whole. With abundant snow, especially the areas which are prone to lake effect and lake enhanced snows, as well as rolling topography and dense forest regrowth, these areas provide some of the best skiing and mountain biking in the country.

A brief history of American skiing

The growth of outdoor recreation in the Saint Croix watershed, and subsequent decline of the alpine ski industry here, have been interconnected with changes in "transportation epochs." In parts of the eastern and western United States, especially in the mountains, there was some snow recreation before World War II. While roads were generally not good enough to allow for weekend trips from the major cities to reliable snow, special ski trains ran north from Boston and west from Denver to nearby mountains. While the Saint Croix valley was crisscrossed with rail lines from the turn of the 20th century, none operated any such services as there were no major destinations and the rail infrastructure and passenger volume did not allow for such short trips to be profitable. Railroads ran summer excursions up along the Saint Croix, but these were generally in the 1880s and terminated at Taylors Falls.[1]

Skiing in the midwest was, in some respects, a direct descendant of the ski industries in the east and west. The Boston and Maine Railroad initiated their "Snow Train" service in 1931[2] and by the mid-1930s, even in the height of the depression, was carrying tens of thousands of riders per year[3]. Trains soon ran from New York and elsewhere to the mountains in Massachusetts, New Hampshire, New York and Vermont. Thus, even before the takeoff of the automobile and upgrading of the road system, skiing was brought to the masses in the 1930s. Denver had its ski train as well (an incarnation of which operates today), but with a smaller population it was not the same kind of cradle of skiing in the United States. While skiing also developed in the Upper Peninsula of Michigan (the National Ski Association, now the United States Ski and Snowboard Association, was founded in Ishpeming in 1904[4]) and the mountains of the west, the population in the east meant that there were far more skiers there than elsewhere in the country.

The first races in the east were held in 1924 (nordic) and 1931 (alpine) in Vermont.[5] By the start of the war, hundreds of thousands of northeasterners had hit the slopes. The most famous slopes were on the eastern side of Mount Washington, where the winds blowing over the summit deposited so much

1 Weekley, Sarah Franklin. *Saint Croix NSR, Historic Resource Study,* Chapter 4. National Park Service. http://www.nps.gov/sacn/hrs/hrs4b.htm

2 Ruth Robinson. "New England Ski Museum" in The New York Times. July 12, 1987. http://query.nytimes.com/gst/fullpage.html?res=9B0DE5D91630F931A25754C0A961948260&sec=travel&pagewanted=all

3 Ski New Hampshire, History. http://www.skinh.com/history3.cfm. By some accounts, there were snow trains in the 1920s as well. One train in 1934 carried 2933 passengers north from Boston for snow play.

4 Robinson.

5 Robinson.

snow that skiers could enjoy the extreme terrain, in some years, until July. Thus, when World War II started and the army called for a skiing and mountaineering division, there were many easterners ready and eager to sign up.

The famed 10th Mountain Division was responsible for bringing the sport to a wide audience. Thousands of young outdoorsmen traveled first to Michigan's UP and then to Tennessee Pass in Colorado for ski training and mountaineering. While many lost their lives in the battles of World War II, those who returned founded many of the country's ski areas. And most returned home — the easterners to the east coast, the westerners to the mountains, and the upper midwesterners to, well, the upper midwest. Thus, the skiers from the east and west instilled a passion for the sport in those from the flatter center of the country.

As the 10th Mountain vets returned from the battlefield, another change was developing in the United States. The country had recovered from the depression and had surplus production facilities from the war push. Once they had been converted to auto production, the United States started to churn out far more cars than ever before, and the country had fully switched from the rail transport era in to one dominated by the auto. With the cars came better roads, and while the ski trains would run into the 1950s, the personal auto became the vehicle of choice for accessing the slopes.[6] While several ski areas in the upper midwest were founded by 10th Mountaineers, the premier destination was Telemark Resort, located on the slopes of Mount Telemark in Cable, Wisconsin, on the banks of the Namekagon River. The man behind the development of Telemark was Tony Wise, a native of Hayward. Upon returning from the war, Wise completed an MBA at Harvard Business School. While there, "Wise conceived of a project that would invigorate the depressed climate of northern Wisconsin — an alpine skiing resort."[7] Wise knew that there was a local base of ski enthusiasts, mainly Scandinavians who had brought some incarnation of the sport when they had immigrated to the United States. He just needed the land, and was able to finance the purchase of a local hill, Mount Telemark.

By the 1960s, Telemark resort attracted tens of thousands of skiers per year. He added, over a period of time, more lifts, snowmaking, runs and accommodations, culminating with the massive lodge built in 1972. Described by Billy Kidd as "the only ski area where the lodge is bigger than the mountain,"[8] Telemark had reached its heyday. Despite massive construction in the 1970s, Wise's financial fortunes fell in to decline, and the resort filed for bankruptcy in 1983.[9] During this time, Wise also pioneered the Hayward Lumberjack World Championships which continue to this day.[10]

Other resorts opened as well, most of which were located closer to the Twin Cities. The first was Trollhaugen, also opened by a 10th Mountain alum in the hamlet of Dresser, Wisconsin. In 1950, it was a bit more than an hour from the Twin Cities, but with the opening of faster highways, it became much closer. Trollhaugen continues to operate to this day, although with fewer than the 80,000 skiers which hit its slopes annually in the 1960s. Other resorts in the basin, which continue to operate, are the Afton Alps and Wild Mountain, both of which are built into the bluffs on the western side of the lower Saint Croix.

Because of their proximity to the Twin Cities in particular, Wild Mountain, Afton Alps and Trollhaugen have been able to maintain their functions as downhill ski areas to this day. The same can not be said, however, for Telemark. When the huge new lodge was built in 1972, the peak of downhill skiing was reached at Telemark. There was originally a plan for several more "villages" consisting of groups of houses and condominiums,which would have created a sort of recreational urban system, but these plans never came to fruition. The reason for the decline of Telemark was the same reason as its rise: shorter travel times opened new areas to local populations. By the 1970s, interstates laced from Chicago and Minneapolis to Denver, and the Front Range of the Rockies could be reached in well under a day by road, and only a couple hours by air. Even with the new accom-

6 Except, perhaps, for Denverites traveling to Winter Park, where the Ski Train has a dramatic advantage of the six-mile tunnel below the Continental Divide to a slope-side station, while cars have to cross 11,315-foot Berthoud Pass, often climbing switchbacks in a blinding snowstorm.

7 Weekley. http://www.nps.gov/sacn/hrs/hrs4m.htm

8 "Legacy-1972" in Ski Magazine. October, 2005. http://www.skimag.com/skimag/travel/article/0,12795,1116826,00.html

9 Legacy.

10 Thus, Hayward hosts the largest ski and mountain bike races in the country, is home to the Fishing Hall of Fame and hosts the Lumberjack World Champions. Not bad for a town of just over 2000.

modations at Telemark, the terrain and snow could not compete with the likes of Vail and Aspen, and few serious skiers would travel three hours by car to Cable when in slightly more time they could be in Colorado at a resort with ten times the elevation and far more dependable snow. Skiers in the Twin Cities who did not go west would drive a much shorter distance to a nearby area (including the Afton Alps, Trollhaugen and Wild Mountain) or maybe to the North Shore, which was more accessible (with interstate access to Duluth) and had better snow and terrain. Thus, downhill operations at Telemark ended in the 1980s. As the urban area of the Twin Cities has expanded in to the Saint Croix valley, the nearby downhill resorts have survived and cater to a local audience, but those farther afield have been unable to stay around without a local population base. As the country had moved from the car-dominated long-distance transport to the "air, auto and amenity" epoch, smaller resorts like Telemark had lost out to the amenities provided by short air trips to Montana, Colorado and beyond.

The Birkebeiner

Even with the demise of Telemark's downhill area, and with Telemark Resort having filed for bankruptcy multiple times (most recently in 2001, although it has since reopened), Wise has left a huge mark on the upper Namekagon. The oft-told story is as follows. In 1973, at Wise's direction, 35 skiers, including one woman, lined up at Telemark and raced on an ungroomed trail through the woods more than 50 kilometers to Hayward, completing the first American Birkebeiner, or Birkie for short. A shorter race was skied by 18 more. And the rest, they say, is history.

The next year, 98 participated. In 1975, 324 skiers competed on a single set track through the woods. The next two years saw participation triple to 998 and then double again to 2,006 with various course improvements. By 1979, 4,500 people skied the Birkie, and in 1980 more than 6,000 skied the race, a level which has generally been maintained since.[11] Trail development, both in the immediate vicinity of the Birkie course and all of the Saint Croix Valley, did not lag.

A spate of abnormally high snow in the upper midwest during the 1970s and 1980s, combined with a nationwide fitness fad of long-distance racing, combined to spawn thousands of kilometers of ski trails across Minnesota and Wisconsin. Gone were the days of old Scandinavian immigrants with heavy wooden skis trudging across the barren prairie; the new face of skiing was sleek and fast. While the explosive growth of the sport stagnated in the 1980s, around the same time as Birkie entries hit a peak, the damage was done, and cross country skiing was suddenly a major activity, and use of land, in Minnesota and Wisconsin. It seems like every park in the Twin Cities Metro and beyond grooms ski trails, and most are available for use free or at a very nominal charge (compared with lift tickets of $30 or more at even the modestly-sized downhill areas in the local area and upwards of $80 at Vail and Aspen in Colorado).

Thus, the upper midwest, with proper weather, trails and population, and the upper Namekagon became the hotbed of cross country skiing in the United States.

A briefer history of mountain biking and the Fat Tire Festival

Mountain biking has a far shorter history than cross country skiing. The Birkie is based on a Norwegian race which began in 1932 and follows the route of the Birkebeiners (birch-legging-clad soldiers) who carried a Norwegian child king to safety over the snow-covered mountains. Mountain biking, on the other hand, was just beginning in the American West when the Birkie was taking off. The first "mountain bikes" were old Schwinns from the 1930s and 40s which off-road pioneers careened down the slopes

11 American Birkebeiner History. http://www.birkie.com/media/history.html

of hills near San Francisco. The term describing the sport itself was first used in 1979, and bikes were not mass-produced until the early 1980s.

Since then, the sport has grown exponentially. By some estimates, four in five bicycles sold today are mountain bikes, although a rather small percentage of these are actually used off road, as many buyers, especially of low-end bikes, tend to use the bikes mainly on roads and sidewalks. Still, the sport has exploded. With a longer season than skiing, a wide variety of trails and relatively low cost (bikes can last many years), the sport has taken hold in the area.

By far the largest trail system in the midwest is maintained Chequamegon Area Mountain Bike Association (CAMBA), centered around the same area as the Birkie Trail in northwest Wisconsin. In 1983, a race took place on the Birkie trail (starting on Main Street in Hayward and finishing at Telemark in Cable) with 27 participants.[12] It, too, grew exponentially until in the early 1990s, in order to keep the race course in decent shape, Gary Crandall, the Chequamegon Fat Tire Festival director and a member of the Mountain Bike Hall of Fame, instituted a mandatory cutoff of 2,500 participants, selected through a lottery months before the race — generally more than 3,000 apply for the limited number of spots. The limit was self-imposed. While cross country skiing has a negligible impact on the physical environment because when the snow melts the ground underneath is generally untouched, mountain biking creates dirt trails and some erosion (although compared to motorized activities like dirt biking or ATVs, the impact of even thousands of bikes is rather small). Still, in order to maintain good trail conditions, cyclists have to be mindful of high-impact events (such as several thousand riders in one day on the same path) and adverse trail conditions created by wet weather. Today, the Fat Tire Festival is the largest mass start mountain biking event in the country.

While mountain bike trails have sprouted in parks and forests throughout the region, the CAMBA trail system is, like the Birkie Trail, one of the largest, best known and best maintained. With over 300 miles of trails in several "clusters" in and out of the Chequamegon National Forest and Saint Croix river basin, the trails provide riders varied terrain on fire roads and single track which wind through the glaciated topography. As with the Birkie Trail, many riders do the bulk of their training and riding at smaller trails often located in suburban parks near home but relish the opportunity to visit the larger trail systems in the upper reaches of the basin.

Spatial trends amongst race participants

Both the Birkie and Fat Tire Festival are events which attract participants from across the nation and, indeed, the world. Still, the majority of participants come from within driving distance. Even though the Birkie is part of the Worldloppet circuit, comprising of the premier ski marathon in fifteen countries, the vast majority of its participants come from Minnesota and Wisconsin. Since most of the trails in the area do not collect data on their users (in fact, most of the trails are free or require payment on the honor system) the best way to collect data on the users is to base it on registration for these large events. In 1988, the Birkie brought $4 million ($6.76 million in 2006 dollars) into the local economy, or more than $1000 (about $1700 in 2006 dollars) for each resident of the area, according to studies by the Wisconsin Tourism Board and University of Wisconsin Northern Institute for Economic Development. This number is surely higher today, and when combined with the Fat Tire Festival provides a major boost to the local economy, as Tony Wise had envisioned in the 1940s.[13] In any case, the American Birkebeiner and Fat Tire Festival keep detailed reports of all of their registrants from recent years and an analysis of these numbers can easily show spatial patterns in the participants.

First of all, it is important to note that while there is some local variation in the zip codes of participants in the events, both display similar trends overall. Looking solely at the number of participants per zip code, the "hot spots" can be found in areas with

12 Gary Crandall, Mountain Bike Hall of Fame. http://www.mtnbikehalloffame.com/inductees.cfm?page=99&mID=99

13 Hoffman, Gregg. "Historic Birkie race draws cross country enthusiasts," onmilwaukee.com. February 11, 2005. http://www.onmilwaukee.com/visitors/articles/birke05.html; American Birkebeiner, "An Overview of the American Birkebeiner." http://www.birkie.com/placed2/index.php?sect_rank=2&story_id=13&volume_id=9.

higher populations (See Figures 5.3 and 5.6). Unlike census divisions, population amongst zip codes varies dramatically, and zip codes in some cities have 30,000 residents or more. So the Twin Cities, Madison and Duluth are easy to spot, as well as smaller cities like Eau Claire, Wausau and Green Bay. The main exception to this rule are the zip codes immediately surrounding the race site, which also have high levels of participants. Also, more bikers, proportionally, come from Minnesota than do skiers.

The second, and perhaps more interesting, analysis examines the number of race participants normalized (divided by) the total population (See Figures 5.4 and 5.7). All of a sudden, the prominent cities disappear and a sort of distance-decay theory-map develops. Many of the areas with the highest proportion of participants are found near the race sites, and although the cities do show up, they no longer appear to be ski and bike meccas. So while the areas with higher populations have more skiers and bikers overall, the rural areas nearer to the races have more as a proportion of the total population.

Also, looking beyond the surrounding states, a few broad patterns can be observed. First of all, there are a quite few more skiers than bikers who migrate to the northwoods for the race (See Figures 5.2 and 5.5). The skiers tend to be spread out in areas with more dependable snow: the northeast and mountain states, although there are participants in the Birkie from Florida, Arizona and other such warm weather states. The mountain bikers do not follow such climatological lines, but are spread out, with hot spots showing up in places like Colorado and California. While the bikers are spread out amongst more states, the prestige of the Birkie as the premier event in the nation draw more skiers, from places like Arizona, Florida and even Hawaii!

The connection on the river basin is also discernible. The highest total number of skiers can be found in the Twin Cities, as is shown by these data. Cable, near the headwaters of the Namekagon, is along an axis running northeast from the Twin Cities which parallels the route of the Saint Croix up the middle of the basin. It is no wonder, then, that there are especially high rates of skiers in zip codes in the basin who are entered in the Birkie.

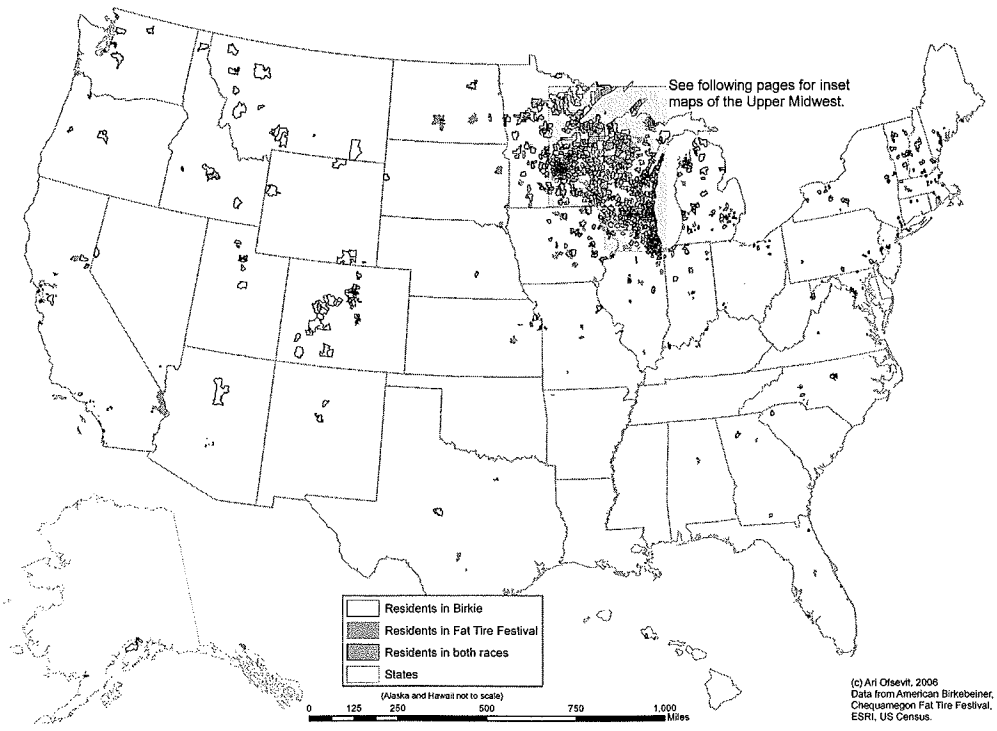


Figure 5.1 *ZIP codes with American Birkebeiner (Birkie) skiers, Chequamegon Fat Tire Festival riders or both*

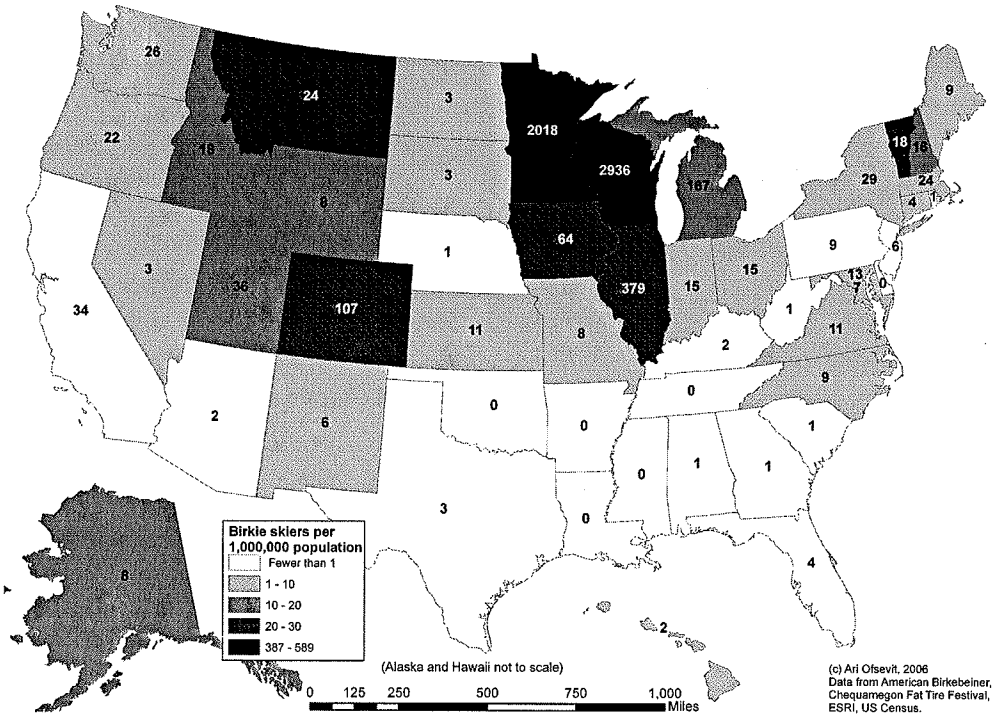


Figure 5.2 *Total number of Birkie skiers by state, and number of skiers per 1,000,000 population*

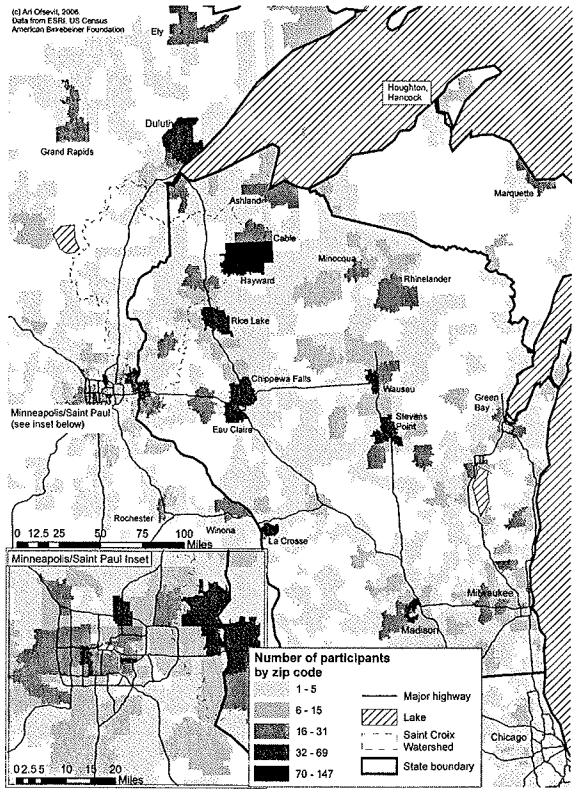


Figure 5.3 *Total number of Birkie skiers by ZIP code in the Upper Midwest*

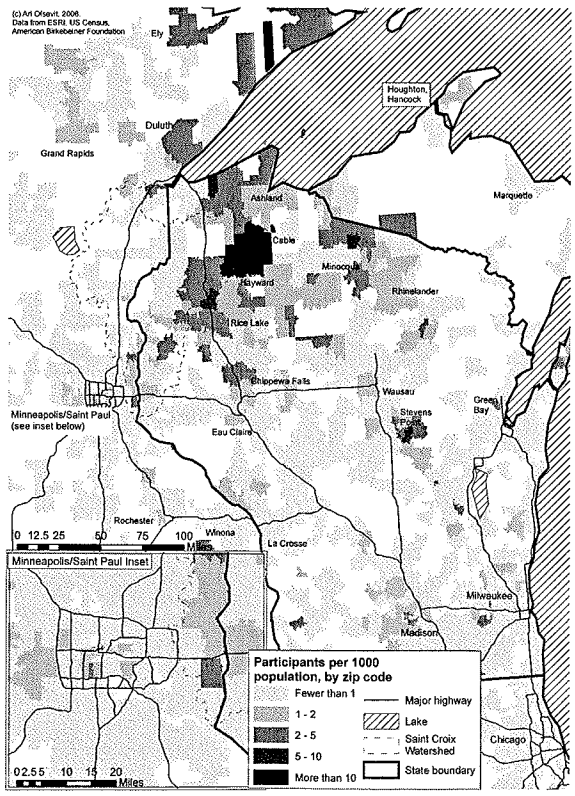


Figure 5.4 *Number of Birkie skiers per 1,000 population, by ZIP code*

The Fat Tire Festival

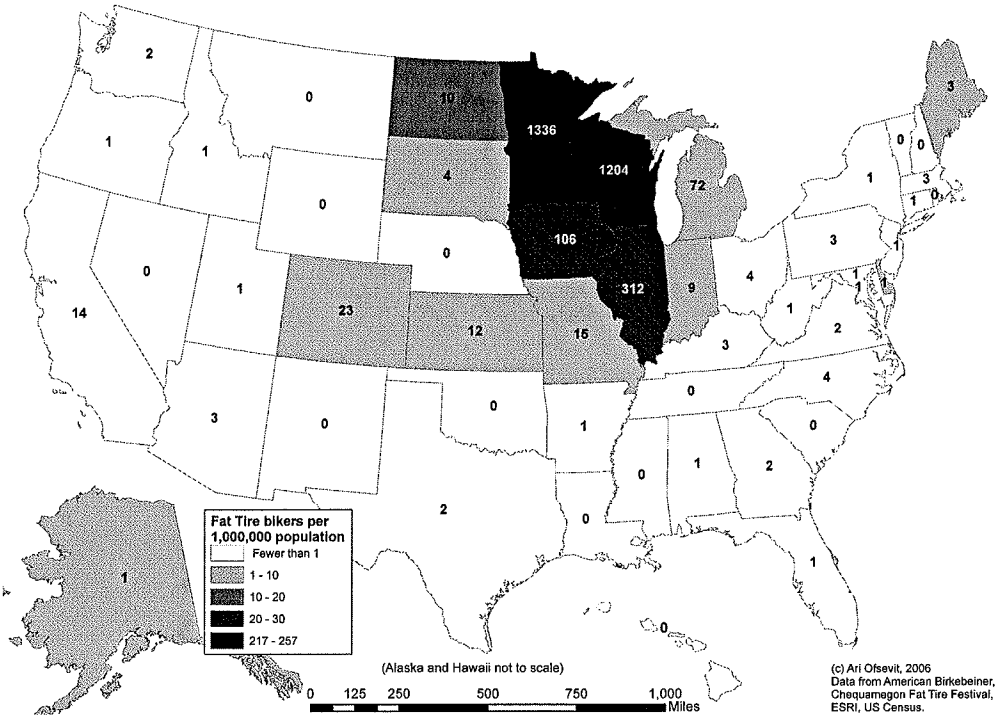


Figure 5.5 *Total number of Fat Tire riders by state, and number of skiers per 1,000,000 population*

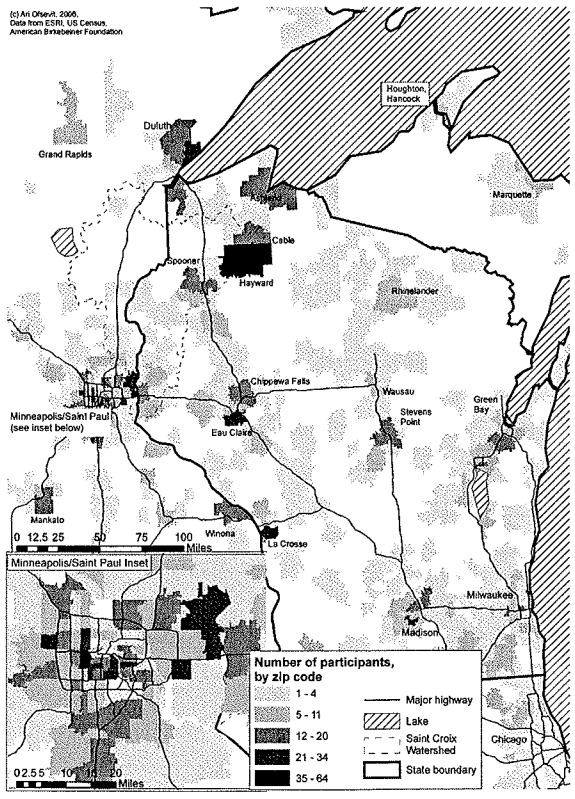


Figure 5.6 *Total number of Fat Tire riders by ZIP code in the Upper Midwest*

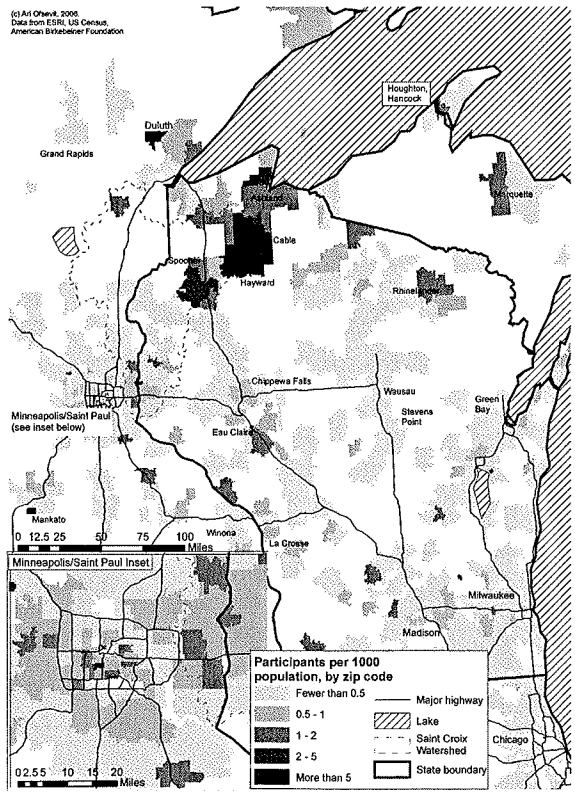


Figure 5.7 *Number of Fat Tire riders per 1,000 population, by ZIP code*

	Wisconsin		Minnesota		Illinois		Iowa		Michigan		All others	
Birkie	2936	48.2	2018	33.2	379	6.2	64	1.1	167	2.7	518	8.5
Fat Tire	1209	39.2	1336	43.3	312	10.1	106	3.4	72	2.3	132	4.3

Figure 5.8 *Number of participants and percent of total by state of residence (2004 data for Fat Tire Festival, 2005 data for Birkie)*
Note: see maps for data for each state.

Dist.	Area	Population	Dens	FTF	%	/1000	Birkie	%	/1000
0-50	11155	219044	20	190	6	0.867	471	15	2.150
0-100	35604	1259423	35	491	16	0.390	1318	43	1.047
0-150	72922	5351861	73	1720	54	0.321	3150	52	0.589
0-200	112258	7419253	66	2024	64	0.273	3715	61	0.501
0-250	153607	9326979	61	2321	73	0.249	4553	75	0.488
0-300	205139	13507654	66	2707	85	0.200	5135	84	0.380
0-350	264918	23278071	88	3001	95	0.129	5490	90	0.236
0-400	330614	29940671	91	3032	96	0.101	5544	91	0.185
US	3580089	295575636	83	3167	100	0.011	6085	100	0.021
0-50	11155	219044	20	190	6	0.867	471	15	2.150
50-100	24449	1040379	43	301	10	0.289	847	27	0.814
100-150	37318	4092438	110	1229	39	0.300	1832	30	0.448
150-200	39336	2167392	55	304	10	0.140	565	9	0.261
200-250	41349	1907726	46	297	9	0.156	838	14	0.439
250-300	51532	4180675	81	386	12	0.092	582	10	0.139
300-350	59779	9770417	163	294	9	0.030	355	6	0.036
300-400	65696	6662600	101	31	1	0.005	54	1	0.008
USA	3580089	295575636	83	135	4	0.000	541	9	0.002
Saint Croix Watershed:									
St Croix	21206	731758	35	250	8	0.342	607	10	0.830

Figure 5.9 *Participants by distance:*
Notes:
Fat Tire data from 2004, Birkie data from 2005. Any ZIP code with any portion within the buffer distance included in the count.
Dist - Distance, in miles, from Cable-Hayward. First set is cumulative, second set is by rings. Rings include ZIP codes with any portion within the distance of Cable or Hayward.
Area - Area of ring, excluding major lakes and Canada, in square miles.
Population - in 2004.
Dens - Population density of rings.
FTF - Number of participants in the Fat Tire Festival.
Birkie - Number of participants in the Birkie.
% - Percentage of participants from ring.
/1000 - Number of participants per 1000 residents in ring.

Effects on the landscape

Thus, twice a year, the world comes to Wisconsin. The sleepy, little town of Hayward (and the sleepier, littler towns of Seeley and Cable) are transformed in to de facto cities, complete with traffic jams, huge surface parking lots and a fleet of dozens of buses to transport racers between the parking, start and finish of the race. While the area has generally been devoid of the suburbanization prevalent in much of the rest of the basin (it is three hours from the Twin Cities and well over an hour from Duluth), skiing and biking have spawned some recent development. In addition to the condo villages trail-side at Telemark, many other developments have catered to participants in these so-called "silent sports" (as opposed to snowmobiles and ATVs, which are by no means silent). Most development in the area is centered on any number of picturesque lakes, but the amenity for some houses is not based on the summer use of water but rather the proximity of the lots and houses to the local trail system. One such community is "The Brook," which "is a unique 320-acre, private parcel protected by covenants to ensure owners will enjoy the integrity of the Northwoods and Quiet Sports Recreation. Designed by and for silent sports enthusiasts — you can ski from the door of this wooded 5-acre home site to the Birkie Trail...or pedal your mountain bike down the drive and hook up with the Hayward Cluster of CAMBA trails."[14] Alpine ski mountains in the east and the west have created developments, the largest of which resemble small, self-contained cities around the mountain bases, complete with restaurants and pedestrian malls designed to both create an "old-world" atmosphere and a commercial landscape. Before alpine skiing moved west, an extensive network of recreational villages was proposed for the area surrounding Telemark Resort, but only a small portion was ever built. Furthermore, alpine skiing experienced its biggest boom from the 1950s to 1980s, and there are now fears in the industry about the aging population of baby-boom skiers and lack of younger clientele. It also took decades for the huge developments to spring up around major mountains. Cross country skiing and especially mountain biking are younger sports and may still be experiencing growth in related amenities. While it would be foolish to think that this will ever creep up alongside the Birkie Trail, small-scale, recreational urbanization will likely continue develop in the upper Saint Croix basin.

14 http://upnorthrealty.com/listings/offwaterhomes_vacanttracts/The%20Brook/The%20Brook%20log%20home.htm

The Economic Impact of Recreational Vehicles

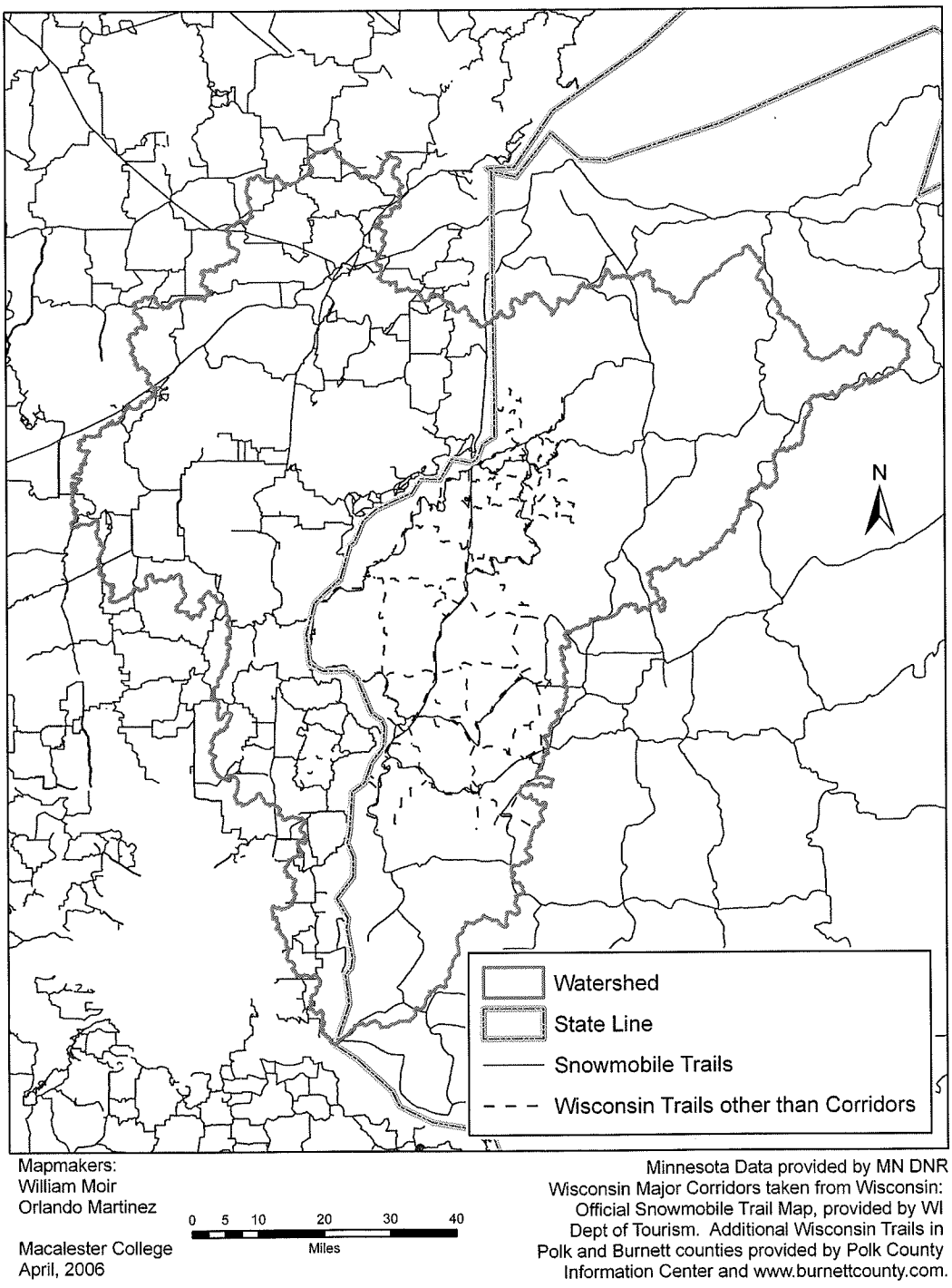


Figure 6.1 *Snowmobile Trails in Minnesota and Wisconsin*

Introduction: ATVs, Snowmobiles, and the Watershed

The St. Croix watershed is among the fastest growing regions of the United States. In order to support itself, the region's expanding population has had a strong economic dependency on the Twin Cities. Now, the region is moving away from its traditional relationship with the Twin Cities and from being a center for the primary and secondary functions of natural resource extraction and processing. The region is joining the national movement toward the expansion of the service industry. The area is still using its natural resources, but in a more sustainable manner, to form its identity as a recreational and retirement destination. One key element in this change is the development of recreational vehicle tourism.

This multimillion dollar form of tourism is based on ATVs (All-Terrain Vehicles) and snowmobiles. In 2004, Minnesota and Wisconsin had a combined 441,686 registered ATV riders and 489,182 registered snowmobilers. One fifth (20.1%) of ATV ridership and 18.9% of snowmobile ridership took place within the watershed. Along with this sizable number of recreational vehicle enthusiasts, the two states combined have an extensive network of ATV and snowmobile trails. ATV trails are difficult to quantify because ATV riders use the street network and snowmobile trails during times of no snow.

Snowmobile trails are another matter. Minnesota has 25,059 miles of trails and Wisconsin has 18,391 plus an estimated 2000-4000 miles in private trails. The watershed itself contains 14% of these trails, or roughly 6102 miles of trails, not including private trails. The watershed, in comparison, only accounts for 12.8% of the area of the two states. The population of the watershed is 18.6% of the two-state population. When comparing the ridership percentages above mentioned and the higher trail-mileage per square mile, the above average ATV and snowmobile activity within the watershed is visible.

The result of this economic phenomenon has been the transformation of the landscape. The private and public sectors have produced rural and urban settings that are conducive to this form of tourism. This is important because recreational vehicle tourists add greatly to the basic and non-basic income of the watershed and of both states. This growing form of commerce is supporting the watershed economy. By quantifying the number of trails and their distribution, profiling the number of riders and their demographic identity, exploring the ATV and snowmobile clubs and events, and understanding community and business perceptions, it is possible to better understand and strengthen the transitioning economy of the watershed.

Image 6.1 *How snowmobile trails have become part of the street network.*

	MN SNBL	WI SNBL 2001	MN ATV	WI ATV 2003	NWWI ATV 2003	2 State Total	MN total
Spending/ Expenditures	199,600,000	270,582,944	641,900,000	310,233,350	142,216,609	$1,422,316,294	841,500,000
Non Local	92,000,000	174,025,050	330,100,000	196,838,402	115,923,549	792,963,452	422,100,000
% Non Local	46.09	64.31	51.43	63.45	81.51	55.75	50.16

Figure 6.2 *Spending of snowmobile and ATV riders. All the amounts are adjusted to 2005 monetary standards. The year represents the date of the study/report from which the data originates.*

The ATV and Snowmobile Rider: Demographics, Characteristics, and Typical Behaviors

Who is the Typical Snowmobile/ATV User? Not surprisingly, snowmobile and ATV users in Wisconsin and Minnesota are demographically very similar, often to the point of being statistically the same. They are overwhelmingly non-Hispanic white, middle-aged males who work full-time. The majority (62-75%) have some education beyond High School. The typical income range is $40,000 to $80,000 per year.

Across all groups the most important part of a snowmobile or ATV experience is being with friends and family. Other commonly cited aspects include "getting away from it all," being in a natural area and relaxation.

Trip Characteristics

The economic impact of snowmobile and ATV users can be estimated by considering the average number of trips taken per year, typical length of trips (day or overnight) and typical expenses per trip. Snowmobile users take an average of 18 trips per year as compared to 26.3 for ATV users. However, snowmobile users are more likely to take overnight trips, 55.5% as compared to 36.1% for ATV users. The snowmobilers that take overnight trips, on average, take over twice as many trips per year as ATV users (7.4 as compared to 3.1). Both groups spend an average of about two nights per trip (1.7 for snowmobile users and 2.1 for ATV users). Both snowmobile and ATV users frequently travel to engage in their activities. According to the Minnesota surveys, 46.4% of ATV users and 62.6% of snowmobile users travel over 100 miles for recreational riding. ATV users take an average of 10.7 trips over 100 miles and snowmobile users take an average of 7.1. This is important as expenditures by non-locals have a much greater economic impact due to the multiplier effect.

The studies do not completely agree about typical lodging arrangements for ATV and snowmobile users, but there are some general common char-

	MN SNBL	MN ATV	WI ATV	WSWI ATV
Gender (% Male)	84.2	87	75	76.3
Mean Age	45.159	47.325	40	40.68
Ethnicity (% White, % Non-Hispanic)	98.3 (99.1)	98.6 (99.1)	N/A	N/A
Education Beyond High School	74.7	64.5	62	66
Employment (% Full Time)	82.2	76.8	N/A	N/A
Median Income Range	$50000-$74999	$50000-$74999	N/A	$41,000-$60,000, $61,000-$80,000

Figure 6.3 *The demographic identity of the average snowmobile rider and average ATV rider based on previous studies.*

	MN SNBL	WI SNBL	MN ATV	WSWI ATV
Avg # Trips/Year	17.9	N/A	26.3	6.9*
% Typically Overnight Stay	55.5	N/A	36.1	65.6-67.7**
Avg # Overnight Trips/Year	7.4	N/A	3.1	3**
Avg # Nights/Trip	1.7	N/A	2.1	3**
Lodging - Paid	71.63	40.45	52	71.88
Hotel/Cabin	71	39.33	27	40.63
Camping	0.63	1.12	25	31.25
Unpaid	25.69	57.31	39.5	28.13
Friend/Relative	16.32	21.35	22.4	14.06
Second Home	9.37	35.96	17.1	14.06
Other	2.66	N/A	8.6	N/A

Figure 6.4 *Statistics on trip characteristics based on the previously mentioned studies.*

acteristics that are important. The percentage of users who pay for lodging varies from about 40% to 70%. Of snowmobile users who pay for lodging, almost all stay in a hotel, motel or cabin. For ATV users there is a fairly even split between staying in a hotel, motel or cabin and camping, either with an RV or a tent. Those who do not pay for lodging either stay at a friend or relative's house or at a second or vacation home, with a more or less even split between the two.

On snowmobile or ATV trips, the majority of total per trip spending goes to lodging (unless staying with friend/family or at second home), followed by food and drinks at restaurants and bars, and transportation costs (gas, tow vehicles, etc). The Minnesota studies also break down per trip spending by location: at home, en route and at the destination area. For both ATVs and snowmobiles, about half of spending occurs at the destination, with the rest of the spending more or less evenly distributed between home and en route. At the destination most money is spent on lodging and food/drink at restaurants and bars. At home and en route most money is spent on transportation related costs, machine upkeep and groceries. Overall, snowmobile users again spend about half as much as ATV users, with the most notable increases in lodging, due in part to the inability to camp in winter, and in machine-related expenses (gas, repair, etc).

Wisconsin ATV Per Trip Average Expenditures	
Lodging	$118.02
Food & Drink	$87.65
Entertainment	$41.56
Shopping	$71.04
Gas / Transportation	$82.10
Convenience Stores	$29.63
Gaming	$38.41
Other	$54.92
Total	$523.33

Figure 6.5 *Statistics on trip expenditures based on the previously mentioned studies.*

Caveat About Data Sources

For the purpose of our study, we have defined the watershed as 21 counties that are within, partly within, or adjacent to the St. Croix watershed. These counties are Aitkin, Anoka, Carlton, Chisago, Dakota, Isanti, Kanabec, Mille Lacs, Pine, Ramsey, and Washington in Minnesota and Barron, Bayfield, Burnett, Douglas, Dunn, Pierce, Polk, St. Croix, Sawyer, and Washburn in Wisconsin. The data for these summary statistics was taken from four different studies, each one representing snowmobile or ATV users in Wisconsin or Minnesota. While the two Minnesota studies were conducted the same year and in the same manner, the Wisconsin studies were done on different years and using different methods. We tried to modify the statistics to make them comparable across studies, but due to differences in the questions and wording, this was not always possible. While we are confident that the general trends are accurate, one should be aware of the issues regarding comparing the studies.

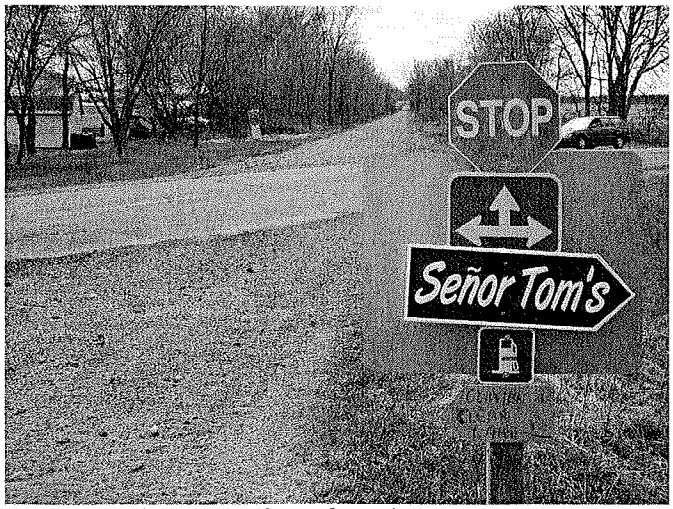


Figure 6.2 *The picture above shows how the business community has taken advantage of ATV/snowmobile traffic.*

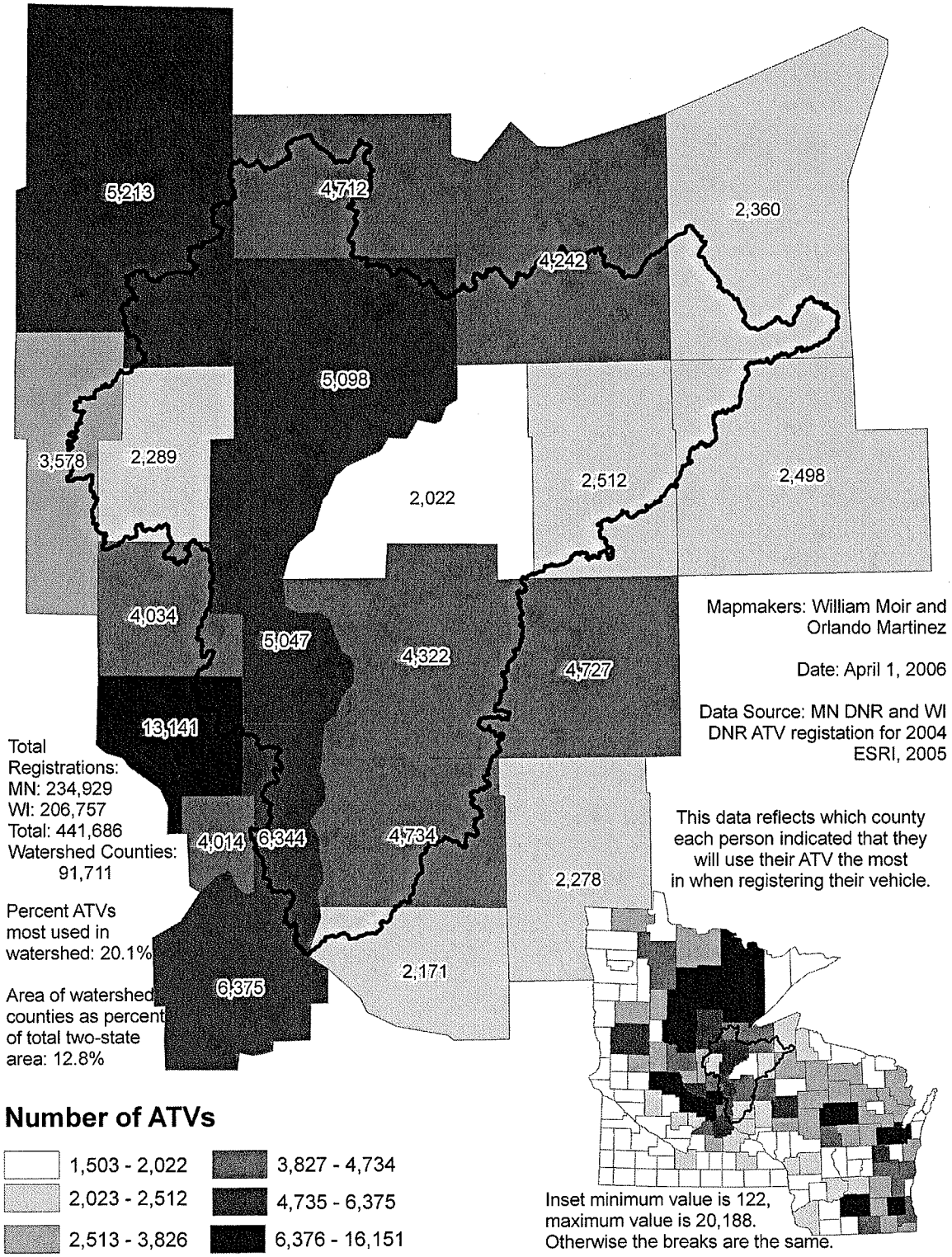


Figure 6.6 *County of Most Use per Registered ATV in the St. Croix Watershed*

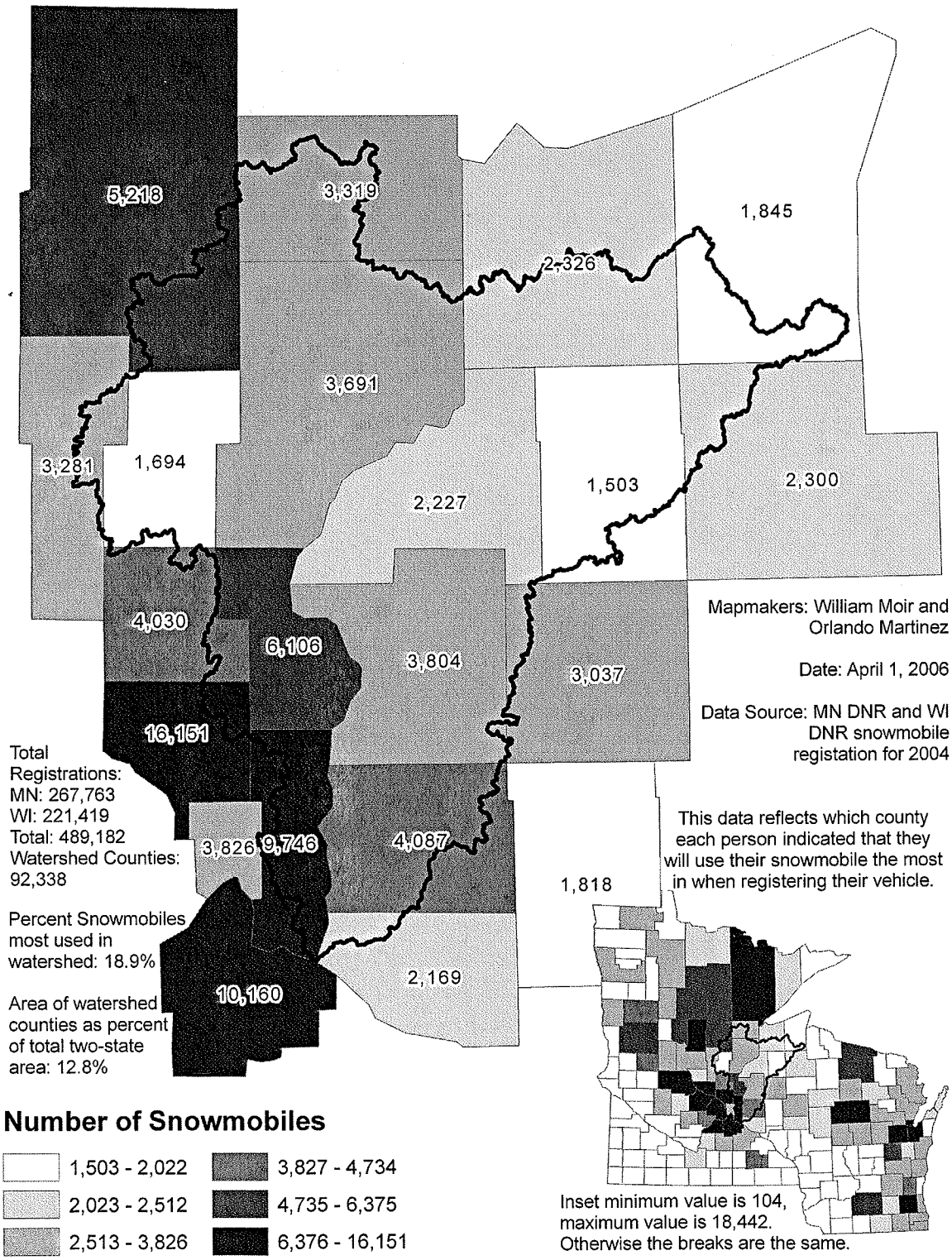


Figure 6.7 *County of Most Use per Registered Snowmobile in the St. Croix Watershed*

ATV and Snowmobile Clubs and Events

One of the strongest presences in the recreational vehicle economy is that of the ATV and snowmobile clubs. Both Minnesota and Wisconsin have their respective statewide associations. The Minnesota United Snowmobile Association (MnUSA) and the Association of Wisconsin Snowmobile Clubs (AWSC) are both older than the Wisconsin ATV Association (WATVA) and the ATV Association of Minnesota (ATVAM). The majority of ATV and snowmobile clubs are members of these organizations. These associations are political structures that serve many purposes. First and foremost, the membership of an individual to a club allows the person to use club trails and participate in club events. The club is a member of the umbrella association so that it can have an organized body that lobbies for its interests. This results in national, state, and local legislation in favor of ATV and snowmobile use. Although clubs can apply for federal and state funding, they often lack the resources to write strong grant proposals. Members of the umbrella organization have access to professional staff such as lawyers and public policy experts. This greatly enhances the ability of clubs to shape the physical landscape.

In 2004, the Minnesota DNR had roughly 17 million dollars set aside in a Snowmobile Trails and Enforcement Account. It was up to clubs and municipalities to apply for this money through the Grants-in-Aid (GIA) program. The total number of GIA money distributed for 2004 was $5,285,280. Similarly, Minnesota gave $5,750,000 in GIA money for ATV trails. In contrast, the state estimates that the value of one hour of volunteer work by a club member is worth roughly $17.50. This creates strong relationships between clubs and the DNR.

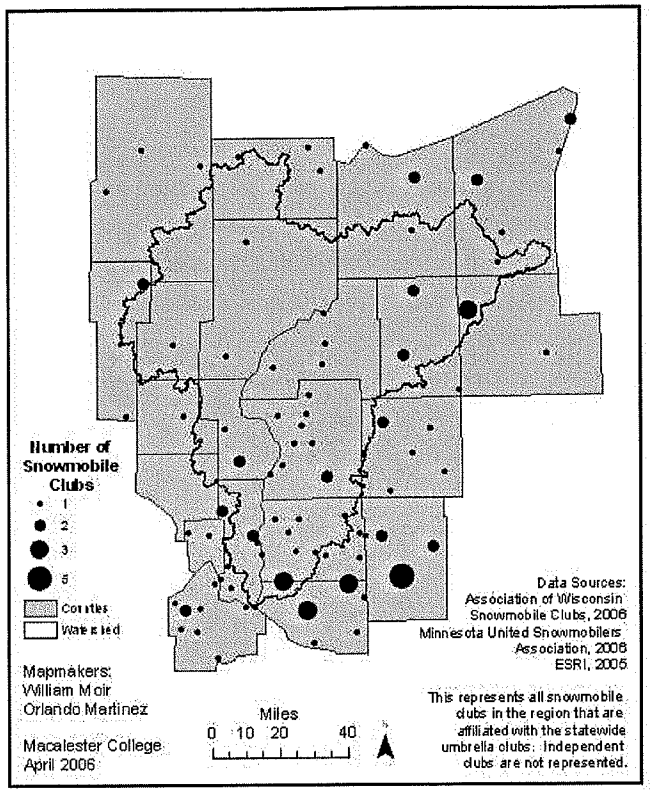


Figure 6.8 *Snowmobile clubs that are part of MnUSA and AWSC. As discussed earlier, most of the clubs are part of these organizations.*

Clubs have an important role as an information resource. Twenty-six percent of ATV riders report using club information for planning a trip. The clubs themselves also choose where to ride. As discussed earlier, snowmobile and ATV riders spend quite a bit of money on local services ranging from bars and restaurants, to convenience stores and mechanics. The club choices as to where they ride result in the success and failure of local businesses. To be proactive, many businesses have sponsored clubs within their immediate area. The businesses help fund the clubs by providing facilities, discounted merchandise, and monetary donations for club programming. The clubs in turn are advocates and patrons of the business sponsors.

Some of the most important activities for clubs are the annual events that they sponsor, create, and/or attend. These events are centered on ATV or snowmobiles, but are not limited by these factors. The MnUSA, for example, has summer campouts with non-snow based outdoor activities. Further-

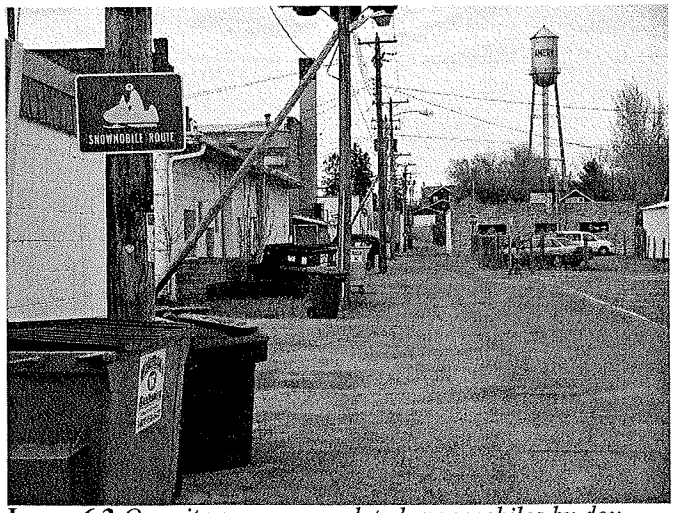


Image 6.3 *One city as accommodated snowmobiles by doubling the alley behind Main Street as a snowmobile trail.*

more, these events are often among the highest revenue producers for the watershed and the two states. Fifty-seven percent of ATV riders within northwest Wisconsin indicate attending an event as a reason for taking a trip.

There are several events within the watershed. Perhaps the most popular event, on the Minnesota side at least, is "Hay Days." This annual event draws roughly 50,000 people who come to see the snowmobile grass drag racing. The event allows companies and citizens to showcase snowmobile technology and equipment. The event also saturates the Forest Lake, Minnesota area with hotel/motel patrons. The bars and restaurants benefit tremendously. As indicated in conversations and other qualitative data, specialty events comprise the majority of business for many small businesses.

This is true of ice racing during the winter for the Lighthouse Restaurant in Richmond, Wisconsin and of sport league events and snowmobile excursions for the Field House Restaurant and Bar in Clear Lake, Wisconsin. These specialty events make their way onto snowmobile and ATV clubs' agendas and calendars and the more events there are, the greater the economic impact within the service oriented small towns of the watershed.

Conclusion

ATV and snowmobile-based tourism makes a sizeable contribution to the economies of the states of Minnesota and Wisconsin. Recreational vehicle users often go on weekend mini-vacations with their families and friends and spend money at local businesses, especially lodging and restaurants and bars, and local amenities, such as places of historical interest and water-based activities. In general, non-local users contribute slightly over half of the total ATV and snowmobile user expenditures in the two states. However, tourism is not evenly distributed, and some areas see a much greater percentage of non-local spending, such as Northwest Wisconsin in which over 80% of total expenditures are made by non-locals.

The future of recreational vehicle tourism seems fairly stable. As long as there is snow in Minnesota and Wisconsin, there will be snowmobilers. ATVs have been rapidly growing in popularity in the past five to ten years, and there is no reason to expect this trend to stop. ATVs have a longer season than snowmobiles, as they can be used during summer and winter. They also are very useful for work on farms or even on large, rural residences. In Minnesota, 75% of ATV owners report using them for work and 69% for hunting. There will be a large increase in the number of available ATV trails as more trails on state land are reclassified for ATV use and as the amount of funding for Grants-in-Aid trails increases to reflect the increasing importance of ATVs.

Towns wishing to capitalize on recreational vehicle tourism or to maintain and increase their current levels can do several things.

First, the most important factor is actually having access to quality trails. A lack of trails is the most commonly cited problem for ATV users and is significant for snowmobilers as well. Improved signage is one of the biggest issues for snowmobilers and is also important for ATV users. Increased grooming is another improvement desired by snowmobilers. Interestingly, all these factors are mostly controlled by local clubs that receive funding from the state. An area with strong club presence will have good trails. Therefore, anything towns can do to help the clubs, such as facilitating contact between clubs and local businesses and subsidizing club activities, will be beneficial.

The other main way towns can make themselves more attractive to recreational vehicle tourism is to simply make themselves more attractive to tourists in general. While recreational vehicle tourists are mostly concerned with spending time with their friends and family and spending time on the trails, they also engage in other activities within the towns such as shopping, visiting cultural or historical areas and engaging in water-sports. Towns certainly should emphasize any existing local amenities and could create new amenities specific to recreational vehicle tourism, such as ATV parks, if so desired. As far as advertising goes, towns certainly would benefit from any increased visibility they could get through the state department of tourism advertising campaigns, the internet and the club network. However, the majority of users get their information through word of mouth, and the only way to increase this is to provide a quality experience.

Development Potential Model:
Commuters vs. the Recreational and Retirement Crowd

Many factors can influence the decision of an individual to make an investment in a new place. Starting a family, a new job, or a retirement may all affect the decision to move or buy a new home. The decision to move to a particular place tends to be shaped by a combination of factors, including the beauty of a particular landscape, or the draw of strong communities, the promise of more space, proximity to a job, or access to amenities.

People are drawn to the St. Croix Watershed by all these factors and more. The complexity of individual choice and the particular attraction of a place are difficult to describe, but we have formulated a theory for evaluating these factors and have used this evaluation to create a model for determining the places that will be most attractive to people as the development in the watershed continues. A concept of the development potential within the watershed is crucial for planning in the coming years.

There are two distinct groups of people moving into the watershed; commuters from the Twin Cities (and to a lesser extent Duluth), and outdoor enthusiasts interested in the watershed for recreational purposes, either seasonally or full time in their retirement years. To determine the potential development patterns for each of these groups, we developed a GIS model which takes into account a variety of factors, ranks each factors' importance and then using the cumulative ranking – determines the localities that have the greatest potential for additional development.

The model considers only factors which are the most readily observable, relying heavily on variables provided by block group from the 2000 U.S. Census, and basic geographic information. The model is limited by the fact that it can not consider all the possible combinations of factors that may determine individual choice, and because many potential factors were not included due to the scope of the project and limited resources. Using GIS modeling, we created the following maps, aggregated by census block group, which show the patterns of potential development.

Because commuters and those building in the watershed for recreational/retirement purposes have different motivations for moving, the locations they chose to build in tend to be quite different. However, we believe all new development in the watershed will be affected by six factors. Four of these indicate that a place is already drawing in new people and that development is resulting: the percent of population that has recently moved from a different county or from a different state, the number of new residential units built, and the general population change from 2000-2004. The last two factors are geographic in nature and indicate access to local and distant amenities; the proximity to one or more towns, and access to major highways. Each of these six factors was given a moderate weight in both models. Both models also have an additional set of factors, usually given greater weight, that we believe would be of particular importance to each of our two groups.

Potential for Recreation and Retirement Development

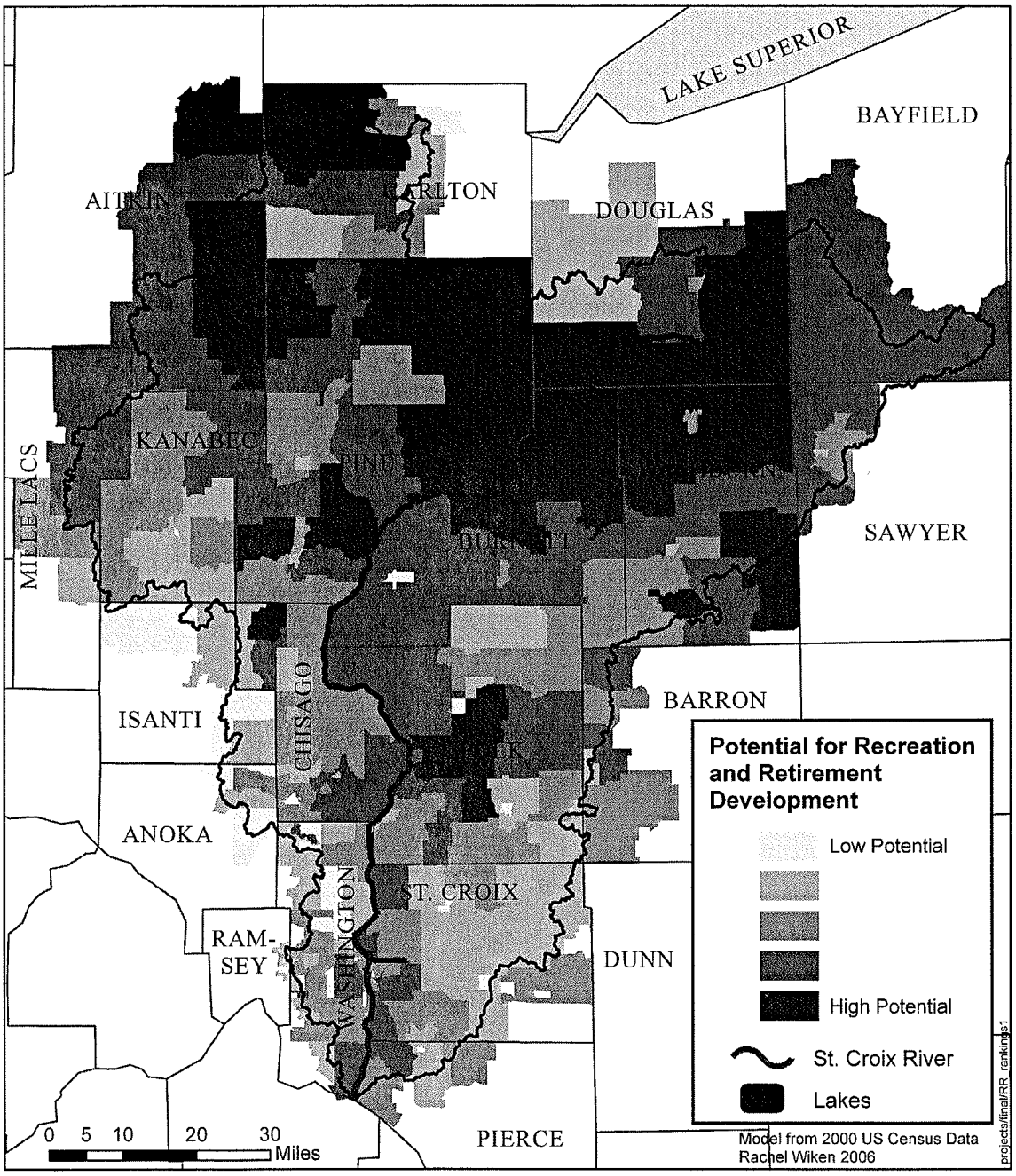


Figure 7.1 *Potential for recreation and retirement development increases with the darkness of shading. Model uses 2000 U.S. Census data at the block group level*

The Residential Retirement Model

Residents of the Twin Cities often vacation in the St. Croix Watershed, taking advantage of its numerous trails for hiking, skiing, biking, snowmobiling and ATVing. They make use of the lakes for boating, fishing or swimming, and enjoy the picturesque landscapes.

In recent years many more people have chosen to build homes in the watershed, taking advantage of these amenities year round. Using GIS modeling, we attempted to determine what regions of the watershed have the greatest potential for development. The model specifically focuses on landscape factors and local amenities that would make locations particularly desirable for those interested in recreation.

Our Recreational/Retirement model takes into account the six factors that help predict any new development including those that indicate that a location is already starting to draw new people, and that development has already begun, and factors that indicate proximity to local and distant amenities. Beyond the six basic factors the model includes several other factors that relate specifically to the needs and desires of those attracted to the watershed region because of its recreational resources. (Figure 7.2 depicts the full list of variables used in the Recreation/Retirement model)

The factors we have weighted the highest in this model are those we believe are most likely to bring a recreationally minded person to a particular location in the first place: a preponderance of natural resources. Here we used water as an indicator, and considered the presence of lakes, and/or location close to the St. Croix scenic waterway as being particularly important. The factors that have the next greatest weight in our model are those that indicate a presence of recreational and retirement populations including: number of homes which are "vacant for seasonal recreational" purposes (See Figure 7.5), and the percent of households receiving retirement income (See Figure 7.7).

Another category included in this model considered factors which indicated a non-commuting/ non-farming population. These were: the percent of people who worked at home and the percent of residential units classified as both rural and non-farm.

Generally we found that the northern area of the watershed had the greatest potential for recreational and retirement development. This is logical because the northern parts of the watershed have many lakes and other natural amenities, and have long been a destination for vacationers. Portions of Pine, Burnett, Washburn, Douglas, Kanabec, and even a bit of central Polk counties show up as having particularly high development potential.

The central areas of the watershed, which are traditionally the domain of farmers and the southern end of the watershed, which is more densely populated, both showed up as having relatively little potential for this type of development.

Because the data used in this model is aggregated by block group, one limitation of the map is that the large size of block groups in the northern, and more rural parts of the watershed, prevent the model from pinpointing the precise areas that have a high potential for development.

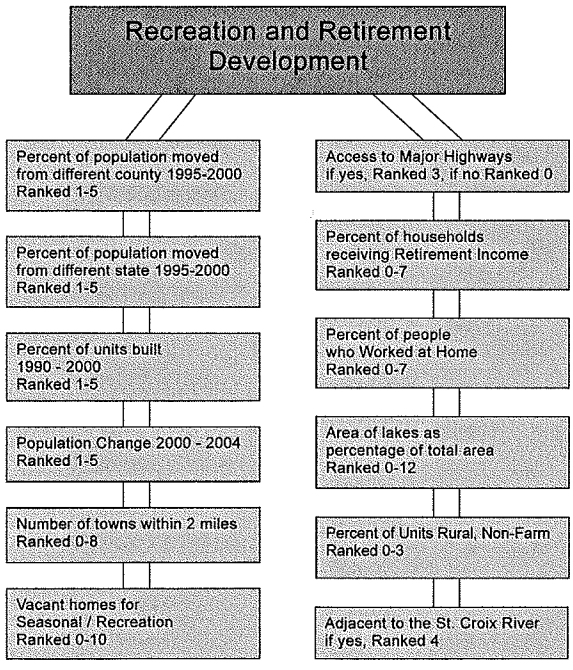


Figure 7.2

Potential for Commuter Related Development Model

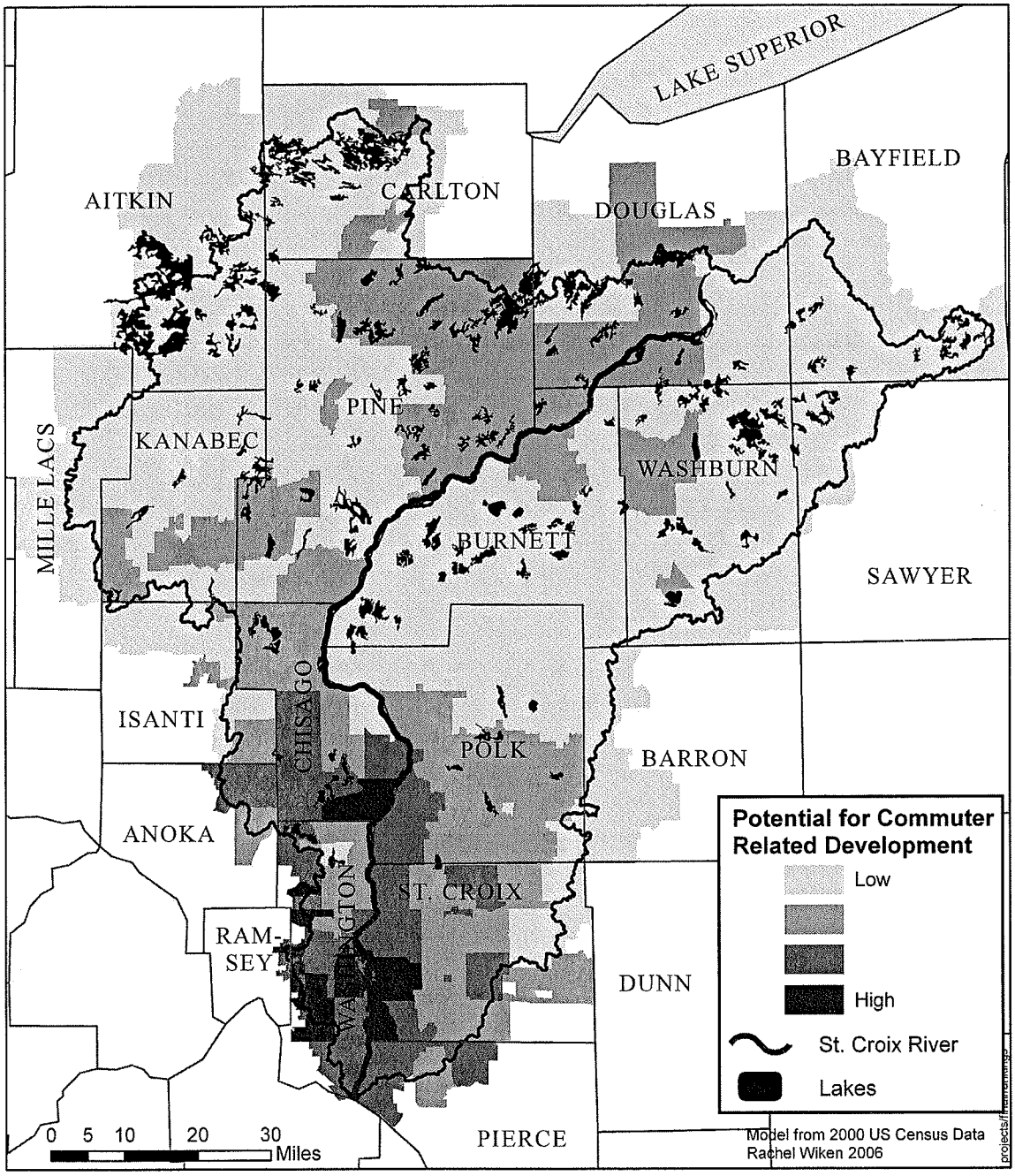


Figure 7.3 *Potential for commuting related development increases with the darkness of shading. Model uses 2000 U.S. Census data at the block group level.*

The Commuting Model

In recent years the metro area has crept into the watershed. This is a result of an increased tolerance for longer commute times and a metro-wide increase in housing costs. Acknowledging that commuters are infiltrating into the watershed, it is important to plan for future increases in this population. Determining the most likely places for development to occur is the first step in this process.

Our model for predicting commuter related development includes the six factors that indicate general development, and other factors that relate specifically to the needs of commuters who are attracted to the watershed region. (Figure 7.4 depicts the full range of factors considered in this model). See FIgure 7.8 for a map of population increase from 2000-2004.

The most heavily weighted variable in this model is the physical distance to Minneapolis and St. Paul (or Duluth/Superior).

Following basic distance were factors indicating that a community has desirable urban/suburban services and amenities, this was indicated by inclusion in the official 7 county metro area, and the population density.

Another important factor is the presence of commuters already living in the area. The existence of such a group of people indicates that a location would also be acceptable to other commuters. We used "workers employed outside their home MCD" as an indicator.

Since many people commute because they can get "more house for their money" at greater distances from the central cities, housing cost is also a major factor in our calculations. We used median area housing cost in relation to regional housing cost, for this variable.

Finally, factors that gauge ability to efficiently commute to the metro, like access to a major highway, and in Wisconsin, distance from a river crossing were considered.

Because of our focus on distance and access factors, a clear pattern emerges on this map – the southwestern portion of the watershed looks extremely likely to have additional development, while the central Wisconsin and northwestern Minnesotan areas of the watershed are largely likely to be left alone by commuters from either the Minneapolis/St. Paul or the Duluth/ Superior commuters.

Commuting development is clustered along the Interstate 94 and 35 corridors which run north and east of the Twin Cities. Especially high potential for development is found between Afton and Stillwater around Woodbury and surrounding Osceola. Additionally, it appears that most of Washington, Chisago, St. Croix and Polk counties have some commuter development potential.

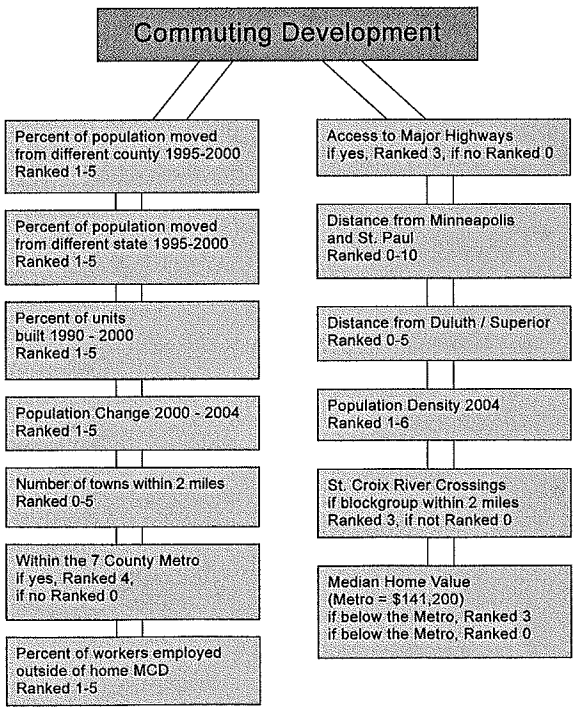


Figure 7.4

Methods

Data were taken from the 2000 U.S. Census by block group. Block groups are the lowest level of the geographic hierarchy for which the US Census Bureau tabulates and presents sample data, they generally contain between 600 and 3,000 people, with an optimum size of 1,500 people. Because block groups are determined by population rather than geographic area, they are very small in population dense areas, and very large in rural areas.

Factors were assigned a value range based on importance to the model, and were broken into classes using natural breaks. Binary factors (yes/no, above/below) were ranked as all or nothing. Ranks for each factor were combined to find a final rank for both the recreation/retirement and the commuting models for each block group. Whenever possible, geographic factors were normalized by area to keep the larger block groups from seeming overly blessed with natural resources. For example, the total area of lakes in each block group was divided by the block group's total area to find the percentage of area that is lakes.

Outcomes and Limitations

Together, our maps show broad patterns of development potential throughout the watershed, and when both models are considered, most of the watershed appears to have a high potential. Commuting development is clustered along the Interstate 94 and 35 corridors and throughout Washington, Chisago, St. Croix and Polk counties. There is a high potential for recreation and retirement related development, throughout much of the northern part of the watershed, with particularly high potential in large portions of Pine, Burnett, Douglas, and Washburn counties.

The broad nature of our findings, especially in relation to the recreational and retirement model, partly result from the aggregation of our data. The most feasible data for us to use was census block group, which in densely populated areas is a reasonably manageable geographic unit, but in rural areas, such as the northern part of the watershed, results in huge units. The large size of the block groups, especially in the northern part of the watershed, skews some of our results. Large block groups are inherently more likely to have a highway run through them or border on the river. This means they are more likely to have a higher ranking on our development scale, and when they do – they have a huge visual impact on the map. However, as long as this limitation is recognized it can be dealt with. Smaller areal units would have made the model significantly more precise.

Other potential problems with our data arise largely over its age. Most of the population data comes from the 2000 Census – which at printing is fully six years old. Because of the quickly changing housing market and expansion of the metro area, more up to date information would definitely be beneficial to the model.

Finally the greatest limitation to the model is found in our ability to predict the factors that homebuyers will find most important when deciding to move. Using census data, and input from our fellow atlas researchers, we came up with several categories of factors that we believe would make a particular place attractive to both of our groups. We considered population characteristics, cost of housing, and distance from, and availability of, amenities. While we attempted to be as precise as possible, the factors that ultimately determine development are incredibly local and may or may not align with the factors we have considered here. However the model is meant to determine development potential, and not to predict individual moves.

Percent of All Housing Units which were Vacant for Seasonal or Recreational Purposes, by census block group

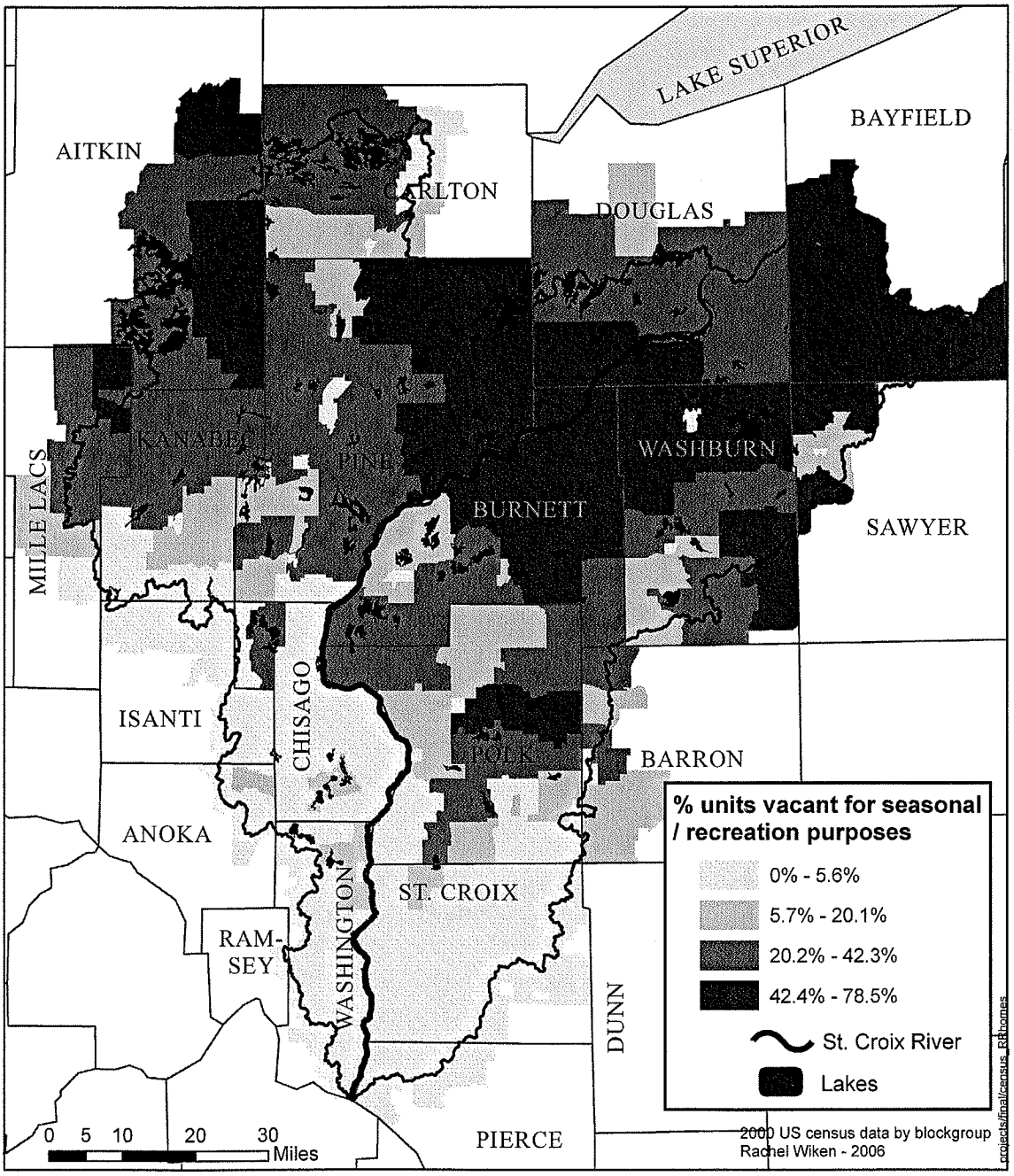


Figure 7.5

Population Increase 2000 -2004

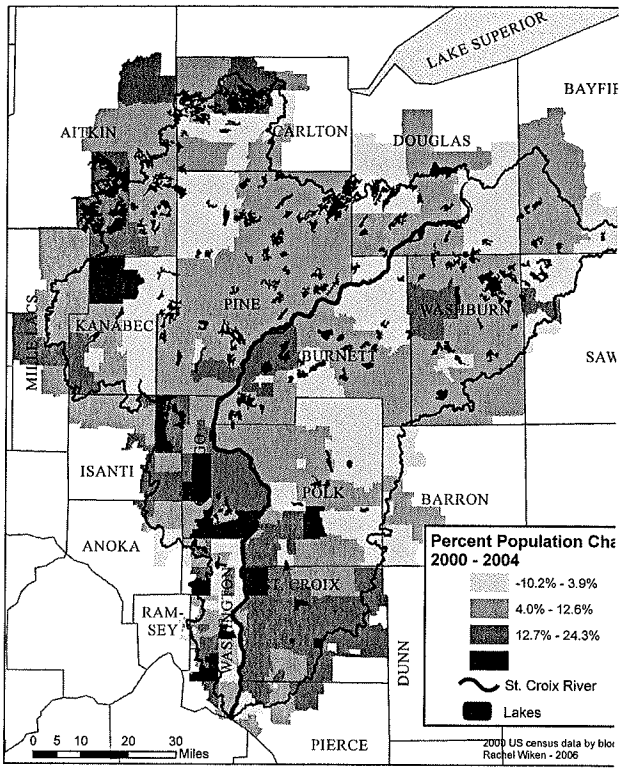


Figure 7.8

Households Receiving Retirement Income

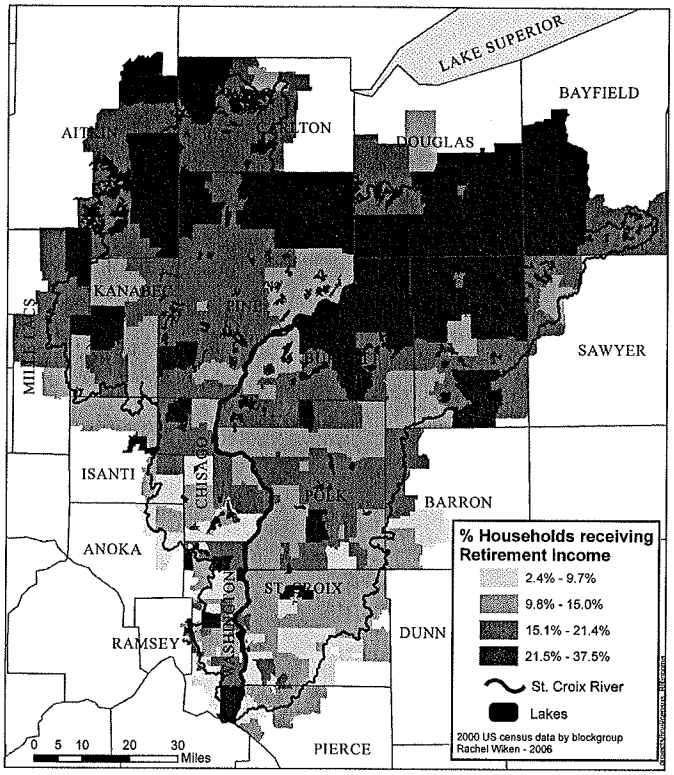


Figure 7.7

Population change 2000 - 2004 highlights the areas which have been growing quickly in the last 6 years. The data is more recent than the 2000 census data, which is helpful because of the dynamic nature of development in the watershed.

The varied pattern of this map provides great insight into the development within the watershed. Within the developed metro area (Washington and Anoka Counties) all categories of growth are present. Cities which are already built up have little or no growth, while new edge suburbs are booming. Continuing north and west, we find fairly average population growth. In the very isolated parts of the watershed, areas with higher amenities show greater population growth, while areas without obvious amenities are some of the fastest declining block groups.

Mapping concentrations of people receiving retirement income is useful in the watershed because it shows where amenities that appeal to older populations are likely to be located. Here we see that the northern and especially northeastern parts of the watershed already have significant populations of retired. These areas are generally not near any major urban areas. The block groups that show up in Washburn, Burnett and Douglas counties appear to be particularly isolated.

Impaired Waters

For many Minnesotans and Wisconsinites, the St. Croix Basin represents a vacation destination at a cabin or one of the many recreational establishments, or a place to develop and homestead as one of the many commuters to the Twin Cities. This outlook on the basin is problematic and neglects to account for the environmental hardships these activities often bestow upon natural systems and particularly water quality. The Minnesota Pollution Control Agency has recently released a study highlighting water quality in Minnesota. Of the sample that the MPCA studied, 40% of these bodies of water were impaired.

This map highlights many of the waters that are impaired do to increased landuse and effluent from lawns, impervious surfaces and agricultural activities. As the populations of rural towns in east-central Minnesota and northwestern Wisconsin continue to feel the pressures of increased population, it will become more important that residents, environmental groups and local governments alike, pay attention to changing water quality. Water quality often acts as the "canary in the coal mine" for other environmental issues. Currently, the St. Croix Basin is considered one of the healthier watersheds nationally. Keeping this treasure in mind, it is important that every effort is made to preserve or even restore to pre-1950 water quality levels.

It is important to note that efforts to preserve water quality are in place. Currently in the north-metro area, development agencies are implementing green design principles to ensure buffer zones. Most important to water quality is controlling runoff. The most recognized way of achieving this goal is through pervious surfaces. The more water absorbed into groundwater supplies, the less that will carry surface contaminants down-watershed or downstream. Another important factor is limiting the kinds of chemicals and contaminants that are reaching runoff areas and eventually the watershed. If these basic measures are adhered to, the water quality of the basin will not only become stable, it will likely improve.


St. Croix River Basin Impaired Waters
2005
Lake Superior
Duluth
Superior
Carlton
Washburn
Aitkin
Gordon
Namekagon
Hayward
Mora
Pine City
Grantsburg
Siren
Shell Lake
Milaca
Frederic
St Croix River
Cambridge
Taylors Falls
Balsam Lake
Center City
Saint Croix Falls
Barron
Anoka
Stillwater
Minneapolis
Hudson
Saint Paul
River Falls
Ellsworth
Impaired Bodies of Water
Unimpaired Bodies of Waters
Basin Boundary
Highways
Population Centers
0 10 20 40 Miles
Wisconsin
Minnesota
Mapmaker: Roscoe Sopiwnik Feb. 2006
Source: 2004 Census, ESRI,
MN DNR, WI DNR

Land Trusts: Changing Perceptions of the Land

Urban spatial expansion results mainly from three powerful forces: a growing population, rising incomes, and falling commuting costs.[1] These forces have driven the growth and expansion of the Twin Cities metropolitan area eastward into the historically agricultural and forested region of the St. Croix Basin. This expansion has prompted significant changes in both actual land use and perceptions of the land in the basin. In response to the actual and perceived threats of urban growth, private land trusts have emerged as a mechanism to preserve and protect the character of the St. Croix Watershed. Land trusts are the subject of much academic speculation, provoking calls for further academic study of this poorly understood but fast-growing conservation strategy.[2] The growth of land trusts within the Saint Croix Basin represents some key features of the changing attitudes toward and perceptions of the value of the region's land; the increasing value of middle landscapes, the emerging conflict over public versus private resource conservation, and changing perceptions of what constitutes a valuable landscape in the face of development.

In his book *Topophilia*, Yi-Fu Tuan discusses the ways that urbanization changes the nature of human attitudes towards the countryside. His description notes that "environmental value requires its antithesis for definition."[3] In saying this, he highlights the very sentiment which is driving the growth of private preservation mechanisms such as land trusts within the St. Croix Basin. The threat posed by increased urban growth east from the Twin Cities metro area, has made the open spaces and the edenic "middle landscape" of pastoral land increasingly valuable as a landscape worthy of preservation in the face of impending change.[4]

This increasing value harkens back to historical ideals of pastoral land, or "the garden" which poses nature as the idealized landscape between the profane city and wilderness. Recognizing the value of middle landscapes, land trusts on both the Wisconsin and Minnesota sides of the St. Croix River's Wild and Scenic River Way, have begun the work of setting aside land to prevent its change and development from rural to urban land.

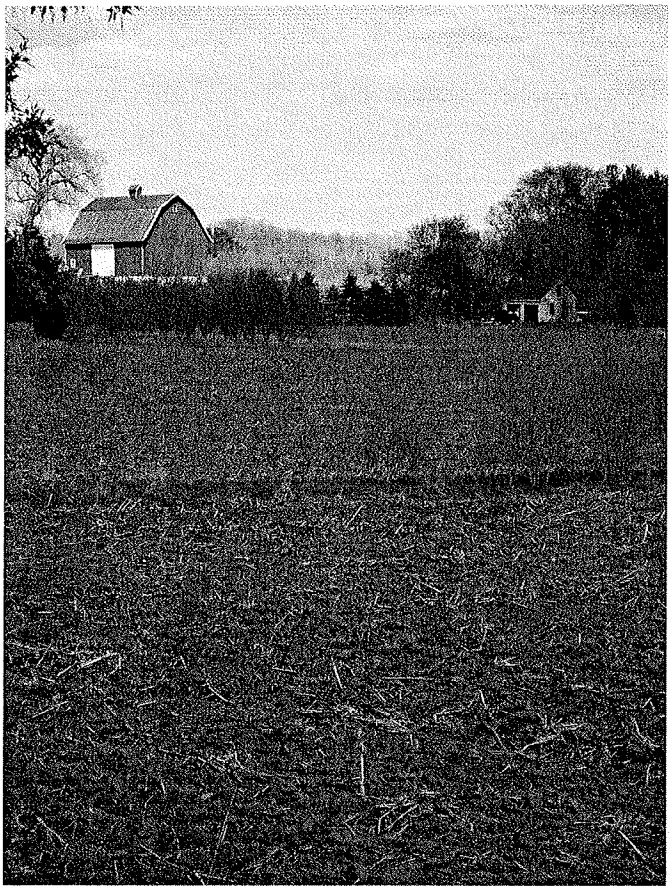


Image 9.1 *A small farm near Afton, MN. Middle landscapes like these are gaining value as the pressures from suburban development expand into the St. Croix watershed.*

1 Brueckner, Jan. 'Urban Sprawl; Diagnosis and Remedies." *International Regional Science Review*. Vol. 23, No. 2, (2000):160.
2 Merenlender, A.M. et al. "Land Trusts and Conservation Easements: Who is conserving what for whom?" *Conservation Biology*. Vol 18. No.1. February 2oo4:73.
3 Tuan, Yi-Fu. *Topophilia: A study of Environmental Perception, Attitudes, and Values*. Prentice Hall. New Jersey. (1974): 102.
4 Tuan: 104.

What are land trusts?

Land trusts are a privatized and often reactionary mechanism for influencing land use, and are the fastest growing conservation movement in the United States.[5] A land trust is a nonprofit organization whose mission involves actively working to conserve land by facilitating the acquisition of land title or conservation easements with the goal of limiting future development on these lands.[6] Land trusts also take over the stewardship responsibilities of properties for as long as the lands are owned by the trust (usually in perpetuity) or the easements are legally binding. Land trusts operate outside of the public sphere and they represent privatized efforts to conserve a particular type of landscape that might not be publicly preserved.

The size and scope of land trusts vary widely. Land trusts differ in accordance with the size area they aim to preserve, the types of landscapes they conserve, the length of time they guarantee protection for the land, along with other factors. The West Wisconsin Land Trust which works within the Saint Croix Basin and western Wisconsin counties, for example, identifies five categories of land which it aims to preserve; 1) natural areas, 2) wetlands, streams, lakes, and rivers, 3) working forests, 4) scenic or unique areas, and 5) agricultural lands.[7] These areas are representative of the types of lands that trusts often aim to preserve in the face of development pressures. Among these types of land are both more pristine wilderness, and working small scale agricultural landscapes that are becoming increasingly threatened by suburban expansion onto the rural-urban fringe lands that small family farms often inhabit.

Image 9.2 *These signs for new housing developments along a rural stretch of MN-95 are signs of changing land uses as pressure from the Twin Cities Metro area grows.*

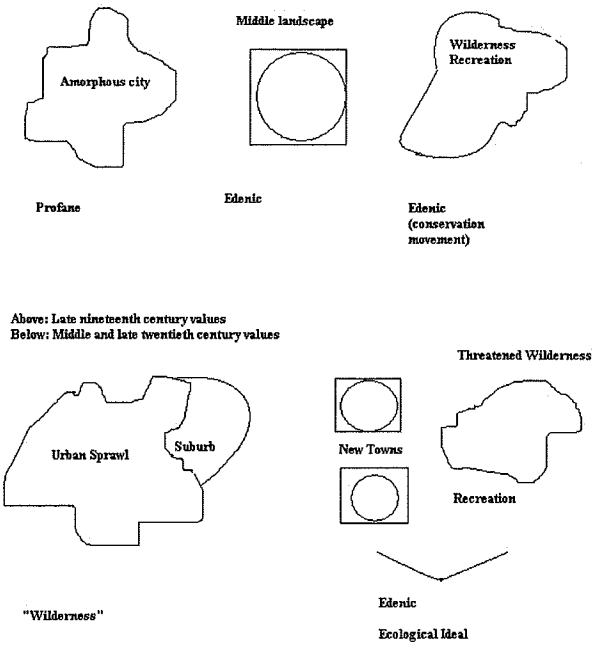


Figure 9.1 *Conceptions of ideal landscapes over time, from Yi-Fu Tuan's* Topophilia. *Image by K. Sachs.*

Land trusts generally acquire lands in two ways. The first is through direct purchase, donations of land or funds to purchase land, land bequests, or other means to gain title to the land to protect it indefinitely. The second way that land trusts operate is through the acquisition of conservation easements. Conservation easements, or conservation restrictions, are legal agreements between land owners and land trusts or a government body, which limit the use of land regardless of ownership in order to protect its conservation value.[8] This type of agreement allows land to be passed on to new ownership and allows owners to use their land. It works similarly to zoning laws in that it restricts the types of development that can occur on property.

5 West Wisconsin Land Trust. www.wwlt.org. Accessed 4/18/06
6 Land Trust Alliance. www.lta.org/faq/ Accessed 2/22/06.
7 West Wisconsin Land Trust. www.wwlt.org. Accessed 4/18/06.
8 Land Trust Alliance, 2/22/06.

Why land trusts for conservation?

The rapid growth of land trusts and their westward expansion from roots on the east coast in the second half of the 1900s has been fueled by a few things. First, land trusts represent a reaction to the "unmitigated loss of open space"[9] across the United States as suburbs have expanded into formerly rural landscapes. According to an article in the *Milwaukee Journal-Sentinel*, "Getting a larger house, on a larger plot of land, even if it means moving further from the city, remains a personal aspiration of most people."[10] In response to the development of suburbs stemming from this sentiment, land trusts signify a private effort to "gain the power to save the green spaces that make ...communities unique."[11]

In addition to serving as a means to protect open space, land trusts and conservation easements offer incentives for preserving land. Tax benefits such as federal and state tax deductions for putting land in a conservation easement are but one of these attractions. Additionally, estate taxes can be significantly reduced by selling land to a trust because the limited development clauses keep property values low. Often times, the precise details concerning the use of land in conservation easements are negotiated between the land trusts and the landowner at the time of sale. Additionally, these negotiations often request a donation of between $5,000-$7,000 in order to ensure that the land is protected and maintained in perpetuity. If, however, these funds cannot be supplied by the landowner, they are often fundraised elsewhere.[12] Together, these incentives make the sale of land, or the granting of conservation easements an attractive option for landowners not wishing to see the character of their land change significantly under future development pressures. This allows land trusts to more competitively vie for land whose value, particularly in the St. Croix Watershed, is increasing quickly as developers begin speculating in the region.

The types of incentives discussed above reflect the needs and wants of the people who put their lands into trusts or apply conservation easements. This demographic group often tends to be older and may have lands that they either live on or own but are no longer using productively for farming or other type of income. These people have both a sentimental attachment to the land and a belief that the value of their open lands goes beyond the monetary compensation that they are offered by developers. As John Baird, of May Township in Washington County north of Stillwater says "Look at the pictures in your calendar. They're not pictures of shopping malls or industrial space."[13] This sentiment rings true with many people, especially in the Saint Croix River Basin. Michelle Dingwall, the development director at the West Wisconsin Land Trusts says that "property protection has really taken off. People are starting to take matters into their own hands. They don't want to see it subdivided or developed."[14]

With the rising costs of property taxes and as suburban expansion moves closer to rural landowners, the tax benefits and promise of protection assured by preserving land through the use of a land trust gains tremendous appeal.

Land trusts are often touted as a more efficient and localized means toward land conservation. Given that the majority of trusts are small local programs unhindered by the bureaucratic processes of government, it is often true that land trusts can work quickly and decisively to preserve threatened land. This gives them added appeal.

Land trusts are emerging as one of many mechanisms being employed to conserve open space. Yet, while land trusts have been in existence for a century, their recent growth has driven researchers at the University of California-Berkeley to note that "these title and organizational arrangements are evolving so fast

9 Land Trust Alliance, 2/22/06.
10 Bill Glauber. "Welcome to Minnesota." *Milwaukee Journal-Sentinel*. February 18, 2006.
11 Land Trust Alliance, 2/22/06.
12 J. Lee. "What's a land trust? Here's how they work." *Green Bay Press-Gazette*. March 19, 2006.
13 Giles, K. "For love of land, owners preserve its beauty for the future." *Minneapolis Star Tribune*. 1/8/06.
14 Ibid.

that it is difficult to assess their conservation accomplishments and long-term viability."[15] As such, land trusts must be understood as an emergent and amorphous mechanism of change in conservation strategy. The private nature of this conservation is symbolic of a broad shift in perceptions of the value of middle landscapes and how best to preserve them. This perceptual shift, while expansive in nature, is manifested very locally in the emergence of myriad small land trusts throughout the country.

Land Trusts in the St. Croix Watershed

Within the St. Croix Basin, land trusts have become particularly active given the plans for a new bridge near Stillwater. This proposal has commuters and developers looking eastward to the desirable open spaces of the St. Croix's watershed in western Wisconsin and along the river in Minnesota. To counter the pressures of development anticipated to result from this commuting improvement, new land trusts have formed and others have stepped up their efforts.

Within the basin, at least 12 different land trusts on local, regional, state and national levels are currently active. Of these twelve, three main land trusts are of special importance for their role in preservation in the basin. These are the West Wisconsin Land Trust (1988-year formed), the Kinnickinnic River Land Trust (1993) and the Minnesota Land Trust (1991).

These main players in private conservation efforts within the watershed have been in establishment since only the late 1980s, signaling the beginning of shifting perceptions of the landscape within the basin. These projects are still relatively nascent and have yet to prove their viability over time; however their contributions to conservation of open space within the St. Croix watershed are undeniable. Together the three groups have protected at least 44,528 acres in their total jurisdictions (not just within the basin). Within the basin, the majority of sites protected by these three organizations are found close to the St. Croix River and show a concentration closer to the periphery of the metropolitan area which declines as the distance from the metro area increases.

Each organization has significantly contributed to conservation efforts within their respectful areas both in and outside the St. Croix Basin. However, according to Karen Bassler, of the Gathering Waters Conservancy, a Wisconsin statewide land trust organization, the St. Croix watershed has recently become a special focal point of interest for those hoping to conserve the threatened landscapes of the area. This has meant that in addition to the private efforts of land trusts to preserve the basin's landscape and character, collaborative efforts are now being undertaken to supplement the work of these individual land trusts as the potential for rapid development of the basin looms.

The St. Croix Conservation Collaborative is one of these efforts. The Collaborative is a coalition of governmental agencies and private non-profit con-

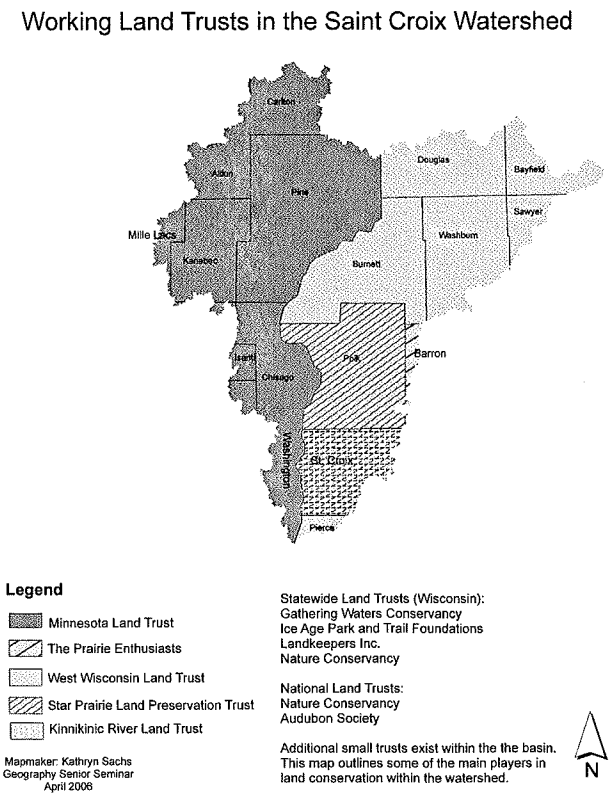


Figure 9.2 *Data from Gathering Waters Conservancy*

15 Merenlender. et al. "Land Trusts and Conservation Easements: Who is conserving what for whom?" *Conservation Biology.* Vol 18. No.1. (February 2oo4): 65.

servation groups which is working to develop shared strategies for resource conservation in the St. Croix Watershed. The focus of this group's work is to coordinate the efforts of state agencies from Minnesota and Wisconsin; federal, national and regional agencies; local non-profits; and local governments, around "scenic and quality of life issues, and larger ecological landscape and processes."[16] This group has divided the basin into northern and southern regions to which it will apply differing approaches to conservation based on differences in resource protection needs as well as the varying threats to those resources from development. In the south, the more pressing demands of rapid suburbanization may require greater cooperation between local planners, land trusts, and other non-profits to work with developers to maintain open space in addition to the preservative efforts to thwart development in the first place. Additionally, the nature of planning for development across state borders increases the need for collaboration between groups in both states.

Together, the broad membership of the St. Croix Conservation Collaborative testifies to the multilateral approach being undertaken to preserve open space and the character of middle landscapes within the watershed amidst strong development pressures. Saint Croix County is the fastest growing county in Wisconsin and the pressures of the growing Twin Cities Metro Area are largely responsible for this expansion. The Collaborative membership includes 5 land trusts working in the region, as well as non-profits like the St. Croix River Association, and national and regional government bodies like the National Parks Service, and the Twin Cities Metropolitan Council. [17] This group is recently formed and has not fully identified its conservation goals, priorities, or tactics but nonetheless the collaborative effort among these divergent groups is representative of the evolving strategies being implemented both nationally and regionally to address the challenges of land conservation across state boundaries and in response to heavy developmental pressures.

The future of conservation in the St. Croix watershed

The emergence of land trusts within the St. Croix Watershed is a relatively new feature in the landscape of the region. The three most important land trusts within the basin have only been operating since the late 1980s and early 1990s. Their recent emergence as a private mechanism for land conservation as growing pressures from the Twin Cities Metropolitan Area mount, is symbolic of a reactionary sentiment favoring seemingly wild or threatened landscapes over the increasingly commonplace exurban countryside

The collaborative nature of conservation strategies within the basin highlights the complex, and often burdensome character of regional planning across state borders. It further illuminates the private sector's distrust that public planners will adequately preserve the character and charm of the middle landscapes on the rural-urban divide.

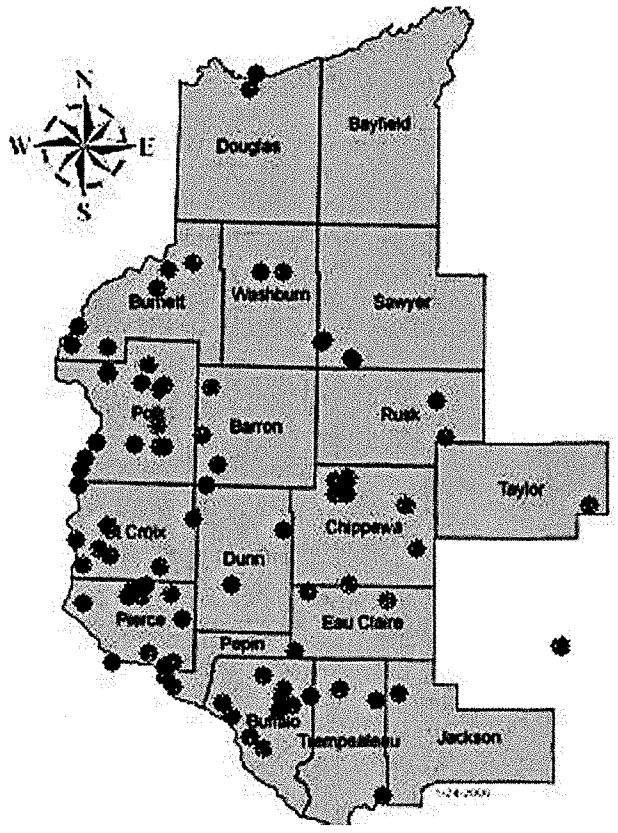


Figure 9.3 *This map shows that much of the land being preserved by land trusts has been within the St. Croix basin. Recent focus on the watershed region will likely increase the number of protected.*
This map shows the protected sites of the West Wisconsin Land Trust as of 2005. www.wwlt.org

16Karen Bassler. Personal email correspondence.3/22/06.
17 Bassler, 3/22/06.

With three relatively large trusts working within the basin along with smaller land trusts and other governmental and non-profit groups, it is likely that the advance of a new exurban housing development will encounter roadblocks as long-established rural landowners make a stand against "subdivisions supplanting the open spaces they once walked and hiked."[18]

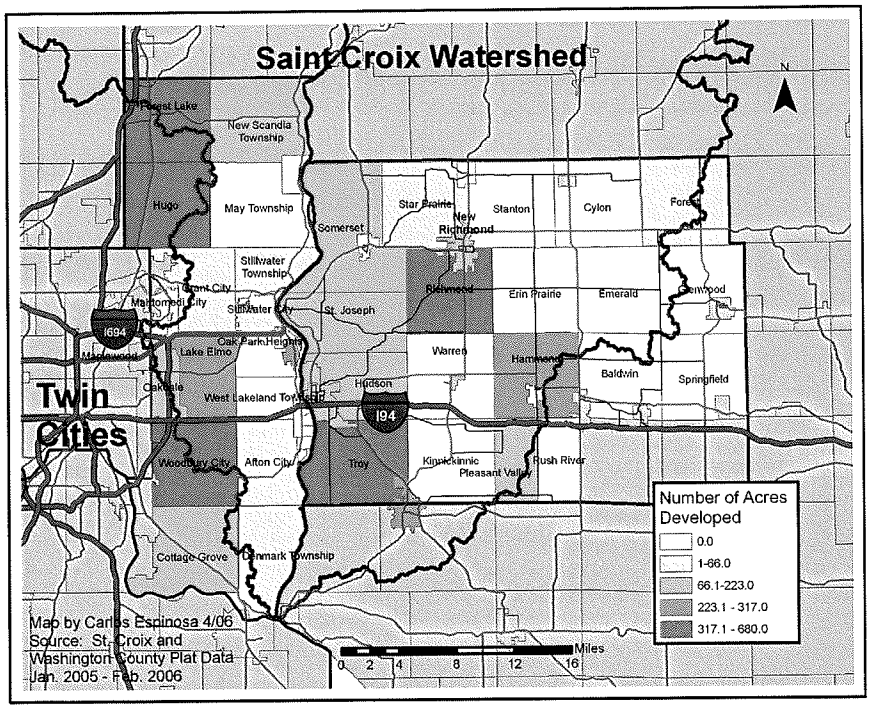
While there is much uncertainty regarding land trusts within the St. Croix Watershed, what we do know is that land trusts are but one way that the preservation of open space is being accomplished. This method is a flexible means to adapt to the fast moving pressures of suburban development which public planners often struggle to keep up with. Whether the preservation of open space by land trusts and conservation easements will significantly affect the development patterns of the Saint Croix Watershed is uncertain.

While the actual ramifications of land trusts within the St. Croix Basin remain to be seen in their fullest, their emergence in the last few decades highlights changing perceptions of the land by those who inhabit and value it as it is, and those who intend to inhabit and occupy it as they envision it. The St. Croix Basin has morphed from a relatively rural economy, to a landscape standing at on the verge of widespread urban development. This change has highlighted fundamental conflicts over the wise-use of open spaces. The legacy of land trusts within the St. Croix Watershed is a complex question. Their role in highlighting debate over both the methods and priorities of conservation, however, including who is protecting the land, the nature of the land being protected, and the effects that such protection will have on the future of the region, however, is one outcome of land trusts that is very certain.

The conflict that the emergence of land trusts underscores is that of what makes a landscape valuable. This conflict encompasses many smaller disputes including; who decides what makes a landscape valuable, how to best go about land preservation, and what the future of land use in the region should look like. In the St. Croix Basin, these debates are playing out day to day. Only the future will tell the full effects of land trusts and whose vision of the future of the St. Croix valley will come to fruition.

18 Land Trust Alliance, 2/22/06.

Greenfield Development in St. Croix County, Wisconsin and Washington County, Minnesota: 2005 to Present

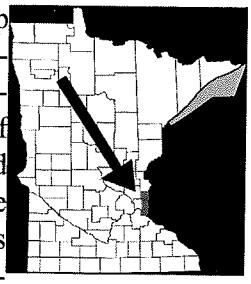


Washington and St. Croix County: Non-Condo Development in Acres Jan. 2005 – Feb. 2006

The eastern edge of the Twin cities metropolitan area is currently experiencing a real estate boom. Fueled by a growing population, proximity to the Twin Cities job market, and a demand for suburban and semi-rural housing at a competitive price, greenfield acreage east of St. Paul and in western Wisconsin is quickly being developed. Nearly every weekend the Pioneer Press publishes an article detailing the growth in Washington and St. Croix County and illuminating the friction that comes along with the transition from rural to urban land uses.

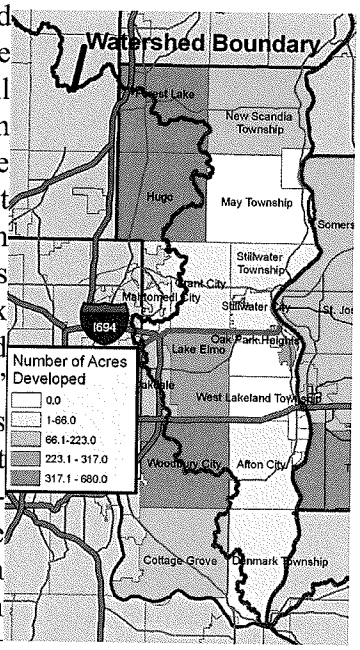
The above map depicts the size and location of land subdivisions between January 2005 and February 2006. It is based on subdivision information collected from Washington and St. Croix County databases. The map primarily shows large amounts of subdivision (development) activity along the western edge of the St. Croix Watershed in Minnesota and along the St. Croix River in Wisconsin. For the time period studied, there were 105 records of subdivision (development), ranging in size from one acre to 544 acres. From field observations, some seems to be connected to high amenity locations while others are surrounded on all sides by flat farmland. This range of size and spatial variation shows that there is no simple formula developers are employing in St. Croix and Washington County. Rather, development in these two areas is a very complex process owing to such factors as land prices, sewer/water availability, school quality, crime, tax policies, building prices, competition, etc. Considering this fact, the following study focuses on only on recent greenfield development within the context of county government land use planning.

Washington County

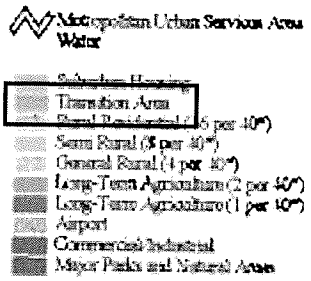


As can be seen on the map to the right, most of the development in Washington County is occurring in the third ring suburbs of Forest Lake, Hugo, Oakdale, and Woodbury. However, most of the development within these cities is not occurring within the boundaries of the St. Croix Watershed. Rather it is happening just to the west of the watershed inside the Metropolitan Urban Service Area (MUSA) line, which demarcates the boundary between municipal sewer service and individual septic systems. In addition, condominium development is not included because data is not collected for the number of acres consumed by this type of development. However, the map does show the large development pressures just outside the St. Croix Watershed. In the future, significant growth spilling into the watershed from these pressures will be bound by the Washington County Comprehensive Plan.

The Washington County Comprehensive Plan is a policy guide adopted in 1997 that plans for the future of the county until 2015. Within the plan is a section on land use that focuses on the fact that "50% of the land in Washington County is unplanted, and for tax purposes, is considered vacant or agricultural." The policies within this section indicate that while growth in Washington County may be inevitable, "choices can still be made that can shape and direct that growth."[1] Specifically, the choices/policies that may most greatly influence greenfield development are the delineation of transitional and green space areas, and the adoption of cluster housing concepts.

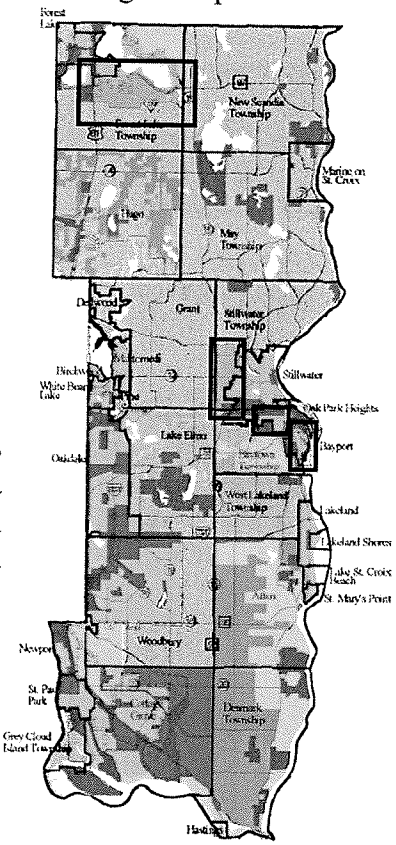


Transitional Areas



The Washington County Comprehensive plan delineates transition areas located adjacent to the cities of Stillwater, Bayport, Oak Park Heights, and Forest Lake. These places are just outside the MUSA boundary. They are meant to be kept sufficiently large so that they can be subdivided into urban densities in the future. A 2004 study by the SRF consulting group says that these designated growth areas have indeed been attracting population growth. It reports, "future growth forecasted by the Metropolitan Council reinforces an existing pattern of population concentration in larger urbanized areas."[2]

One of the main reasons transition areas will continue to attract population growth in the future is economics. If a developer was to purchase land directly adjacent to a transition area that happens to have a rural zoning code, he or she could subdivide the land as soon as the transition area expands along with the MUSA line. As a result, an area previously afforded only one to four units per ten acres could become a highly profitable suburban development.



1 BRW Inc. for: Washington County Planning and Administrative Services. 1997. *Washington County 2015 Comprehensive Plan: A Policy Guide to 2015*. Washington County, MN. Pp. 1-1

2 SRF consulting Washington DOT, Minnesota DOT. 2004. *St. Croix Supplemental Draft EIS, Technical Memorandum*. Pp. 8,9.

Green Space Areas

Green space is another important issue in determining the location and scale of greenfield development in Washington County. The definition of green space includes land uses such as wildlife preserves, agricultural land, and park and recreation areas. The conservation of green space is a significant issue for two reasons:

- A majority of the county has stayed semi- r u r a l/ rural while the metropolitan area has expanded to the north, west, and south

- The rapid pace of current development in some areas such as Woodbury is seen as threatening to the surrounding rural lifestyles

These issues are exemplified by the Lake Elmo case against the Metropolitan Council in which the community strongly rejected planned housing development within it borders. The case was heard by the Minnesota Supreme Court where it was decided against Lake Elmo, and concluded that the Met Council held authority to require the community to accept the proposed development.

The pervasiveness of the green space issue is further exemplified by a section in the comprehensive plan that asked what residents would most like to see change about Washington County. Of the nine most popular answers, seven had to do with managing the rapid growth of development.[3] In response, the comprehensive plan details three specific means the county can use to increase the preservation of green space:

- Purchase/transfer of development rights
- Creation of linear parks systems
- Development of cluster housing

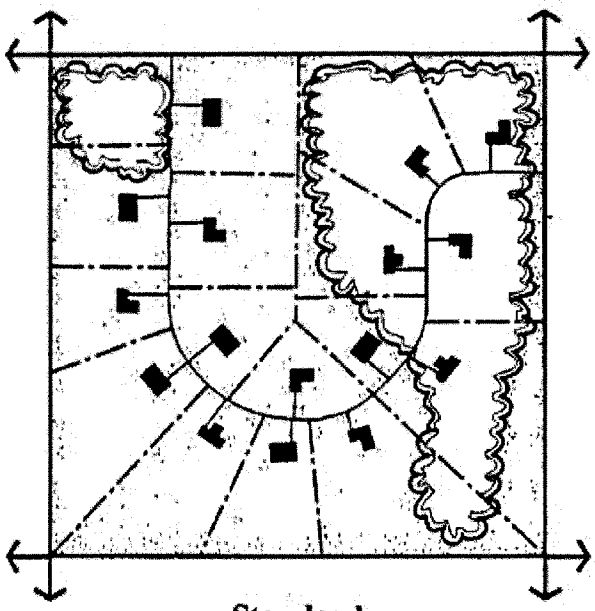
Each of these strategies will no doubt be challenged because of the strong development pressures and the sharply rising value of traditionally rural land uses. However, while transfer of farmland to suburban development may be inevitable, hopefully these programs will help to provide a working equilibrium between development and conservation.

Cluster Housing

Perhaps the most significant indicator of the location and design of future growth is the county's cluster housing plan. Presented as a response to traditional large lot development, cluster housing aims to preserve green space through allowing higher densities in rural areas. An illustration of cluster vs. traditional development is provided to below. According to the comprehensive plan, cluster housing districts may be established "along scenic roadways, adjacent to natural areas such as parks, private nature centers, rivers, streams, and in conservation districts."[4]

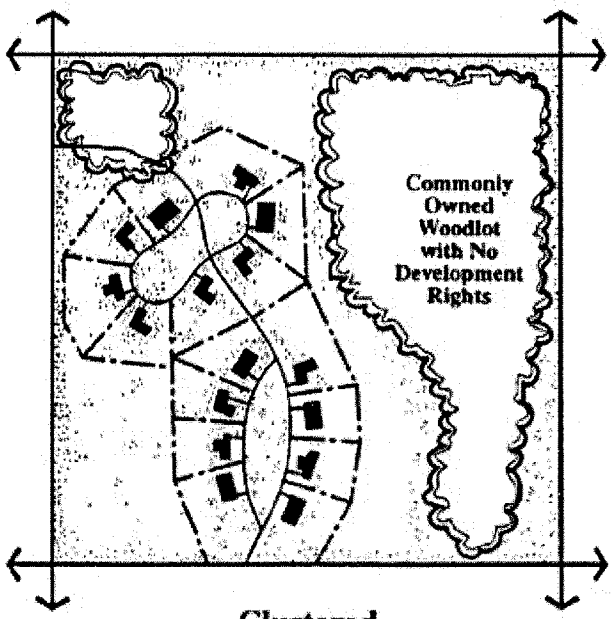
The cluster housing model is exemplified by greenfield developments such as Inspiration in Bayport and Tapestry in Lake Elmo. In Inspiration, the developers are utilizing cluster housing to create wildlife corridors and restore the local vegetation to its pre-settlement state. In Tapestry, a developer is utilizing cluster housing to help preserve some of the green space he and his family have owned for generations, while still making a profit. Both developments market themselves to the more affluent homebuyer, as their price range goes from $350,000 to over one million. County planner Anne Pung-Terwedo acknowledges that these developments may play a significant role in the expansion of the high income sector in Washington County.[5] But no matter how expensive the homes may be, cluster development aids in the preservation of undeveloped land. In the future, the policy will help the county to maintain its rural character.

3 *Washington County 2015 Comprehensive Plan: A Policy Guide to 2015.* Pp. 1-5,1-6



Standard

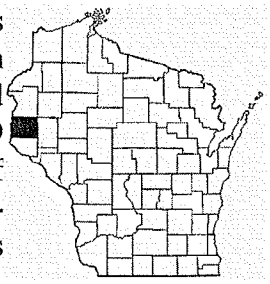
- 16 Houses Per 40 Acres
- 2- to 4- Acre Lots



Clustered

- 16 Houses Per 40 Acres
- Woodland Preservation

St. Croix County



St. Croix County is the fastest growing county in Wisconsin. Between 2000 and 2005, the county added 12,529 residents for a growth rate of 19.8%.6 This is directly attributable to its proximity and access to the Twin Cities job market. In St. Croix County, people can live a more pastoral lifestyle for a lower cost than in Washington County, while adding only 10-20 minutes to their commute times. Add in a low crime rate and excellent schools, and the desirability of this area begins to become apparent. This desirability has translated into the rapid development of formerly rural areas to semi-rural and suburban land uses.

The rapid development is bound by the St. Croix County Development Management Plan. The Development Management Plan resembles the Washington Plan in focusing future growth in cities/villages and transitional areas, but is different because less detail is given to creating public policy and means for intergovernmental cooperation. This fact, coupled with rapid growth heavily reliant on access to the Twin Cities presents two factors that will greatly influence the location and scale of development in western St. Croix County: accessibility and intergovernmental cooperation.

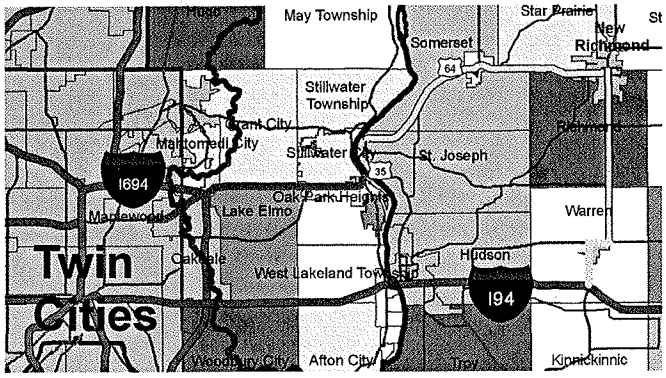
4 *Washington County 2015 Comprehensive Plan: A Policy Guide to 2015.* Pp. 4-35

5 Interview of Anne Pung-Terwedo, Washington County Planner. 3/25/06.

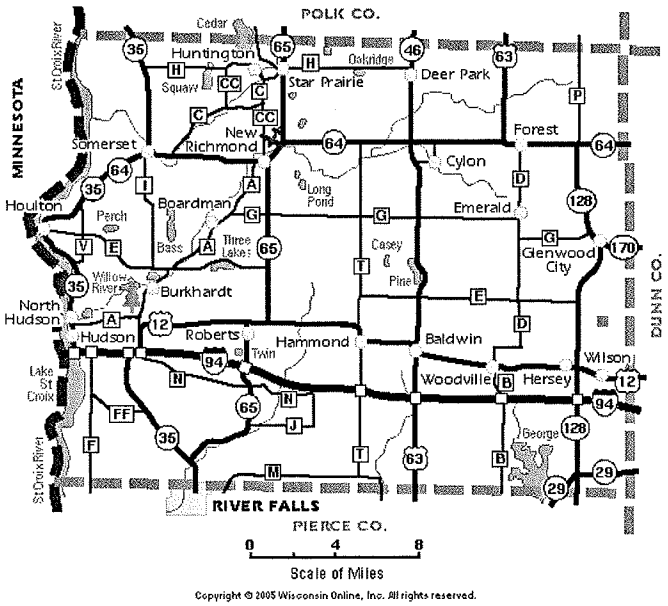
Accessibility

As mentioned previously, many people who live in St. Croix County commute to the Twin Cities. The two main access points are Interstate 94 through Hudson, and the newly improved, but still out of date, Stillwater River Bridge. After years of debate and planning, the aging Stillwater bridge will be replaced within 10 years. In addition, the Development Management Plan calls for the construction and improvement of several roadways by the year 2020. Assuming the continued economic strength and the growth of the Twin Cities job market, these improvements to accessibility will have a strong influence on development in St. Croix County.

Accessibility is an important component of development. Historically, real estate developers have relied on transportation such as railroads to link their developments to job markets and/or larger population centers. More recently, the University of Minnesota Center for Transportation Studies found that over a 27 year period (1970-1997) in the Twin Cities there was a "significant correlation between the locational choice of new housing development and transportation improvements as measured by access to arterial highways." In addition, multiple regression analyses concluded that 25% of housing growth in development could be explained by access to transportation, while 75% of growth was due to other factors.[7] It is a rather



significant finding considering the many factors that contribute to the location of new development. This correlation is important because many cities in the St. Croix Watershed area of St. Croix County are located on or near existing arterial highways or those slated for improvement. (see highway map to the left). In fact, each of the developers I consulted (representing approx. 930 acres of developed land in the study area) mentioned access as an important element in their development's location. The effects of transportation/ accessibility are especially pronounced along Interstate 94 which offers direct access to the Twin Cities, and in New Richmond, which after the construction of the river bridge at Stillwater, will have dual access to both the northern and eastern sides of the Twin Cities job market.



6 Glabeur, B. (2006, Feb. 18th). Welcome to Minnesota: Twin Cities Workers Find Comforts of Home in St. Croix, Wisconsin's Fastest Growing County. *St. Paul Pioneer Press.*

7 *St. Croix Supplemental Draft EIS, Technical Memorandum.* Pp. 9.

Inter-governmental Cooperation

The climate for intergovernmental cooperation in St. Croix County is affected by the absence of a countywide comprehensive plan. The county currently uses a Development Management Plan as their comprehensive plan for development, but this plan lacks specifics in policy areas such as housing, utility, economic development, and inter-governmental cooperation. This is significant because Ellen Denzer, a planner in St. Croix County, acknowledges that each governing body has equal authority over the subdivision of land. This means that developers in some areas of the county are subject to the subdivision restrictions of up to three jurisdictions. As a result, some developers are locating their developments in areas with less governmental restrictions such as Hammond Township.[8]

The Development Management Plan itself mentions a need for more clarity surrounding the issue of intergovernmental cooperation. According to the plan:

"The local governments in St. Croix County have generally exercised their authority to govern development within their jurisdictions for the past 30 years. As a result, a regulatory system has evolved which is piecemeal in its approach and complex and confusing regarding authority."

In addition, the authors cite three issues that were illuminated in the writing of the plan:

-The need to regularly review and update plans, policies and ordinances

-The need to universally and informally implement and enforce plans, policies, and ordinances in the affected areas.

-The need to develop and implement a system of intergovernmental coordination and cooperation in order to effectively deal with the complexity of the laws and various authorities.[9]

However, these issues may be resolved in the near future. In recent legislation passed in June 2005, the State of Wisconsin requires all governmental jurisdictions to create a comprehensive plan by the year 2010. This requirement means that the issues listed above should be addressed in the near future. Thus, until the county articulates itself in a 2010 comprehensive plan, "piecemeal" restrictions may continue to have an effect on the location of new developments in the St. Croix Watershed area of St. Croix County.

Conclusions

Many factors contribute to the location and magnitude of development. However, the conclusions in this study only represent key factors to growth within the context of governmental plans. In accordance, the delineation of transitional and green space areas and the adoption of cluster housing policies may influence future development in Washington County; and accessibility and intergovernmental cooperation may influence future development in St. Croix County.

8 Interview of Ellen Denzer, St. Croix County Planner. 3/25/06.
9 St Croix County Development Management Plan. 1997. Pp. 2-183.

Metropolitan Planning in "A State That Works"

Creating a Political Border to an Urban Area

The Twin Cities metropolitan area is growing at a rapid rate. A strong regional economy, a good quality of life, and the relative availability of affordable housing continue to attract residents to the region. . For the past five decades the growth has been largely to the west and south away from the St Croix Basin as if it were deflected by the state. Recently, urban development has crossed into Wisconsin and St. Croix County is today the fastest growing county in Wisconsin. Although the Twin Cities has been characterized by effective regional planning, the emerging bi-state metro area will require new approaches to our successful model.

Today's rapid rate of urban development may seem to bring unprecedented challenges but pales in comparison to the growth and changes that occurred during the two decades that followed World War II.. While the urban region was once contained in the two central cities, by 1957 it encompassed 365 municipalities. The fractured governmental structure could not solve region-wide problems, particularly the issues of poor transportation infrastructure, traffic congestion, and water pollution. To better coordinate future growth, politicians of both parties, a civically minded business community, and an enlightened citizenship worked together to enact a system of metropolitan planning.

The Metropolitan Planning Commission and its successor, the Met Council, are political entities that oversee planning, transportation, and sewer water treatment in the urban area. Municipal borders—which delineate the jurisdiction of city governments—are not a reflection of the extent of urban land uses. After World War II, once metropolitan functions and the urban population spread beyond the central cities of Minneapolis and St. Paul, no agency was able to deal with region-wide issues, particularly traffic congestion and water pollution. Metropolitan planning, through the MPC and the Met Council, is an attempt to create a political border around the urban area.

Because the Met Council functions as a layer between the Minnesota state government and individual municipal governments, its jurisdiction cannot go beyond the state government's jurisdiction. While the St. Croix River does not form a border that ends the urban area, the political border that it forms is a reflection of its prominence on the physical landscape. The urban border of the Twin Cities region has crossed into Wisconsin, but the political border that delineates the jurisdiction of metropolitan planning appears to be permanently stopped at the St. Croix River. If today's Twin Cities region hopes to maintain the relevance of metropolitan planning, the innovative thinking that was characteristic of "A State That Works" will need to be rejuvenated. Then, as now, the political boundary of "the city" needs to reflect the true size of the urban area.

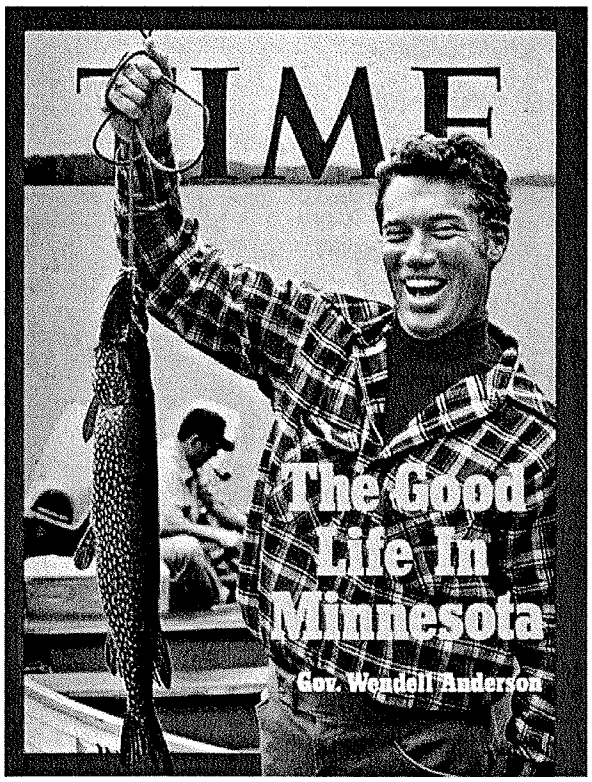


Image 11.1 Time's *August 13, 1973 cover featured Gov. Wendell Anderson.*

The Need for Metropolitan Coordination

In the 1950s, the border of the urban area grew to encompass many cities. At this time, planners, government officials, and ordinary citizens recognized that change was inevitable and that growth in a healthy metropolis like the Twin Cities could not be stopped. While later generations would fear urban growth and change, the optimism and of the postwar years led residents to believe they could build a better city. As the population grew and automobile-oriented development forever changed the urban landscape, residents embraced the idea that they were living in a new and exciting city. Urban grit and traditional urban problems like congestion and pollution would be eradicated by the prosperity and mobility of the postwar era.

Postwar planners celebrated and embraced change. Believing the high birthrate of the "baby boom" years would continue, planners expected 4,000,000 residents would live in the Twin Cities metropolitan region by the year 2000. The 1964 planning document *4,000,000 by 2000! Preliminary Proposals for Guiding Change*, celebrated change as inevitable and as a sign of a healthy urban area. "It is the nature of a metropolis to change," the document states. "A metropolis continually grows or declines, ages or renews, expands or contracts, speeds up or slows down. The Twin Cities is no exception." [1]

The academic community also recognized the inevitability of urban change. John R. Borchert, a longtime geographer at the University of Minnesota, believed that the era's dramatic changes that were occurring in the urban landscape were an acceleration of long-established trends. "Since the time of European colonization the settlement pattern has been evolving. A new region and a new metropolis have been emerging from the old. This has been especially true in the automotive era."[2] While the automobile city looked dramatically different from the earlier streetcar and walking city, geographers like Borchert saw the new automobile-oriented urban form as evolution and not as a radical break from earlier eras of urban growth.

Planners and geographers like Borchert recognized that the pace of change was accelerating. To Borchert, the new, faster rate of change was the most dramatic contrast between prewar and postwar urban growth. Borchert wrote:

> Perhaps the most obvious of these changes is population growth. It took almost 100 years after the first settler built his cabin near the junction of the Minnesota and Mississippi Rivers before there were a million people living in what became known as Minneapolis and Saint Paul and their suburbs. The Area is now well on its way to its second million—it's taking about 30 years. The third million will be added in a period of about 15 years, and the fourth in less than 12. That still leaves us in the 20th century. The Area's population will be over 4 million by the year 2000![3]

"America's Most Civilized State"

The Metropolitan Planning Commission was established in 1957 to get an understanding of the era's rapid urbanization and to plan for future extensions of the urban infrastructure, particularly sewer and transportation lines. As the urbanized area grew from 200 square miles to 15,000 square miles,[4] better coordination among governments was necessary. Few metropolitan areas have a regional organization to coordinate development. In the Twin Cities, the Metropolitan Council continues to exist as a special layer between the state government and the metropolitan municipalities.

1 Twin Cities Metropolitan Planning Commission, *4,000,000 by 2000! Preliminary Proposals for Guiding Change*, The Joint Program Report Number Two (St. Paul, MN: Twin Cities Metropolitan Planning Commission, 1964) 3.

2 John R. Borchert, "The Emerging New Metropolis: Minneapolis-St. Paul Case" (Minneapolis: CURA, U of Minnesota, 1972) 1-2.

3 Borchert, 2.

4 Twin Cities Metropolitan Planning Commission, 4,000,000!, 3.

In 1973 *Time* profiled the state of Minnesota, declaring it "A State That Works." While this occurred long after the Twin Cities began the process of metropolitan planning, much of what *Time* found to be special about "America's most civilized state"[5] in the 1970s was also true about Minnesota in the 1950s. As *Time* found, Minnesota had a spirit of civic involvement and lacked today's sharp partisan divide. *Time* believed that civically minded, locally headquartered businesses contributed to the cooperative spirit in the region. "The business community's social conscience, for example, is a reflection of the fact that so many companies have their headquarters in the state," *Time* noted. "The companies' concerns are reflected in their annual reports; most of them carry a section called 'Social Concerns....'"[6]

Following this trend, many members of the early Metropolitan Council were civically minded business leaders, such as department store executive Donald Dayton. *Time* noted the importance of civically minded families like the Daytons, stating, "Even more important (than corporate giving) is personal fundraising.... The business effort is twofold—one for cultural activities, one for social and civic affairs. The leading family in both is the Daytons...."[7]

Unlike other urban areas, the Twin Cities region was focused on two central cities: Minneapolis and St. Paul. John E. Vance, who served on the Metropolitan Planning Commission and the Met Council in the 1950s and 1960s, wrote that "in Minnesota, it's different. The metropolitan area has two cities, which for many years carried on a feud across the river or tried to ignore the fact that the other even existed. Yet this rivalry helped prevent a take-over of the area or dominance by a few."[8] The large number of civically involved bodes prevented one dominant group from emerging and created a tradition of civic cooperation. Due to this tradition, metropolitan planning could be established in the Twin Cities.

The Minnesota Experiment

Throughout the late 1950s and 1960s, the Metropolitan Planning Commission and the Met Council released a series of planning documents that attempted to explain what was occurring in the Twin Cities region while providing an idea of how the metropolitan area would grow and function in the future. The era's planners had no doubt that metropolitan planning was the way to deal with the region's problems. "Indecision or leaving the Area's growth to chance won't preserve what we value for long," the document 4,000,000 by 2000! declared. "We would stand to lose much of what we cherish about the Area and gain little in return. This is no way to create the best possible living environment for our later years for the productive years of our children."[9] The documents were research-based, and attempted to understand how and where future metropolitan growth would occur.

The commission's work was strictly related to planning and had "no real teeth" to enforce its plans.[10] There was little communication between the commission and the 365 units of local government in the region. "They thought they need not worry further about local planning—that the MPC was created to do that," wrote John E. Vance. "So, instead of increased initiative for local planning, there was a recognizable slow-down. Not only was the MPC unable to give direct assistance to planning at the local level, there was also a question as to whether it could do much more than a housekeeping job of metropolitan planning."[11]

Though the planning documents were impressive in their thoroughness, the commission's biggest success came in bringing about its own demise. In

5 Ralph P. Davidson, "A Letter from the Publisher," *Time* 13 Aug. 1973: 3.
6 Gregory H. Wierzynsky and Dick Woodbury, "American Scene/Cover Story: Minnesota: A State That Works," *Time* 13 Aug. 1973, 33.
7 Ibid.
8 John E. Vance, *Inside the Minnesota Experiment: A personal recollection of experimental planning and development in the Twin Cities metropolitan area* (Minneapolis: CURA, U of Minnesota, 1977) 11.
9 Twin Cities Metropolitan Planning Commission, *4,000,000!*, 14.
10 Barbara Lukermann, personal interview, 22 Mar. 2006.
11 Vance, 34.

1967, the commission evolved into the Metropolitan Council, which has the power to require municipal-level planning to conform to regional goals. While the council does not plan for municipalities, it coordinates development through its control over regional sewers and transportation. The council's first regional development guide was *The Joint Program* of the 1960s.

The Joint Program

The Joint Program evaluated four patterns for regional development, "present trends, spread city, radial corridors, and multiple centers,"[12] and settled on a "constellation cities" model. Commercial districts would be centralized, into the large central business districts of Minneapolis and St. Paul and nearly 70 "major outlying centers." All centers would be along highway and transit corridors. The plan was based on classic urban geography and the idea of central-place theory (Figure 11.3).[13] The planning document described the new urban landscape this way:

At the lower left is the regional center, connected by a freeway and transit line to the downtown at the upper right. At the upper left of the center is an industrial park. Surrounding the center is residential development, with schools, playgrounds, churches, and neighborhood commercial facilities. A grid of arterial streets at one-mile intervals provides transportation within the subregion. Woodlands, parks and lakes are joined into a linear open space system that takes full advantage of the Area's unique natural

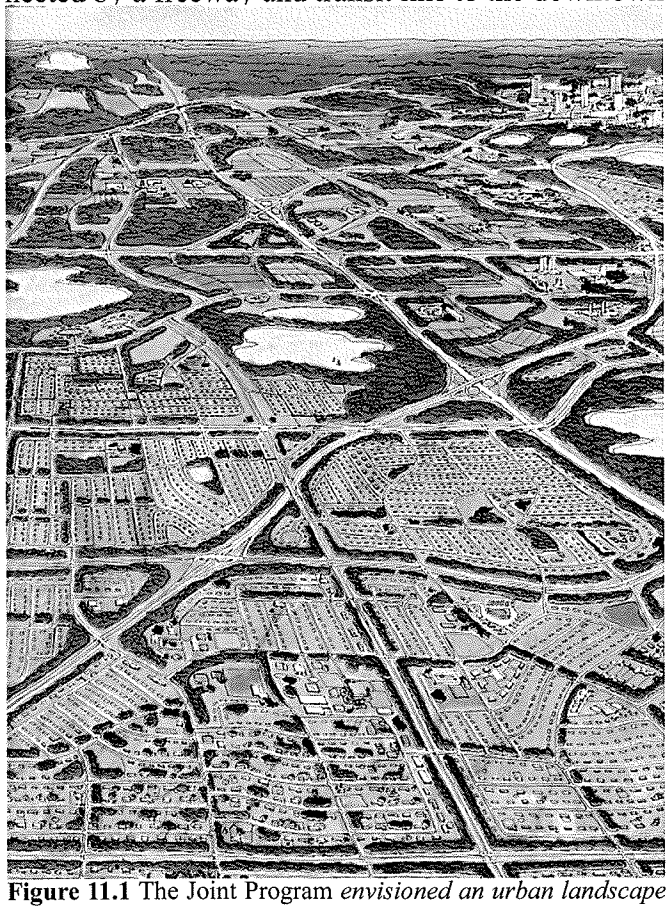


Figure 11.1 The Joint Program *envisioned an urban landscape where urban functions would be dispersed in multiple centers that would be located throughout the region.*

Figure 11.2 *Showing the transportation corridors and diversified centers that were part of* The Joint Program*'s "Constellation Cities" plan. While development would extend to the St. Croix River, the border between Minnesota and Wisconsin, the program did not plan for development in Wisconsin.*

12 Vance, 48.

13 Twin Cities Metropolitan Planning Commission, *Twin Cities Area Metropolitan Development Guide*, The Joint Program Report Number Five (St. Paul, MN: Metropolitan Council, 1968) 2.

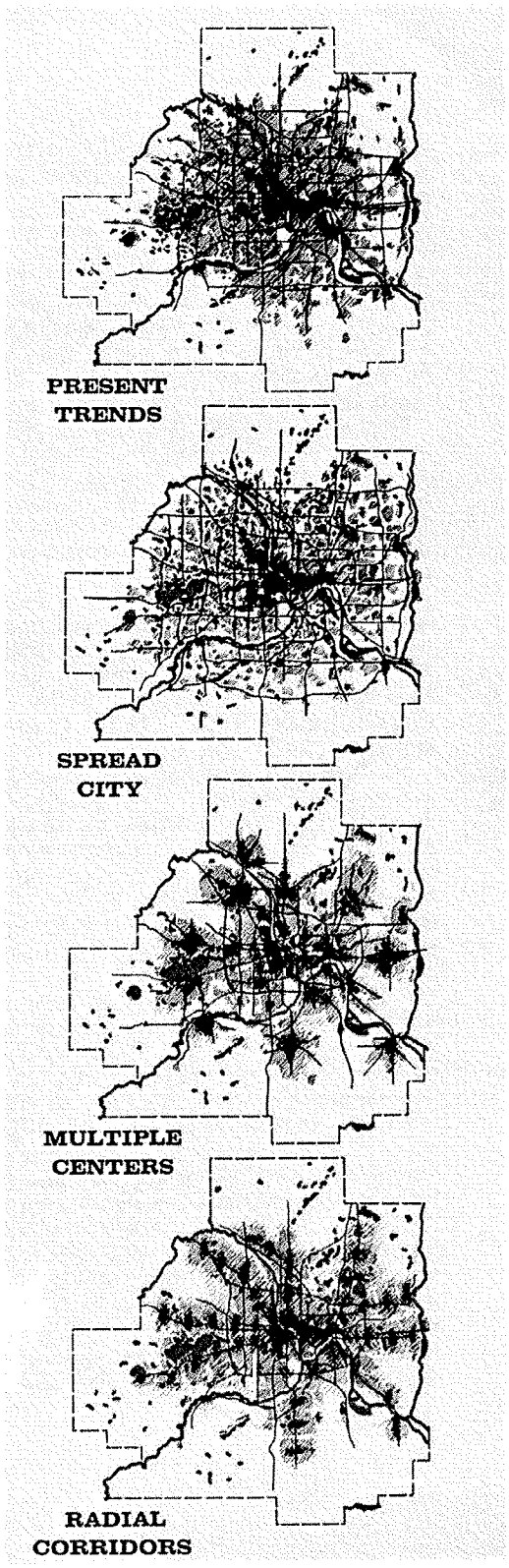


Figure 11.3 *Showing the four patterns of urban development that were evaluated as part of The Joint Program.*

features.[14]

The transportation corridors would follow the established grid pattern of streets in the established central cities. A hierarchical roadway network, which would range from local streets to highways, would speed the 11 million daily person-trips that planners expected would occur by the 1980s.

A grid pattern with uniform ease of movement throughout would allow the individual maximum opportunity to travel in any direction. But there would be no focus to the system, no major intersection would be more accessible than any other. Such uniform accessibility would result in the development of small centers at each intersection. But the metropolitan community has indicated that it wants large centers because of the choice of goods, services, and employment they would offer. The building of large centers requires that their sites be made more accessible than others. That is why the pattern of the Constellation Cities transportation system will provide access selectively rather than uniformly.[15]

Planners of the 1950s and 1960s realized they could never eliminate congestion. "It is an upward spiral in which an improved level of service results in increased traffic, which leads to renewed congestion—an unending chase," *The Twin Cities Development Guide*, part of *The Joint Program*, stated. "There are doubts about whether a congestion-free system is either technically or economically possible in large metropolitan areas. No one has been able to build one yet."[16] The development guide also noted that, "as the speeds go up and trips become longer, the pattern of development will spread out. Points of concentration will become less pronounced. Major centers might appear here and there, but in a limited number."[17] Metropolitan planning has not prevented the Twin Cities from sprawling but, as Barbara Lukermann of the University of Minnesota said, "we've at least got an orderly sprawl."[18]

14 Twin Cities Metropolitan Planning Commission, *Development Guide*, 3.
15 Twin Cities Metropolitan Planning Commission, *Development Guide*, 19-20.
16 Twin Cities Metropolitan Planning Commission, *Development Guide*, 20.
17 Twin Cities Metropolitan Planning Commission, *Development Guide*, 20.
18 Lukermann.

Metropolitan Planning Since

In the 1950s, the Twin Cities was able to create a new kind of city. By ignoring established political borders, region-wide planning organization, a political unit, was established. The political border of the jurisdiction of the MPC and Met Council was a reflection of the border of the urban area. The Twin Cities recognized that problems such as traffic congestion and water pollution impacted the entire urban area.

The Joint Program did not plan for a bistate metropolitan region. Maps (Figure 3) project that urban development would reach the St. Croix River by 1985, but do not plan for urban development in Wisconsin. Still, the border of the Twin Cities urban area will continue to expand, and has already crossed the St. Croix River into Wisconsin.

There will never be a final boundary to the Twin Cities urban area. As the region continues to grow in area, it becomes more difficult to coordinate governmental efforts to deal with growth. While the rate of growth may slow in the future, the urbanized region will continue to spread. If metropolitan planning is to remain an effective tool in shaping future urban development in the Twin Cities, the region must retain a sense of foresight and optimism of the 1950s and 1960s that was characteristic of "A State That Works." As John E. Vance wrote in 1977, "to live up to our past, we must continue to face frontally the area's major problems. Timidity or political expediency will not do it."19 If the Twin Cities hopes to find innovative solutions to today's problems of urban growth, it again must move beyond the outdated barriers to metropolitan coordination.

19 Vance, 105.