



# Minnesota births are on the upswing

*Martha McMurry*

Contrary to expectations, the annual number of births in Minnesota has been rising since 1995. State Demographic Center projections anticipated that as the population aged, births would decline from 63,258 in 1995 to 61,800 in 1998. Instead, births have increased every year, reaching 65,207 in 1998.

Why has the number of births been rising? No conclusive answer to this question is possible. This report considers several potential factors, including faster-than-expected population growth, rising fertility rates, a changing racial and ethnic mix, increased immigration, and greater use of fertility treatments. The evidence for most of these would-be explanations is murky. Data from the 2000 census should give a better picture of what is happening with Minnesota birth trends.

## Population growth overall is close to projected levels

Higher-than-projected population growth does not account for the surge in births, according to U.S. Bureau of the Census estimates. These estimates show that

### HIGHLIGHTS

- Births in 1998 were about 3,400 higher than projected.
- Fertility has risen nationally as well as in Minnesota.
- The proportion of births to foreign-born women has grown substantially.
- Fertility treatments appear to account for some of the unanticipated gain.

Minnesota's total population and the number of women in their childbearing years are very close to the projected figures. Prorated over a five-year period, the projected 1998 population was about 4,726,000 and the projected number of women age 15 to 44 was 1,062,000. The numbers estimated by the Bureau of the Census for the same year were 4,725,000 for the total population and 1,054,000 for the number of women of childbearing age.

## Fertility rates increased more in Minnesota than in the nation

Minnesota women are having more children, according to two standard fertility measures. (In demography, fertility refers to actual live births rather than a woman's or a couple's physical ability or potential to have children.) This rising fertility rate appears to be the major reason for the upward birth trend. The general fertility rate — the number of births per 1,000 women age 15 to 44 — rose from 60.4 to 61.8 between 1995 and 1998. The total fertility rate — the number of births a woman would have on average if current birth rates by age remain constant — went from 1.87 to 1.98 during the same period.

Fertility has also been edging upward in the nation. Both the national number of births and the fertility rate rose in 1998 for the first time after falling every year since 1990. Though the 1998 national general fertility rate, 65.6, was identical to the 1995 rate, the total fertility rate grew slightly, from 2.02 in 1995 to 2.06 in 1998.

Though Minnesota's rising fertility rate is consistent with these most recent national trends, the gain in Minnesota

has been much more dramatic and has been going on longer. This may mean that whatever is producing the fertility growth nationally — the strong economy, for example — has had more of an effect in Minnesota. Another possibility, however, is that the Bureau of the Census estimates for some of the age, racial and ethnic populations in Minnesota are somewhat too low, resulting in an exaggerated impression of trends in the state.

**Fertility increases in most age groups**

In both Minnesota and the United States, fertility rates declined among teenagers but grew in every age group from 20 to 44. The increases, however, were substantially greater among Minnesota women. For example, among women age 30 to 34, the national fertility rate grew from 82.5 to 87.4 per 1,000, a gain of 4.9 births per 1,000 women. The comparable rate in Minnesota rose from 91.9 to 102.8, or 10.9 per 1,000.

**Trends by race and Hispanic origin**

Could the rising number of births and the growth in the fertility rate be attributable to Minnesota’s growing diversity? Many nonwhite and Hispanic origin people have moved into Minnesota in the late 1990s. Since women who are nonwhite or Hispanic have larger families on average, this in-migration may have contributed to the rising number of births.

The data suggests, however, that growing diversity has not been the major reason that actual births have exceeded projections. The Bureau of the

Census estimates of growth in the number of Hispanic origin and American Indian women age 15 to 44 are actually below the rates of growth projected by the State Demographic Center. The Bureau’s estimates of the growth rate in the black and Asian female population are somewhat above projected levels, but nowhere near enough to account for a discrepancy of 3,400 births.

Between 1995 and 1998, the number of Minnesota births grew among all racial and ethnic groups. White non-Hispanic births rose by 1,406; Hispanic origin births, 1,052; black births, 766; Asian and Pacific Islander births, 487; and American Indian births, 92.

The Minnesota data show sharply rising fertility rates for black, American Indian and especially for Latino women. There was a modest gain in the fertility rate among white women, while the Asian fertility rate stayed the same. These trends contrast sharply with those in the nation. In the United States, the fertility rate

declined slightly for black, Asian and Pacific Islander and Hispanic origin women from 1995 to 1998. The rates for white and American Indian women showed a small gain.

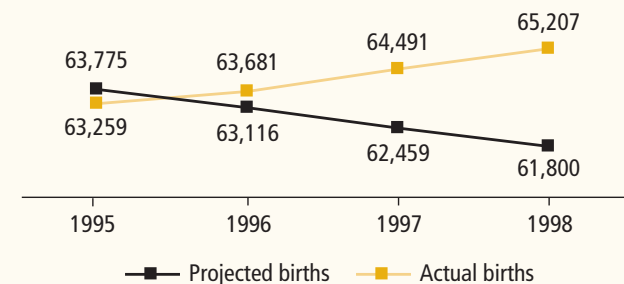
Are the fertility rates for black and Latino women in Minnesota really going up so much, or is there a problem with the base population numbers used to calculate the rates? Both births and school enrollments for black and Hispanic origin populations have increased much more rapidly than the Census Bureau’s estimates of their populations of women age 15 to 44. This suggests the

population estimates may be on the low side. However, data on Hispanic origin is often missing on birth certificates, making comparisons over time more complicated. A full evaluation of these issues awaits results of the 2000 census. Good quality census data is needed to provide accurate information about fertility rates and trends, as well as many other topics.

**Role of immigration**

The increase in Minnesota’s nonwhite and Hispanic origin populations may understate the growing diversity in the

**Contrary to projections, births rose substantially**



Sources: Birth data from the Minnesota Center for Health Statistics and projections from the State Demographic Center at Minnesota Planning

**Fertility rates rose more in Minnesota than in the United States between 1995 and 1998**

**Births per 1,000 women in each age group**

Age	UNITED STATES			MINNESOTA		
	1995	1998	Change	1995	1998	Change
15-19	58.1	52.1	-6.0	32.7	31.5	-1.2
20-24	109.8	111.2	1.4	84.7	86.5	1.8
25-29	112.1	115.9	3.8	122.3	127.8	5.5
30-34	82.5	87.4	4.9	91.9	102.8	10.9
35-39	34.3	37.4	3.1	35.1	39.4	4.3
40-44	6.9	7.6	0.7	6.8	7.3	0.5
General fertility rate	65.6	65.6	0.0	60.4	61.8	1.4
Total fertility rate	2.02	2.06	0.04	1.87	1.98	0.11

Notes: The number of births for women age 45 and older were combined with the 40 to 44 age group; births to those under age 15 were added to the 15 to 19 group. General fertility rate is the number of births per 1,000 women age 15 to 44. Total fertility rate is the average number of lifetime births per woman assuming birth rates by age remain constant at current levels.

Sources: U.S. data from National Center for Health Statistics, Minnesota birth data from Minnesota Center for Health Statistics, and Minnesota population data from U.S. Census Bureau

state. Immigration is adding another perspective to the diversity picture. Comprehensive data on birth rates among foreign-born women is not available, but it is likely that immigrant women in many groups have more children than women born in the United States. The proportion of black and Latino mothers born in foreign countries has been rising. Between 1995 and 1998, the proportion of black Minnesota mothers who were immigrants rose from 15 to 22 percent, while the proportion of foreign-born Hispanic origin mothers rose from 54 to 64

percent. The growing proportion of immigrant women may account for some of the rise in births, though not all of it.

**Births to immigrant mothers have risen**

The number of births to foreign-born mothers in Minnesota has grown each year in the 1990s. In 1998, 10.7 percent of all Minnesota mothers were born outside the United States, compared to 5.4 percent in 1990. The number of births to foreign-born women rose from 3,644 in 1990 to 6,966 in 1998. Since 1995, the greatest increase

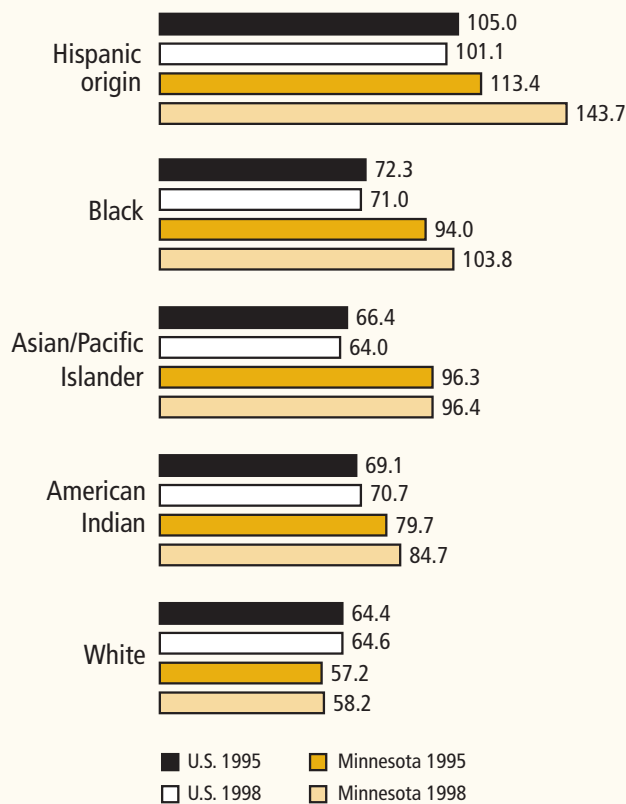
has occurred among Mexican-born women. Mexican-born Minnesota women had 1,487 babies in 1998, compared to 779 in 1995. The gains among Somali-born women have also been dramatic, though the numbers are much smaller. Women born in Somalia gave birth to 414 children in 1998, compared to 78 in 1995.

Southeast Asian-born women had a large number of births in 1998, 1,935, but the growth in births has been less for this group than for Mexican or

Somali-born women. Immigration of southeast Asian women appears to have tapered off somewhat. It is also possible that fertility rates have fallen in this population. Many Asian-born women who are now in their childbearing years spent their formative years in the United States, attending American schools and being exposed to American culture. As they become more assimilated, it is likely that they are having fewer children than earlier generations.

**Fertility rates have risen more in Minnesota than nationally**

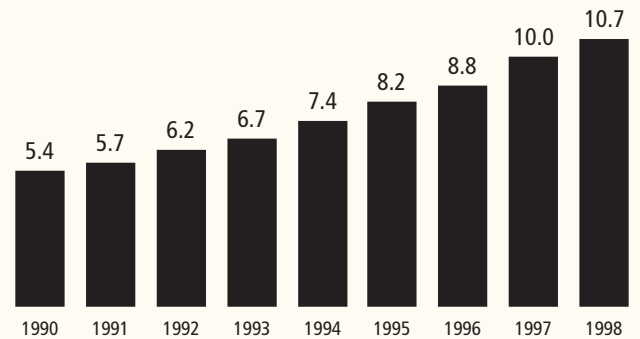
Births per 1,000 women age 15 to 44



Sources: U.S. data from National Center for Health Statistics, Minnesota birth data from Minnesota Center for Health Statistics, and Minnesota population data from U.S. Census Bureau

**Proportion of births to foreign-born mothers has doubled since 1990**

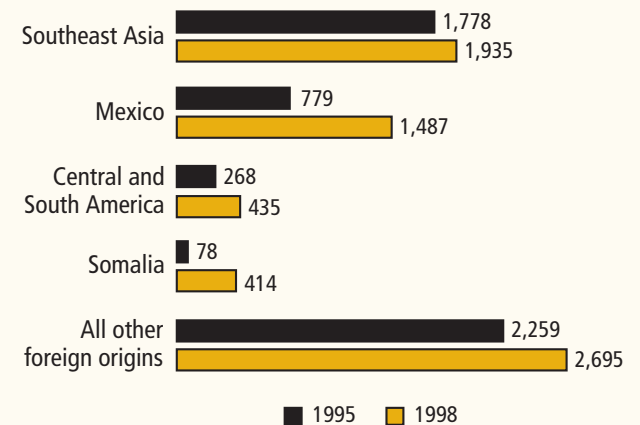
Percent of Minnesota mothers born outside U.S.



Source: Minnesota Center for Health Statistics

**Number of Minnesota mothers born in Mexico and Somalia rose substantially from 1995 to 1998**

Mother's place of birth and number of births



Source: Minnesota Center for Health Statistics

**Multiple births have increased**

Another factor in the rise in births may be increased use of fertility-enhancing treatments, including fertility drugs and assisted reproductive technologies such as in-vitro fertilization. Available evidence, while sketchy, suggests this factor has contributed substantially to the birth trends in the late 1990s.

The main evidence for the role of fertility treatments is a rise in multiple births: twin, triplet and other higher-order births. Multiple births in Minnesota grew from 1,228 in 1980 to 1,828 in 1995 and continued to increase to 2,113 in 1998.

The national rate of multiple births has also grown dramatically since 1980, according to a recent report from the National Center for Health Statistics. The NCHS analysis concluded that about two-thirds of the growth in the rate of multiple births between 1980 and 1997 was attributable to

greater use of fertility-enhancing drugs and technologies. The remaining one-third was attributable to the older age of mothers. Older mothers are more likely to have multiple births, even if they do not use fertility treatments.

The National Center for Health Statistics study on multiple births found that Minnesota’s rate of triplet and higher-order births was among the highest in the United States. The rate of twin births was also significantly above the national average. States with high multiple birth rates tend to have older age at childbearing, a large proportion of white non-Hispanic mothers, and access to fertility clinics.

Fertility drugs have been in use for about 30 years, but there is little information about their overall impact on the number of births. The National Survey of Family Growth shows that more women with impaired fecundity — women who find it difficult or impossible to

become pregnant — have used these drugs over time, but it is not clear how many babies were born as a result. In 1995, 15 percent of all women age 15 to 44 had ever used some sort of fertility services — including medical advice and tests as well as treatments — compared to 12 percent in 1988.

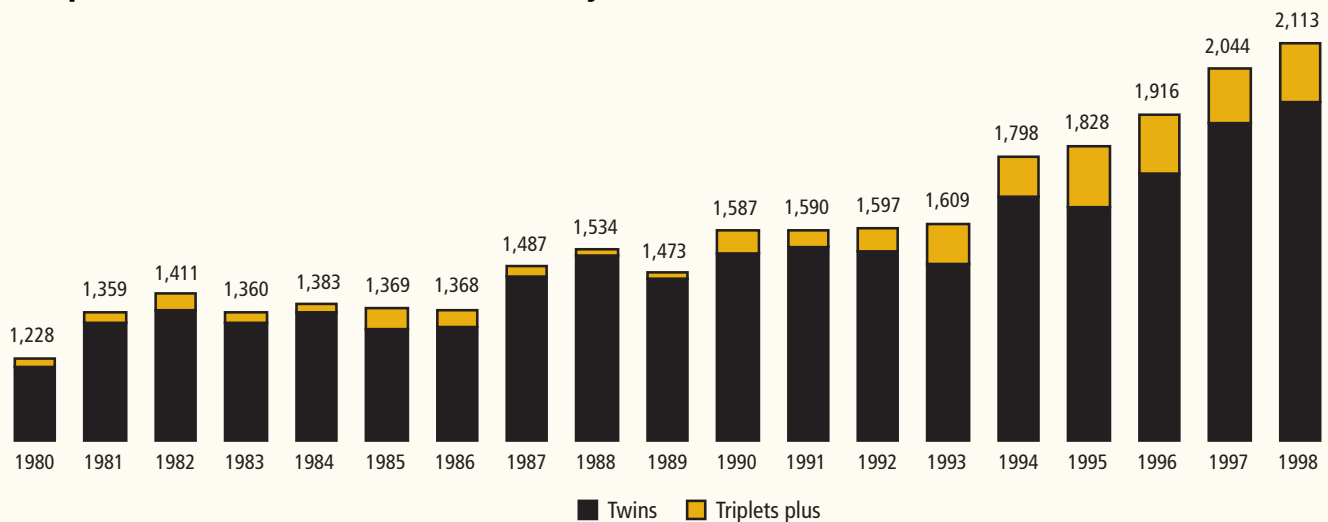
Fertility clinics that use in-vitro fertilization and other assisted reproductive technologies are required to report information on pregnancy and birth outcomes to the Centers for Disease Control, a federal agency. The most recent report gives information for treatments given in 1996. Based on the numbers in this report, it appears that approximately 350 to 500 Minnesota babies were born in 1997 with the help of assisted reproductive technologies. The lower number assumes that Minnesota’s share of all births due to assisted reproductive technologies was the same as its share of all births. The

higher number assigns all the assisted reproductive technology births reported by Minnesota fertility clinics to Minnesota mothers.

Fertility drugs are considerably less expensive than in-vitro fertilization and related procedures, and more commonly used. In the 1995 National Survey of Family Growth, 3.6 percent of women who had given birth to at least one child had used ovulation drugs at some time, compared to 0.9 percent who had ever used assisted reproductive technology. This suggests that the number of babies conceived with the help of drugs is greater than the number conceived with the aid of assisted reproductive technologies, but the NSFG has no specific information on this subject.

If we assume that two-thirds of the growth in multiple births since 1980 is due to greater use of fertility treatments, and apply a range of assumptions about the

**Multiple births in Minnesota have risen steadily**



Source: Minnesota Center for Health Statistics

multiple birth rates associated with these treatments, it is possible to estimate how much of the increase in births between 1995 and 1998 is attributable to fertility enhancements. The overall rate of multiple births associated with fertility-enhancing treatments is unknown. Multiple birth rates quoted for drugs vary widely, from zero for some drugs up to 10 or 15 percent for others. Assisted reproductive technologies appear to have very high multiple birth rates, partly because multiple embryos are often implanted to increase the probability of pregnancy. Most studies show at least a quarter or a third of babies born using these technologies are multiple births.

Using a range of assumptions about the overall rate of multiple births associated with all types of fertility treatments, it appears that a substantial amount of the growth in births from 1995 to 1998 was associated with fertility

enhancements. The estimated number ranges from about 600, assuming a high multiple birth rate, to as many as 1,900, assuming a lower rate. Note that these figures estimate only the *increase* in births due to greater use of fertility-enhancing treatments and medications. At the high end, this means that greater use of fertility treatments between 1995 and 1998 may have accounted for more than half of the unanticipated gain in births.

### County birth trends

Although births have increased statewide, a substantial minority of counties (34 of 87) saw declines in births between 1995 and 1998. The number of births fell in most of northwestern and southwestern Minnesota, areas of longstanding population decline. In counties nearer to the Twin Cities and in the north central areas of the state, births rose. These birth trends have implications for

future school enrollments and other government services.

Births in west central Minnesota grew and were higher than projected. Second-ring suburban counties and some other counties in the east central and northeastern regions experienced the same pattern of gains in births and a greater-than-projected number of births.

If rising immigration were the major reason births are higher than projected, the highest ratios of projected to actual births would be in regions that have seen the greatest influx of foreign-born people. This is not the case, however. There appears to be no obvious reason for the geographic pattern that appears.

### More teen, older and unmarried mothers

As the age structure of Minnesota's population has shifted, so has the age of mothers. Between 1995 and 1998, the number of mothers over age 35 and under age 20 both rose substantially, while the number age 25 to 34 barely changed. The rising number of births to women over age 35 reflects the tail end of the baby boom and the trend to later age at childbearing. Women born during the baby boomlet of the early 1980s are now entering their late teens, accounting for the gain in teen births, while women age 25 to 34 were born during the baby bust era of the late 1960s and early 1970s.

The trend to unmarried births continued in the late 1990s. In 1998, 26 percent of births were to unmarried mothers, up slightly from 24 percent in 1995. The comparable national

figure in 1998 was 33 percent. Young mothers were least likely to be married. Among mothers under age 20, 86 percent were not married. This fell to 48 percent of mothers age 20 to 24, 16 percent of mothers 25 to 29, and 9 percent of mothers age 30 or older.

Birth order has altered little in recent years. In 1998, 39.6 percent of all babies were first-borns, 33.0 percent were second-borns and the remaining 27.4 percent were third or higher-order births. These numbers are virtually unchanged since 1995.

### More children are born to parents with mixed racial and ethnic heritage

More Minnesota babies are being born to parents who are not of the same racial or ethnic background. This includes births where parents are of different races and births where one parent is of Hispanic origin and the other is not. Though still a small proportion of all births, mixed parentage births are increasing at a faster rate than births to parents who are racially and ethnically similar.

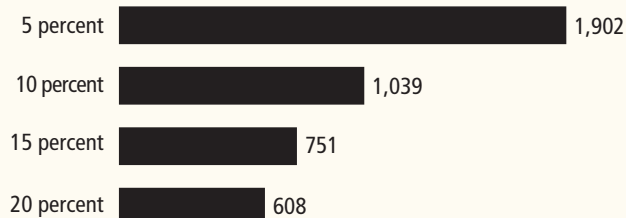
In 1992 there were 2,155 births to parents of different racial or ethnic background. This figure grew to 3,524 by 1998, about 6.5 percent of all births where information on both parents was available. Racial and ethnic data is missing for at least one parent in a substantial number of cases.

### Educational attainment of parents is growing

The proportion of Minnesota parents who were college graduates increased between

### Estimated additional Minnesota births due to fertility enhancements

#### Percentage of fertility enhanced births assumed to result in multiple births



Note: The actual number of births attributable to use of fertility-enhancing drugs and technologies is unknown. The graph presents estimates of the increase in such births (not the total number) based on four different assumptions. If multiple births equal 5 percent of births due to the use of fertility-enhancing treatments, for example, then 1,902 more births resulted in 1998 than 1995. All four assumptions are based on an estimate that two-thirds of the increase in multiple births from 1995 to 1998 were attributable to an increasing use of fertility enhancements.

Source: State Demographic Center at Minnesota Planning

1995 and 1998. In 1998, 33.2 percent of mothers were college graduates, up from 30.6 percent in 1995. The proportion of fathers with a college degree grew from 34.9 to 36.7 percent. The greater percent of fathers with college degrees does not necessarily indicate that fathers are more educated on average; there is more missing data for fathers, and the cases with missing data may include a larger proportion of less educated fathers. The percents given here exclude cases with missing data.

The proportion of parents who had not completed high school also rose very slightly in the late 1990s. In 1998, 10.6 percent of mothers and 6.8 percent of fathers had not completed high school; both figures were about half a percent higher than the 1995 values.

As the proportions of parents with the highest and lowest levels of education grew, the percent with some college but not a degree fell from 27.6 to 25.5 percent for mothers and from 25.0 to 22.5 percent for fathers.

**Many factors shape birth trends**

Over the past half century, fertility rates have been very volatile. Predicting the future is difficult. Will Minnesota's fertility continue its upward trend, or is this a temporary phenomenon? Immigration and increased diversity will affect future fertility. White non-Hispanic women remain the great majority of the population of potential mothers, however — an estimated 91 percent of all Minnesota women age 15 to

44 percent in 1998 — and their choices will continue to have a disproportionate effect on future trends.

Birth trends in the late 1990s show some of the ways that Minnesota families and children are changing. They are more racially and ethnically diverse, and parents have more education than in the past. More children are born to

single mothers. Thanks to new medical treatments, more people who experience infertility are able to have children.

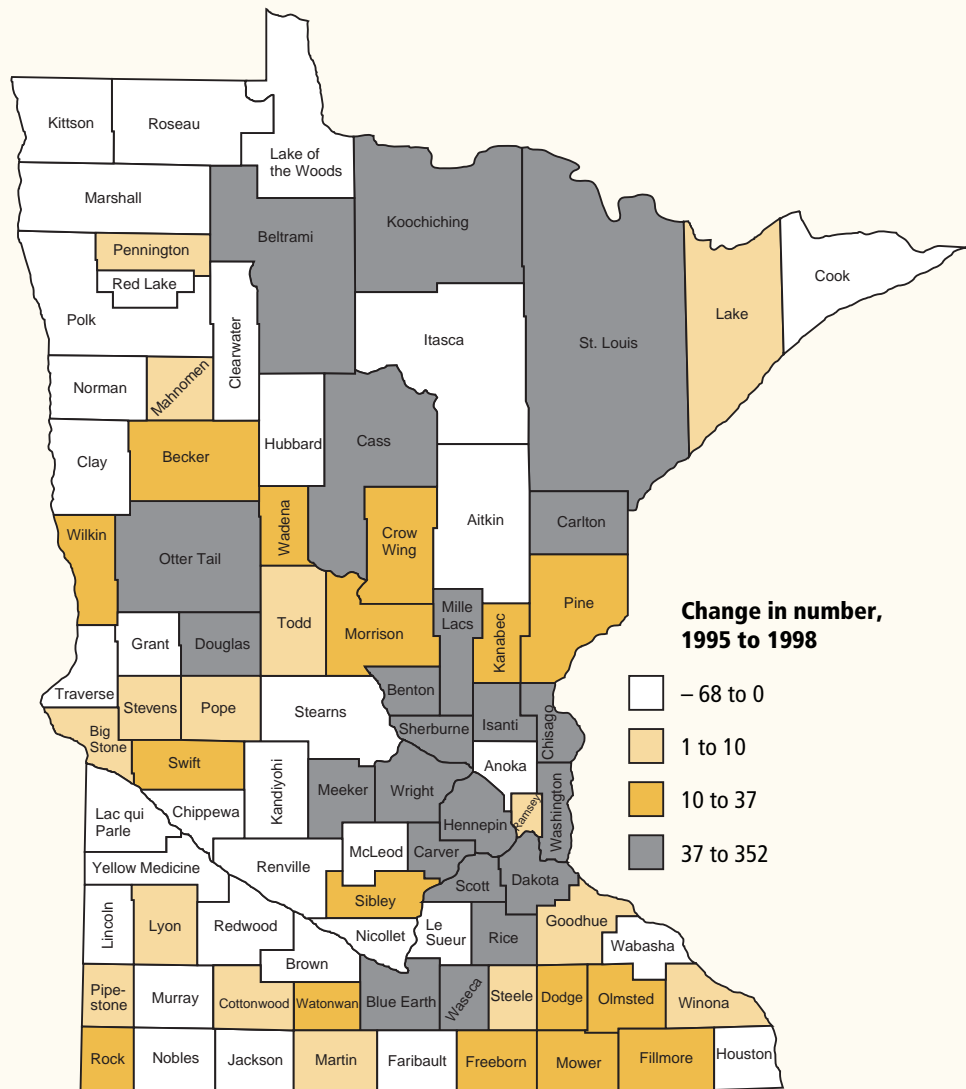
**Sources**

Stephanie J. Ventura, M.A.; Joyce A. Martin, M.P.H.; Sally C. Curtin, M.A.; and T.J. Mathews, M.S.; and Melissa M. Park, B.S., Division of Vital Statistics. Births: Final Data for 1998. National Vital Statistics Reports, Volume 48, Number 3, March 28, 1999. Centers for Disease Control

and Prevention, National Center for Health Statistics, National Vital Statistics System.

Joyce A. Martin, M.P.H., and Melissa M. Park, B.S., Division of Vital Statistics. Trends in Twin and Triplet Births: 1980-97. National Vital Statistics Reports, Volume 47, Number 24, September 14, 1999. Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System, U.S. Department of Health and Human Services.

**Births increased in 53 counties between 1995 and 1998**



Source: State Demographic Center at Minnesota Planning

J. Abma, A. Chandra, W. Mosher, L. Peterson and L. Piccinino. Fertility, family planning, and women's health: New data from the 1995 National Survey of Family Growth. National Center for Health Statistics, Vital and Health Statistics 23 (19), 1997.

Center for Health Statistics, Minnesota Department of Health, annual birth data 1990 through 1998.

1996 Assisted Reproductive Technology Success Rates: National Summary and Fertility Clinic Reports, December 1998. U.S. Department of Health and Human Services, Centers

for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion.

Description of fertility drugs and multiple birth rates associated with their use:

<http://womenshealth.about.com/health/womenshealth/gi/dynamic/offsite.htm?site=http://www.healthlibrary.com/reading/pregnant/Index.htm>

[http://webmd.lycos.com/content/dmk/dmk\\_article\\_40050](http://webmd.lycos.com/content/dmk/dmk_article_40050)

[http://webmd.lycos.com/content/dmk/dmk\\_article\\_5963050](http://webmd.lycos.com/content/dmk/dmk_article_5963050)

*Population Notes* is published periodically by the State Demographic Center at Minnesota Planning.

Upon request, *Population Notes* will be made available in an alternate format, such as Braille, large print or audio tape. For TTY, contact Minnesota Relay Service at 800-627-3529 and ask for Minnesota Planning. For information or additional copies of *Population Notes*, contact:

**MINNESOTA PLANNING** STATE DEMOGRAPHIC CENTER



Room 300  
658 Cedar St.  
St. Paul, MN 55155  
651-296-2557  
Fax: 651-296-1754

[www.mnplan.state.mn.us](http://www.mnplan.state.mn.us)  
[helpline@mnplan.state.mn.us](mailto:helpline@mnplan.state.mn.us)

## ***Favorite demography web sites***

In addition to Minnesota Planning's demography web site, <http://www.mnplan.state.mn.us/demography/index.html>, the Helpline staff picked these as 10 of their favorite web sites:

- U.S. Department of Agriculture, 1997 Census of Agriculture  
<http://www.nass.usda.gov/census/>
- U.S. Bureau of the Census  
<http://www.census.gov/>
- Census Profiles – Oregon State University  
<http://govinfo.kerr.orst.edu/>
- Minnesota Department of Children, Families and Learning  
<http://children.state.mn.us/>
- Minnesota Department of Trade and Economic Development – Community Profiles  
<http://mnpro.com/>
- U.S. Bureau of Economic Analysis – Regional Economic Measurement Division  
<http://www.bea.doc.gov/bea/regional/bearfacts/index.htm>
- Minnesota Department of Economic Security – Employment and Economic Data  
<http://www.des.state.mn.us/lmi/>
- Minnesota Legislative Reference Library  
<http://www.leg.state.mn.us/lrl/lrl.htm>
- Metropolitan Council  
<http://www.metrocouncil.org/>
- MinnStats – The Link to Minnesota Statistical Data  
<http://www.state.mn.us/intergov/mnstat/>

## ***Demography news and notes***

### **Upcoming census data releases**

Legal deadlines have been set for the first two releases of 2000 decennial census data. Counts for the total U.S. population must go to the President by December 31, 2000. Counts of total population by block must go to the states for reapportionment purposes by March 31, 2001. There are no official deadlines for release of other census information; additional data will be released starting in 2001.

### **Changes made in race and Hispanic origin questions in the 2000 census**

The new race and Hispanic origin questions are based on standards published by the Office of Management and Budget in October 1997. In the 2000 census, people may select more than one race. In addition, the question on Hispanic origin is asked before instead of after the question about race. More information about the OMB standards and

the rationale for them can be found at <http://www.whitehouse.gov/OMB/fedreg/ombdir15.html>

### **Learn at lunch**

Everyone is welcome at the State Demographic Center brown bag lunches, held on the third Thursday of each month from noon to 1 p.m. The location is room 302, Centennial Office Building, 658 Cedar Street, St. Paul, Minnesota. Topics for upcoming brown bags include fertility, new and evolving occupations and school district profiles. To check upcoming events, go to the center's site — <http://www.mnplan.state.mn.us/demography/brownbag.html>

### **Get 1997 economic census data**

Products of the 1997 economic census are becoming available at <http://www.census.gov/epcd/www/econ97.html>

MINNESOTA PLANNING STATE DEMOGRAPHIC CENTER



Room 300  
658 Cedar St.  
St. Paul, MN 55155

Bulk Rate  
U.S. Postage  
**PAID**  
Permit No. 171  
St. Paul, MN