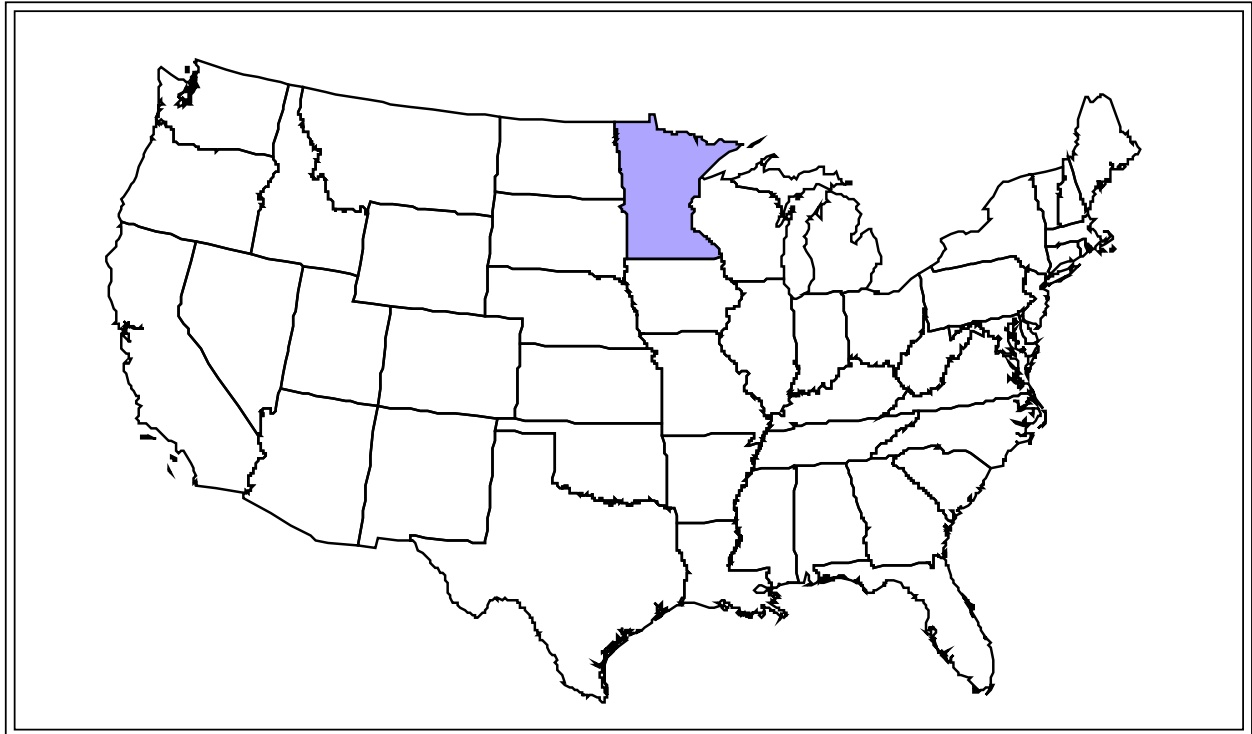


# Observations on Minnesota's changing resident angler and hunter populations using licensing information from 1969 to 2013



Prepared by:

Tim Kelly  
Minnesota Department of Natural Resources  
Operations Services Division

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## INTRODUCTION

Historical records on license purchases can be used to track overall participation trends in Minnesota resident angling and hunting. The historical license records with a resident/non-resident breakdowns extend back to 1969. This historical record is a product of the need to annually certify the number of Minnesota anglers and hunters with the U.S. FWS for federal aid apportionment.

Since 2000, Minnesota has licensed anglers and hunters through the Electronic Licensing System (ELS). ELS—currently used for the certification process described above—offers an opportunity to track the changing characteristics of Minnesota’s hunters and anglers at a more detailed level. ELS annually stores information on every angler/hunter (age, gender, location of residence) and activity for which the participant is licensed (e.g., hunting small game, hunting deer with firearms). In ELS, license holders are assigned a unique customer identification number that permits tracking an individual from year to year. Minnesota “resident” license holders in ELS are determined by the purchase of a “resident” license (as opposed to a “nonresident” license) in all cases except one. The one exception is the pre-2013 24-hour fishing license (license code = 110), in which case the state of residence is used to identify resident anglers. If the state is “MN”, the angler is a Minnesota resident; all other state codes are nonresident anglers. In 2013, a separate 24-hour license was created for residents (code = 110) and nonresidents (code = 139).

The order of topics in this report is as follows:

- Long-term resident participation trends for fishing and hunting from 1969 to 2013, including a comparison with the nation from 1991 to 2011.
- Recent resident participation trends for fishing and hunting by age, gender and region from 2000 to 2013.
- Trends in relicensing rates for resident anglers and hunters from 2000 to 2013. Included in this section are year-to-year participant retention rates, relicensing rates of lapsed participants, and an examination of the most recent year of participation for 2013 participants.

In the report, the focus is on tracking hunters and anglers aged 16 and over. Anglers need a license at age 16, and this is also the case for hunters. Some hunters, however, are licensed under 16. In pre-2013 versions of this report, a younger age class (12 to 15) was examined, but the extension in 2013 of “free” youth licenses to age 12 hunters precludes the ability to track that age cohort after 2012. This report,

and all previous versions of this report, have excluded youth hunters (under age 16) licensed through free (no fee) licenses, the first of which appeared in 2009.

The report focuses on the “participation rate”, which is the percent of the population that engages in an activity on an annual basis. The report uses licensing rates as a surrogate for participation rates, although the two are technically different (differences due to license buyers who do not participate, and participants who do not buy a required license). Licensing rates, however, should be an effective surrogate, because they are expected to track closely with participation rates. All of the participation information reported for Minnesota are licensing information (Reference 1). National participation information are true participation measures (Reference 2). Population data used to derive participation (or licensing) rates comes from the U.S. Census Bureau (Reference 3).

## LONG-TERM PARTICIPATION TRENDS

### a. Minnesota resident anglers and hunters, 1969 to 2013

In the late 1960s and early 1970s, some 40 percent of Minnesotans (aged 16+) had a fishing license (Figure 1). From the mid 1970s to mid 1980s, the participation rate cannot be tracked, because seniors were not required to by a license. Since the mid 1980s, participation rates have fallen from the high 30 percents to the high 20 percents. Currently, 27 percent of Minnesotans (aged 16+) have a fishing license.

The fishing license certification series and ELS series are nearly identical from 2001 to 2011, because ELS was used to derive the certification numbers. In 2000, however, license certifications were done using traditional statistical techniques. Had ELS been used, it appears that the number of resident license holders would have been lower by some 3.5 percent. In addition, it appears that the steepness in the drop between the late 1990s and 2001 may have been more gradual than the abrupt decline displayed on the graph from 2000 to 2001.

Hunting participation, variable from 1969 to the mid 1980s, became relatively stable near 16 percent from the mid 1980s to mid 1990s, after which it fell to around 12 percent by 2013 (Figure 2). The long-term trend, based on license certifications, contains licensed hunters under age 16. Prior to ELS, the number of

Figure 1

Percent of MN population (aged 16+) who hold a MN **fishing** license, 1969 to 2013

(Source: MN DNR & U.S. Bureau of the Census. Note: 2012-13 license certifications not yet available.)

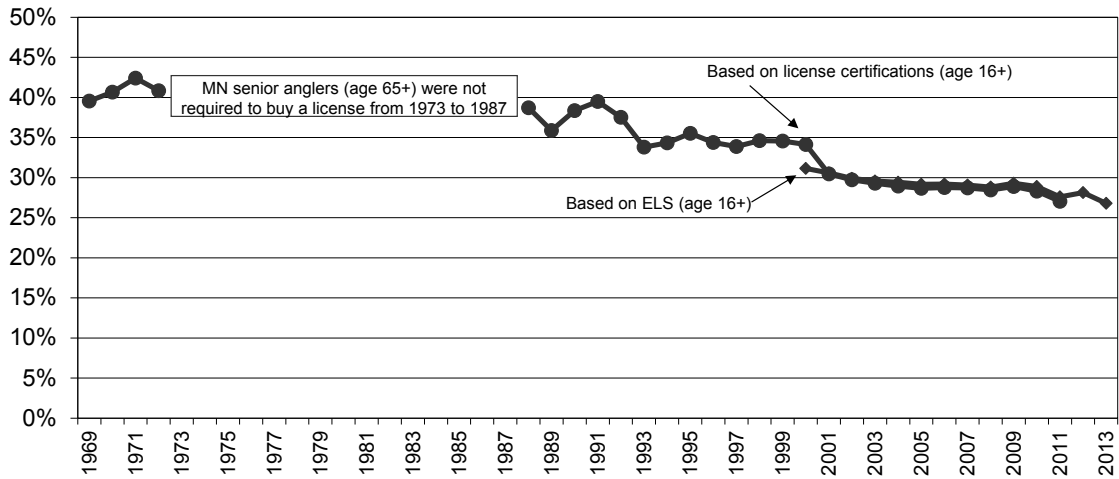
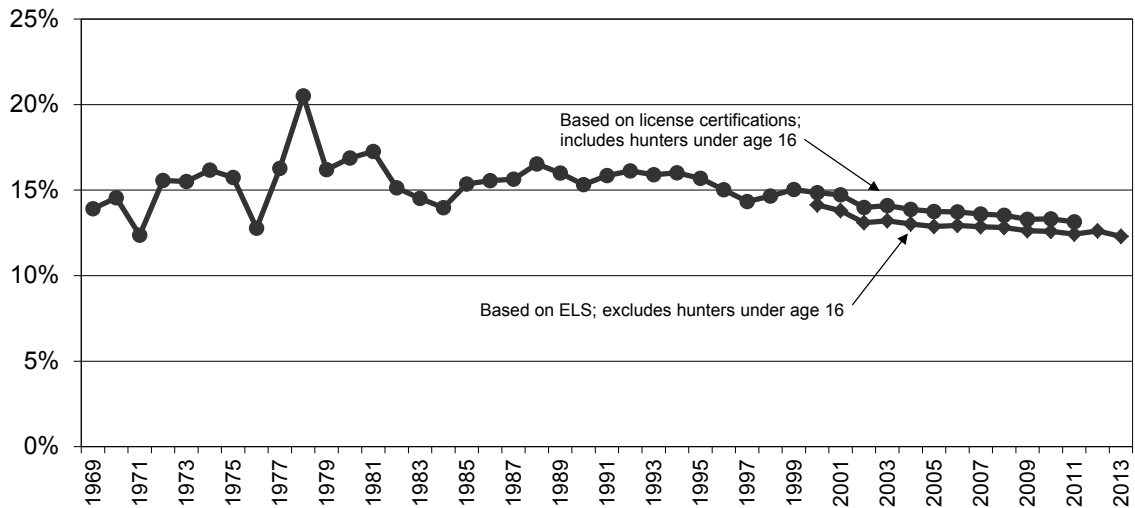


Figure 2

Percent of MN population (aged 16+) who hold a MN **hunting** license, 1969 to 2013

(Source: MN DNR & U.S. Bureau of the Census. Note: 2012-13 license certifications not yet available.)



licensed hunters under 16 was not known, and the usual practice was to normalize the entire hunter population by the 16 and over age cohort, which is known to have the large majority of the hunters (contains 95% of all hunters at present). This practice is continued up to the present for consistency. If those under 16 are removed, the lower graphed line is produced, which is the accurate measure of participation rates for hunters 16 and over. In 2013 the accurate measure has a participation rate of 12.3 percent, while the usual-practice method (includes hunters under 16) has a rate of 13.1 percent for the most recent year available (2011).

The participation declines for hunting and fishing since the 1990s are part of a general pattern of participation declines for nature-based recreation activities that are national in scope and extend to wildlife watching, park visitation, recreational boating, and non-motorized trail use (Reference 4). For much of nature-based recreation, the 1990s were a turning point from board-based stable-to-increasing participation-rate trends—extending back to at least World War II—to broad-based decreasing trends.

b. Compared with the nation, 1991 to 2011

Minnesota can be compared to the nation from 1991 to 2011 using Minnesota license records and participation information from the National Survey of Fishing, Hunting and Wildlife-Associated Recreation (Reference 2). The National Survey—conducted every five years—has had a consistent methodology since 1991.

The overall decline from 1991 in Minnesota fishing participation is close to that of the nation as a whole (both around 25% to 30%—Table 1). For hunting, the national decline is steeper than the Minnesota decline.

The national declines from 1991 to 2011 are similar for

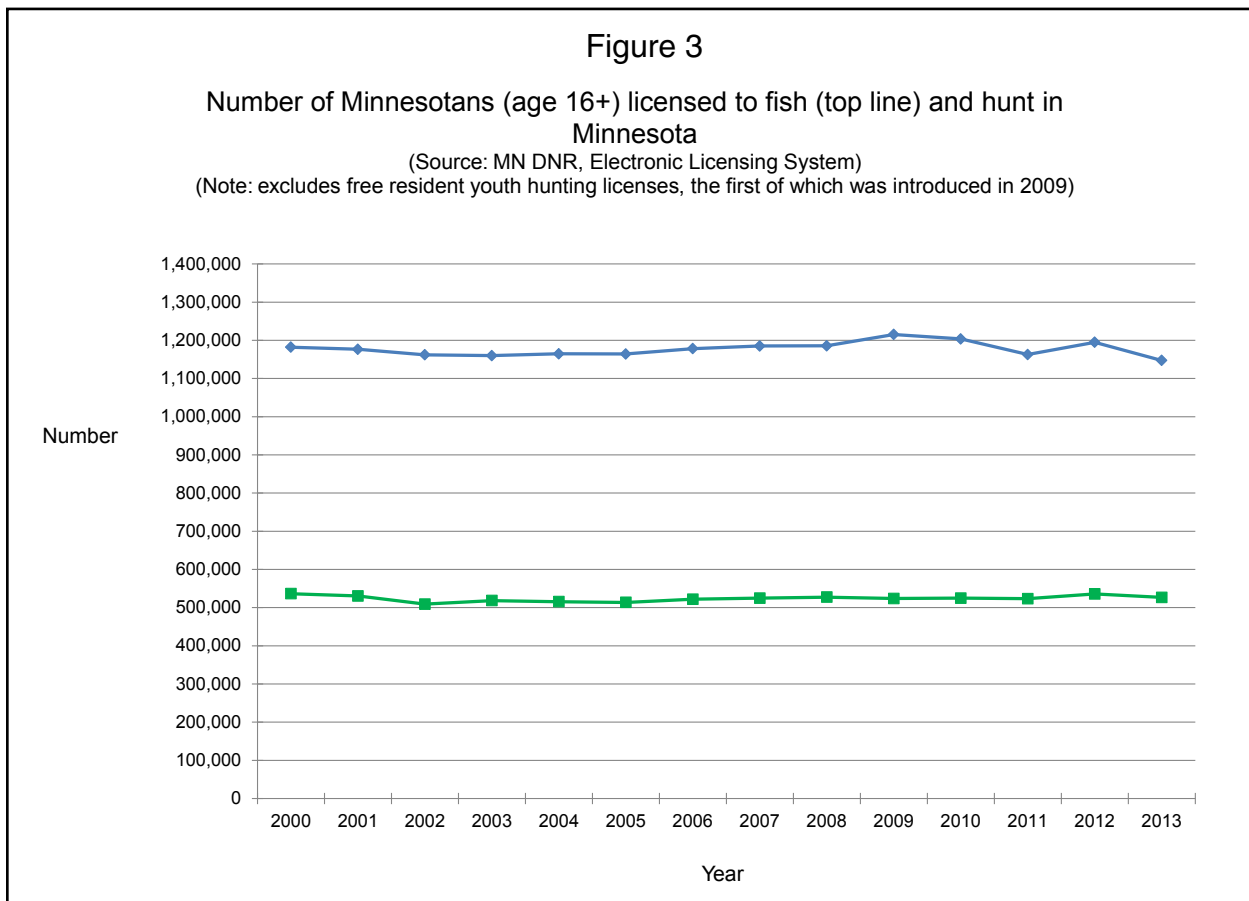
| Year | Fishing participation-rate index (1991=100) |      | Hunting participation-rate index (1991=100) |      |
|------|---|------|---|------|
|      | MN  | U.S. | MN  | U.S. |
| 1991 | 100   | 100  | 100   | 100  |
| 1996 | 87  | 93   | 95  | 94   |
| 2001 | 77  | 86   | 93  | 83   |
| 2006 | 74  | 70   | 87  | 74   |
| 2011 | 70  | 74   | 84  | 77   |

hunting and fishing. Over this same period, the Minnesota fishing decline is larger than the hunting decline.

## RECENT PARTICIPATION TRENDS FOR MINNESOTA RESIDENT ANGLERS AND HUNTERS, 2000 TO 2013

### a. Trends in number licensed

Since 2000 resident hunter and angler numbers have been largely stable (Figure 3). The first few years following 2000 experienced small drops in the numbers licensed, which were followed by small increases. Angler numbers have fluctuated more in recent years. Year 2011—which had a wet and cold spring followed by a three-week state shutdown in July, during which license sales were suspended—experienced a decline in angler numbers. Numbers rebounded in 2012, and declined again in 2013. The spring weather of 2013 was abnormal, and many lakes in the northern half of the state were still ice covered when the state walleye fishing sea-



son opened in May. This significantly depressed spring license sales, which never fully recovered during the remainder of the year. In addition, fishing (and hunting) license prices were raised in 2013, and it is uncertain the extent to which prices were a significant factor in licensing decisions, because the abnormal spring weather in diminishes the ability to discern any effects of the price increases. Tracking angler numbers in 2014 and subsequent years will indicate a lot about the relative effects of prices and weather.

When these relatively stable trends in license holders are combined with a Minnesota population increase of 13 percent from 2000 to 2013 (Table 3—age 16+), the trends in participation rates are downward. More is said about participation trends below.

The trend since 2000 in total Minnesota license holders (including non-residents) is as stable as the trend for residents alone. In 2013, non-residents comprise 21 percent of Minnesota fishing license holders and 4 percent of hunting license holders.

#### b. Age class trends

The overall declines in fishing and hunting participation from 2000 to 2013 are mostly due to the decline among young adults (under 45), while older adults exhibit smaller declines and more stable participation rates (Table 2). This same general age-based pattern extends to the two types of hunting license holders (deer firearms and small game) selected for tracking (bottom of Table 2).

For fishing, the age cohort from 25 to 44 has the steepest decline, while the youngest age class (16 to 24) and older age classes (45 to 64) have smaller declines. For hunting, the rapid-decline age cohort extends from 16 to 44.

Those aged 65+ have rising fishing and hunting participation over the period 2000 to 2013. This rise in participation is believed to be a reflection of the upward trend in the health and vigor of adults who are currently entering their senior years.

The relative age-class shifts in participation rates between 2000 and 2013 have aged the hunting and fishing populations more rapidly than the general Minnesota population. Whereas the median age of the Minnesota population increased 2.3 years from 2000 to 2013, the median age of the fishing and hunting populations rose 3.9 and 4.6 years, respectively.



## Table 2

Participation rates by age class for Minnesotans licensed to fish and hunt in Minnesota

(participation rate = licensed anglers / population)

| <b>All licensed anglers (age 16+)</b> |   |             |  |
|---------------------------------------|---|-------------|--|
| <u>Age grouping</u>                   | <i>-- Percent of population licensed in year --</i> |             | <u>Percent Change<br/>2000 to 2013</u> |
|                                       | <u>2000</u>   | <u>2013</u> |  |
| Overall (ages 16+)                    | 31.2%   | 26.8%       | -14.3%                                 |
| Ages 16 to 44                         | 33.3%   | 27.6%       | -17.2%                                 |
| Ages 45 +                             | 28.6%   | 26.0%       | -9.0%                                  |
| Age 16 to 24                          | 25.7%   | 23.1%       | -9.9%                                  |
| Age 25 to 34                          | 34.2%   | 29.0%       | -15.1%                                 |
| Age 35 to 44                          | 38.4%   | 30.4%       | -20.8%                                 |
| Age 45 to 54                          | 34.6%   | 30.2%       | -12.5%                                 |
| Age 55 to 64                          | 32.5%   | 28.4%       | -12.5%                                 |
| Age 65+                               | 19.2%   | 19.5%       | 1.4%                                   |

| <b>All licensed hunters (age 16+)</b> |   |             |  |
|---------------------------------------|---|-------------|--|
| <u>Age grouping</u>                   | <i>-- Percent of population licensed in year --</i> |             | <u>Percent Change<br/>2000 to 2013</u> |
|                                       | <u>2000</u>   | <u>2013</u> |  |
| Overall (ages 16+)                    | 14.2%   | 12.3%       | -13.3%                                 |
| Ages 16 to 44                         | 16.2%   | 13.1%       | -19.1%                                 |
| Ages 45 +                             | 11.7%   | 11.6%       | -0.8%                                  |
| Age 16 to 24                          | 15.5%   | 12.8%       | -17.2%                                 |
| Age 25 to 34                          | 15.7%   | 13.0%       | -17.2%                                 |
| Age 35 to 44                          | 17.0%   | 13.4%       | -21.5%                                 |
| Age 45 to 54                          | 15.5%   | 14.2%       | -8.4%                                  |
| Age 55 to 64                          | 13.6%   | 12.9%       | -5.0%                                  |
| Age 65+                               | 6.1%  | 7.7%        | 26.5%                                  |

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| <b>Deer-firearm licensed hunters (age 16+)</b> |   |             |  |
|--|---|-------------|--|
| <u>Age grouping</u>                            | <i>-- Percent of population licensed in year --</i> |             | <u>Percent Change<br/>2000 to 2013</u> |
|  | <u>2000</u>   | <u>2013</u> |  |
| Overall (ages 16+)                             | 10.9%   | 9.7%        | -10.8%                                 |
| Ages 16 to 44                                  | 12.1%   | 10.3%       | -15.3%                                 |
| Ages 45 +                                      | 9.3%  | 9.2%        | -1.1%                                  |

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| <b>Small-game licensed hunters (age 16+)</b> |   |             |  |
|--|---|-------------|--|
| <u>Age grouping</u>                          | <i>-- Percent of population licensed in year --</i> |             | <u>Percent Change<br/>2000 to 2013</u> |
|  | <u>2000</u>   | <u>2013</u> |  |
| Overall (ages 16+)                           | 8.1%  | 5.9%        | -27.7%                                 |
| Ages 16 to 44                                | 9.7%  | 6.2%        | -35.9%                                 |
| Ages 45 +                                    | 6.2%  | 5.6%        | -9.3%                                  |

The younger age classes (16 to 44)—which have the largest decreasing participation rates—have experience little overall population change, while the older age classes (45+)—which have more stable participation rates—have grown rapidly overall (Table 3). This covariance of population change and participation-rate change has kept license numbers up.

|                                | ----- Year ----- |                  | -- Change 2000 to 2013 -- |                |
|--------------------------------|------------------|------------------|---------------------------|----------------|
|                                | <u>2000</u>      | <u>2013</u>      | <u>Number</u>             | <u>Percent</u> |
| <b><u>Age class</u></b>        |                  |                  |                           |                |
| 0 to 11                        | 835,643          | 852,277          | 16,634                    | 2%             |
| 12 to 15                       | 301,019          | 284,498          | -16,521                   | -5%            |
| 16 to 24                       | 620,666          | 649,420          | 28,754                    | 5%             |
| 25 to 34                       | 673,138          | 742,560          | 69,422                    | 10%            |
| 35 to 44                       | 824,182          | 668,291          | -155,891                  | -19%           |
| 45 to 54                       | 665,696          | 771,891          | 106,195                   | 16%            |
| 55 to 64                       | 404,869          | 695,366          | 290,497                   | 72%            |
| 65+                            | <u>594,266</u>   | <u>756,077</u>   | <u>161,811</u>            | <u>27%</u>     |
| Total                          | 4,919,479        | 5,420,380        | 500,901                   | 10%            |
| Subtotal, age 16+              | 3,782,817        | 4,283,605        | 500,788                   | 13%            |
| Subtotal, age 16 to 44         | 2,117,986        | 2,060,271        | -57,715                   | -3%            |
| Subtotal, age 45+              | 1,664,831        | 2,223,334        | 558,503                   | 34%            |
| <b><u>Gender (age 16+)</u></b> |                  |                  |                           |                |
| Male                           | 1,852,801        | 2,112,284        | 259,483                   | 14%            |
| Female                         | <u>1,930,016</u> | <u>2,171,321</u> | <u>241,305</u>            | <u>13%</u>     |
| Total, age 16+                 | 3,782,817        | 4,283,605        | 500,788                   | 13%            |
| <b><u>Region (age 16+)</u></b> |                  |                  |                           |                |
| Northwest                      | 341,582          | 367,820          | 26,238                    | 8%             |
| Northeast                      | 322,043          | 343,592          | 21,549                    | 7%             |
| South                          | 752,803          | 802,125          | 49,322                    | 7%             |
| Central                        | 347,192          | 446,545          | 99,353                    | 29%            |
| Metro (7 county)               | <u>2,019,197</u> | <u>2,323,523</u> | <u>304,326</u>            | <u>15%</u>     |
| Total, age 16+                 | 3,782,817        | 4,283,605        | 500,788                   | 13%            |

c. Gender trends

Men have higher hunting and fishing participation rates than women in Minnesota. The gender gap changed little for fishing between 2000 and 2013, but closed for hunting (Table 4). The participation rate for female hunters went up during the last 12 years. Most of the female increase is concentrated in deer firearm hunting over the last couple of years.

**Table 4**

Participation rates by gender for Minnesotans licensed to fish and hunt in Minnesota  
(participation rate = licensed anglers / population)

| <b>All licensed anglers (age 16+)</b> |   |              |  |
|---------------------------------------|---|--------------|--|
| <u>Gender</u>                         | <i>-- Percent of population licensed in year --</i> |              | <u>Percent Change<br/>2000 to 2013</u> |
|                                       | <u>2000</u>   | <u>2013</u>  |  |
| Male                                  | 40.6%   | 35.1%        | -13.5%                                 |
| Female                                | 22.2%   | 18.7%        | -16.0%                                 |
| <i>Both genders</i>                   | <i>31.2%</i>  | <i>26.8%</i> | <i>-14.3%</i>                          |

| <b>All licensed hunters (age 16+)</b> |   |              |  |
|---------------------------------------|---|--------------|--|
| <u>Gender</u>                         | <i>-- Percent of population licensed in year --</i> |              | <u>Percent Change<br/>2000 to 2013</u> |
|                                       | <u>2000</u>   | <u>2013</u>  |  |
| Male                                  | 26.2%   | 21.8%        | -16.6%                                 |
| Female                                | 2.6%  | 3.0%         | 13.5%                                  |
| <i>Both genders</i>                   | <i>14.2%</i>  | <i>12.3%</i> | <i>-13.3%</i>                          |

#### d. Regional trends

The pattern of regional change has similarities for hunters and anglers between 2000 and 2013. The largest decline is in the Central Region, and the next largest—although just barely for fishing—is the Metro Region (Table 5). Smaller declines are found in the Northeast, Northwest, and South. The Central and Metro Region experienced the most rapid population growth over this period (Table 3), and the new residents may not be as involved in hunting and fishing as the longer-term residents.

The highest participation rates for hunting and fishing are located in the regions covering the northern two-thirds of the state (Northeast, Northwest and Central regions). In contrast, the Metro (especially) and South regions have relatively low participation rates for both hunting and fishing.

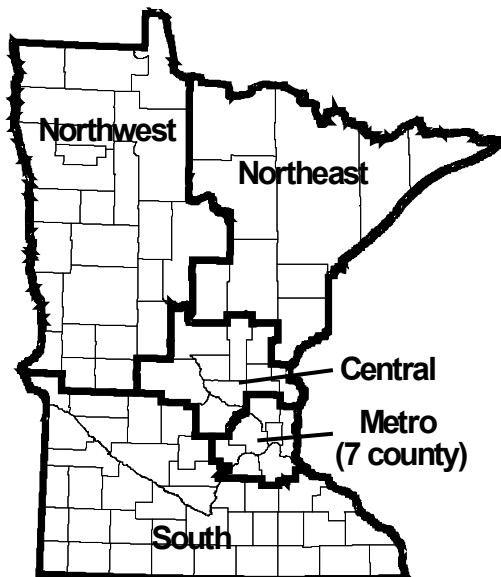
**Table 5**

Participation rates by region for Minnesotans licensed to fish and hunt in Minnesota

(participation rate = licensed anglers / population)

| <b>All licensed anglers (age 16+)</b> |   |              |  |
|---------------------------------------|---|--------------|--|
| <u>Region</u>                         | <i>-- Percent of population licensed in year --</i> |              | <u>Percent Change<br/>2000 to 2013</u> |
|                                       | <u>2000</u>   | <u>2013</u>  |  |
| Northwest                             | 45.1%   | 38.7%        | -14.2%                                 |
| Northeast                             | 43.7%   | 37.1%        | -15.2%                                 |
| South                                 | 30.1%   | 28.3%        | -6.0%                                  |
| Central                               | 50.1%   | 41.0%        | -18.1%                                 |
| Metro (7 county)                      | 24.1%   | 20.1%        | -16.5%                                 |
| <i>Statewide</i>                      | <i>31.2%</i>  | <i>26.8%</i> | <i>-14.3%</i>                          |

| <b>All licensed hunters (age 16+)</b> |   |              |  |
|---------------------------------------|---|--------------|--|
| <u>Region</u>                         | <i>-- Percent of population licensed in year --</i> |              | <u>Percent Change<br/>2000 to 2013</u> |
|                                       | <u>2000</u>   | <u>2013</u>  |  |
| Northwest                             | 27.7%   | 25.5%        | -8.0%                                  |
| Northeast                             | 25.8%   | 22.7%        | -12.0%                                 |
| South                                 | 15.6%   | 14.0%        | -10.1%                                 |
| Central                               | 25.0%   | 21.0%        | -15.9%                                 |
| Metro (7 county)                      | 7.7%  | 6.4%         | -16.5%                                 |
| <i>Statewide</i>                      | <i>14.2%</i>  | <i>12.3%</i> | <i>-13.3%</i>                          |



This north-south difference in participation rates is one of the two major patterns evident in a more detailed look at the geographic distribution of the fishing and hunting participation rates (Figure 5). The other major pattern is urban-rural, with the more urban and densely settled parts of the states having the lowest rates. Both hunting and fishing participation decrease with increasing population density; the *relative* decrease of hunting is greater than fishing (Figure 4).

The geographic distributions of hunting and fishing participation have a lot in common. The correlation coefficient between the hunting and fishing participation-rate maps on Figure 4 is 0.86 .

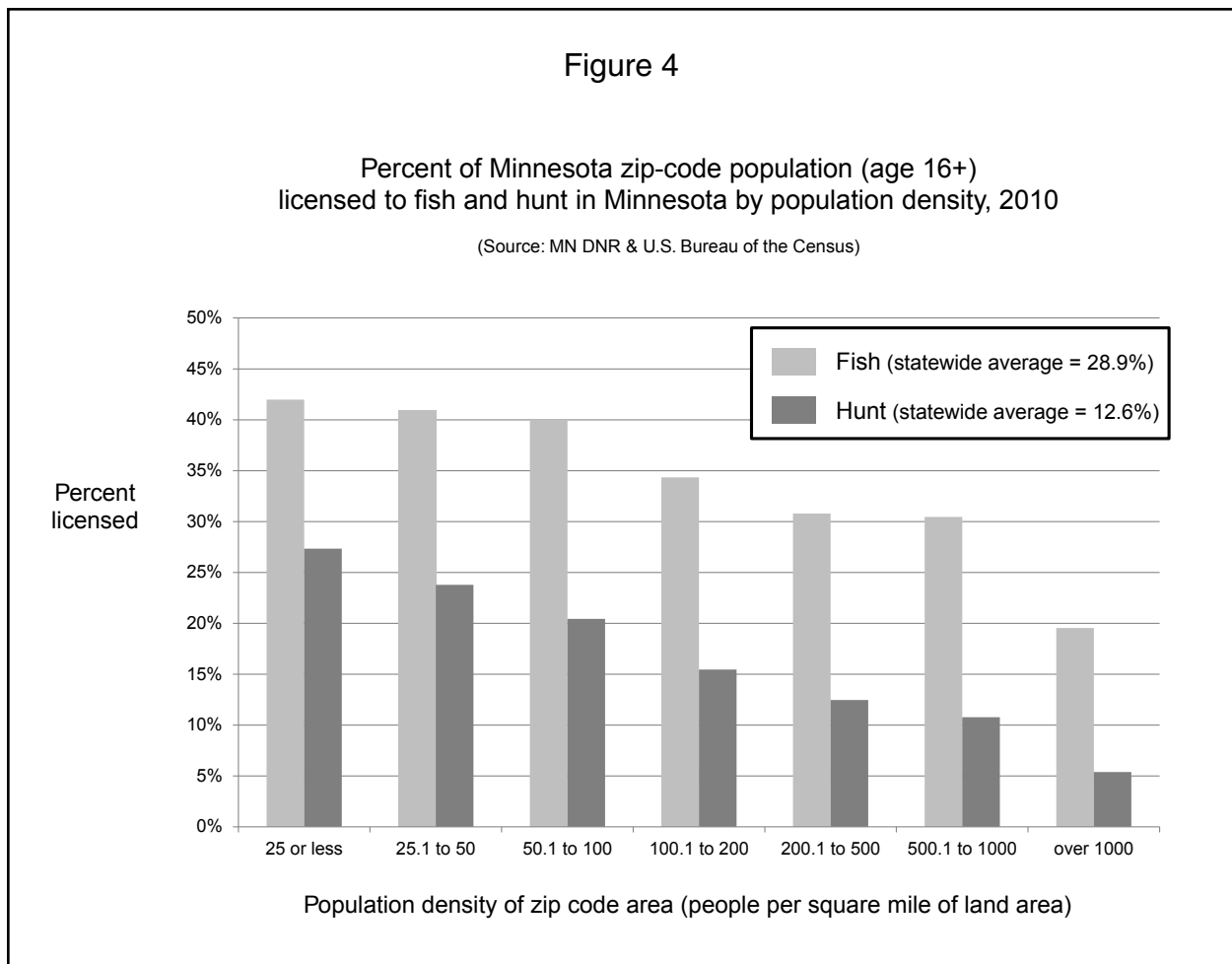
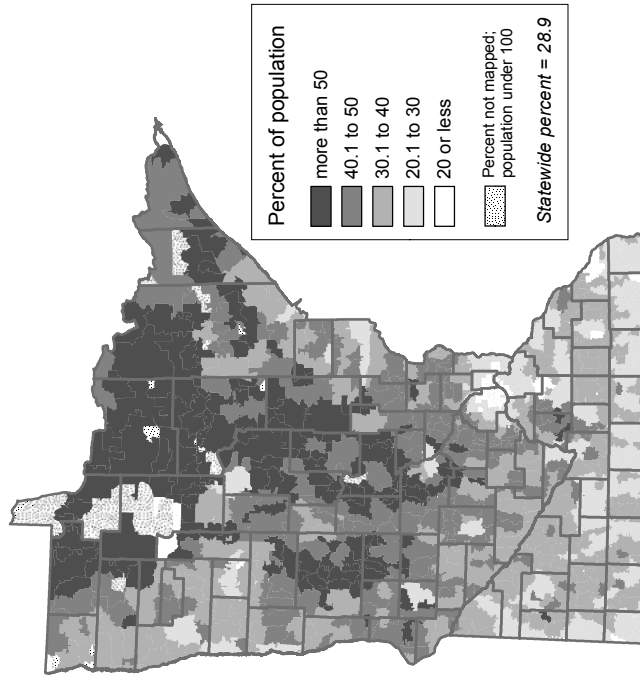


Figure 5

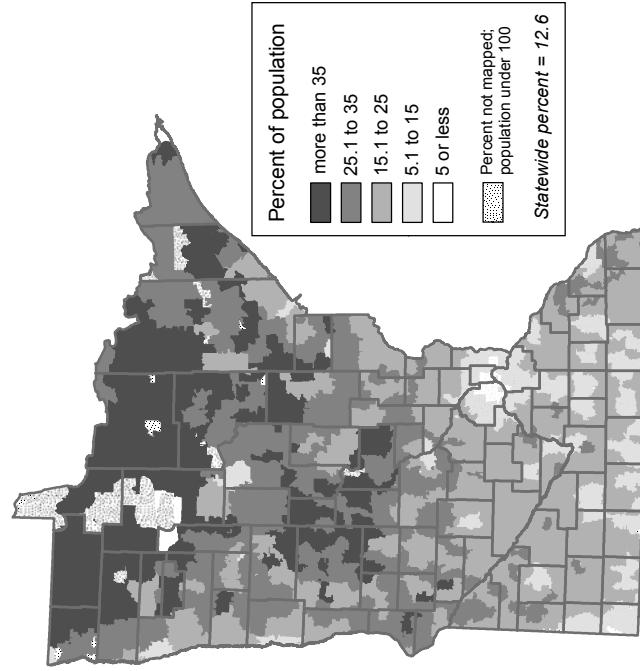
Percent of zip-code population (age 16+) licensed to fish in Minnesota, 2010

(Source: MN DNR & U.S. Bureau of the Census)



Percent of zip-code population (age 16+) licensed to hunt in Minnesota, 2010

(Source: MN DNR & U.S. Bureau of the Census)



## TRENDS IN RELICENSING RATES FOR MINNESOTA RESIDENT ANGLERS AND HUNTERS, 2000 TO 2013

In ELS, license holders are assigned a unique customer identification number that permits tracking a individual from year to year. Every hunter is licensed as an individual and, thus, can be tracked over time. Some anglers, however, are licensed in combination licenses. For a combination license, the primary license holder is given a unique customer number—and, thus, can be tracked over time—but the other license holder (spouse) is not given a unique customer number and cannot be tracked over time. About one-fourth of resident licensed anglers cannot be tracked from year to year.

### a. Year to year retention rates

Retention rates are higher for hunters than anglers. On average, 84 percent of resident hunters relicense from year to year, compared with 72 percent of resident anglers (Table 6). Hunter retention rates have been stable from 2002 through 2013, and are currently above those in the earliest years (2001 to 2002). Fishing retention rates are stable from 2000 to 2006, appear to have increased from 2006 to 2012, and have dropped back to the earlier rates in the most recent year. For the most recent year, both fishing and hunting retention rates are equal to their longer-term averages.

| Table 6   |                |                |                |
|---|----------------|----------------|----------------|
| Year-to-year retention of resident licensed anglers and hunters, who are 16 years of age or older |                |                |                |
| ----- Percent relicensed -----  |                |                |                |
| <u>From year</u>  | <u>To year</u> | <u>Anglers</u> | <u>Hunters</u> |
| 2000  | 2001           | 70%            | 82%            |
| 2001  | 2002           | 72%            | 81%            |
| 2002  | 2003           | 70%            | 85%            |
| 2003  | 2004           | 72%            | 84%            |
| 2004  | 2005           | 70%            | 84%            |
| 2005  | 2006           | 71%            | 85%            |
| 2006  | 2007           | 74%            | 85%            |
| 2007  | 2008           | 73%            | 85%            |
| 2008  | 2009           | 74%            | 85%            |
| 2009  | 2010           | 73%            | 85%            |
| 2010  | 2011           | 72%            | 85%            |
| 2011  | 2012           | 74%            | 86%            |
| 2012  | 2013           | 72%            | 84%            |
| Average =   |                | 72%            | 84%            |



b. Relicensing rates of lapsed participants

If an angler or hunter skips a year, the likelihood they relicense the following year is relatively consistent across activities and years. It averages 27 to 28 percent (Table 7). The most recent year (2013) is near the longer-term average for both fishing and hunting.

A few outliers are evident in the table. Year 2006 relicensing rate is high for fishing, for whatever reason, and year 2002 is low for hunting, for whatever reason.

When the lapsed relicensing rates are compared with the retention rates, the significance of retaining participants from year to year is evident. If a participant lapses, the likelihood they will relicense is small (27% to 28%) compared with yearly retention rates of 72 to 84 percent.

Table 7

Relicensing rates of resident licensed anglers and hunters (age 16+) if they skip a year

| <b>Anglers</b> |           | Percent relicensed in year |      |      |      |      |      |      |      |      |      |      |      |
|----------------|-----------|----------------------------|------|------|------|------|------|------|------|------|------|------|------|
| Year licensed  | Skip year | 2002                       | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
| 2000           | 2001      | 25%                        |      |      |      |      |      |      |      |      |      |      |      |
| 2001           | 2002      |                            | 26%  |      |      |      |      |      |      |      |      |      |      |
| 2002           | 2003      |                            |      | 26%  |      |      |      |      |      |      |      |      |      |
| 2003           | 2004      |                            |      |      | 26%  |      |      |      |      |      |      |      |      |
| 2004           | 2005      |                            |      |      |      | 33%  |      |      |      |      |      |      |      |
| 2005           | 2006      |                            |      |      |      |      | 26%  |      |      |      |      |      |      |
| 2006           | 2007      |                            |      |      |      |      |      | 29%  |      |      |      |      |      |
| 2007           | 2008      |                            |      |      |      |      |      |      | 30%  |      |      |      |      |
| 2008           | 2009      |                            |      |      |      |      |      |      |      | 30%  |      |      |      |
| 2009           | 2010      |                            |      |      |      |      |      |      |      |      | 28%  |      |      |
| 2010           | 2011      |                            |      |      |      |      |      |      |      |      |      | 31%  |      |
| 2011           | 2012      |                            |      |      |      |      |      |      |      |      |      |      | 29%  |

Average relicensing rate = 28%

| <b>Hunters</b> |           | Percent relicensed in year |      |      |      |      |      |      |      |      |      |      |      |
|----------------|-----------|----------------------------|------|------|------|------|------|------|------|------|------|------|------|
| Year licensed  | Skip year | 2002                       | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 |
| 2000           | 2001      | 21%                        |      |      |      |      |      |      |      |      |      |      |      |
| 2001           | 2002      |                            | 27%  |      |      |      |      |      |      |      |      |      |      |
| 2002           | 2003      |                            |      | 25%  |      |      |      |      |      |      |      |      |      |
| 2003           | 2004      |                            |      |      | 26%  |      |      |      |      |      |      |      |      |
| 2004           | 2005      |                            |      |      |      | 31%  |      |      |      |      |      |      |      |
| 2005           | 2006      |                            |      |      |      |      | 26%  |      |      |      |      |      |      |
| 2006           | 2007      |                            |      |      |      |      |      | 29%  |      |      |      |      |      |
| 2007           | 2008      |                            |      |      |      |      |      |      | 27%  |      |      |      |      |
| 2008           | 2009      |                            |      |      |      |      |      |      |      | 29%  |      |      |      |
| 2009           | 2010      |                            |      |      |      |      |      |      |      |      | 27%  |      |      |
| 2010           | 2011      |                            |      |      |      |      |      |      |      |      |      | 31%  |      |
| 2011           | 2012      |                            |      |      |      |      |      |      |      |      |      |      | 28%  |

Average relicensing rate = 27%

c. Year most recently participated for 2013 participants, and age distribution of “new” 2013 participants

A direct result of the high retention rates, and relatively low relicensing rates for lapsed participants, is that the large majority of a given year’s participants have participated in a recent year. For 2013 resident anglers, 74 percent participated in 2012, and another 7 percent in 2011 (Table 8). For 2013 resident hunters, 85 percent participated in 2012, with another 4 percent in 2011. Few 2013 hunters and anglers last participated four or more years ago.

“New” anglers and hunters account for 9 percent of 2013 resident anglers and 6 percent of hunters (Table 8). The “new” participants are new to ELS (for hunters, “new to ELS” means new at an age of 16 or older; some hunters are in ELS at ages below 16).

The “new” participants are definitely younger than the existing participant populations (Table 9). Just over half (52% to 55%) of new participants are in the youngest age class (16 to 24), with another 17 percent in the next youngest age class (25 to 34).

| <b>Table 8</b>   |                                |
|--|--------------------------------|
| Year last fished and hunted for Minnesotans licensed in 2013 to fish and hunt in Minnesota |                                |
| <b>2013 All licensed resident anglers (age 16+)</b>  |                                |
| <u>Year last fished</u>  | <u>Percent of 2013 anglers</u> |
| 2012   | 74%                            |
| 2011   | 7%                             |
| 2010   | 3%                             |
| 2009   | 2%                             |
| 2008   | 1%                             |
| 2007   | 1%                             |
| 2006   | 1%                             |
| 2005   | 0%                             |
| 2004   | 0%                             |
| 2003   | 0%                             |
| 2002   | 0%                             |
| 2001   | 0%                             |
| 2000   | 0%                             |
| New to ELS   | <u>9%</u>                      |
| Total  | 100%                           |
| <b>2013 All licensed resident hunters (age 16+)</b>  |                                |
| <u>Year last hunted</u>  | <u>Percent of 2013 hunters</u> |
| 2012   | 85%                            |
| 2011   | 4%                             |
| 2010   | 1%                             |
| 2009   | 1%                             |
| 2008   | 1%                             |
| 2007   | 0%                             |
| 2006   | 0%                             |
| 2005   | 0%                             |
| 2004   | 0%                             |
| 2003   | 0%                             |
| 2002   | 0%                             |
| 2001   | 0%                             |
| 2000   | 0%                             |
| New to ELS   | <u>6%</u>                      |
| Total  | 100%                           |

Table 9

Ages of 2013 resident anglers who are new to Electronic Licensing System (not in system from 2000 to 2012)

**2013 All licensed resident anglers (age 16+)**

(Note: The "New to ELS" column only includes primary license holders, and it excludes spouses in combination licenses; the "All anglers" column includes both primary and spouse license holders)

| <u>Age class</u> | <u>New to ELS<br/>(percent)</u> | <u>All anglers<br/>(percent)</u> |
|------------------|---------------------------------|----------------------------------|
| Age 16 to 24     | 52%                             | 13%                              |
| Age 25 to 34     | 17%                             | 19%                              |
| Age 35 to 44     | 11%                             | 18%                              |
| Age 45 to 54     | 9%                              | 20%                              |
| Age 55 to 64     | 7%                              | 17%                              |
| Age 65+          | 4%                              | 13%                              |
| Total            | 100%                            | 100%                             |

**2013 All licensed resident hunters (age 16+)**

| <u>Age class</u> | <u>New to ELS<br/>(percent)</u> | <u>All hunters<br/>(percent)</u> |
|------------------|---------------------------------|----------------------------------|
| Age 16 to 24     | 55%                             | 16%                              |
| Age 25 to 34     | 17%                             | 18%                              |
| Age 35 to 44     | 11%                             | 17%                              |
| Age 45 to 54     | 9%                              | 21%                              |
| Age 55 to 64     | 6%                              | 17%                              |
| Age 65+          | 3%                              | 11%                              |
| Total            | 100%                            | 100%                             |

## REFERENCES

1. All Minnesota fishing and hunting license information comes from: Minnesota Department of Natural Resource, Division of Fish and Wildlife, License Bureau.
2. National fishing and hunting participation information comes from: U. S. Department of the Interior, Fish and Wildlife Service and U. S. Department of Commerce, U. S. Census Bureau. National Survey of Fishing, Hunting, and Wildlife-Associated Recreation. Survey years 1991, 1996, 2001, 2006, and 2011.
3. All population information comes from: U. S. Department of Commerce, U. S. Census Bureau.
4. Information on nature-based recreation trends comes from:  
U.S. fishing, hunting and wildlife watching: USFWS and U.S. Census Bureau. National Survey of Fishing, Hunting and Wildlife-Associated Recreation. Survey years 1991, 1996, 2001, 2006, and 2011.  
National park visitation: National Park Service visitation records ([www2.nature.nps.gov/stats/](http://www2.nature.nps.gov/stats/))  
Minnesota fishing, hunting, park visitation, non-motorized trail, and boating trend studies: Minnesota DNR.

# APPENDIX A: Number of Minnesotans licensed to fish and hunt in Minnesota by age, gender, and region, 2000 to 2013

## Number of Minnesotans licensed to fish in Minnesota

Number of Minnesotans licensed to fish in Minnesota  
(Source: MN DNR, Electronic Licensing System)

| AGE CLASS         | License year |           |           |           |           |           |           |           |           |           |           |           |           |           |
|-------------------|--------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                   | 2000         | 2001      | 2002      | 2003      | 2004      | 2005      | 2006      | 2007      | 2008      | 2009      | 2010      | 2011      | 2012      | 2013      |
| 15 and under      | 211          | 305       | 220       | 213       | 257       | 190       | 219       | 209       | 205       | 184       | 276       | 357       | 465       | 492       |
| 16 to 24          | 159,418      | 160,524   | 161,152   | 162,074   | 165,284   | 163,392   | 166,277   | 166,006   | 165,227   | 164,436   | 157,947   | 147,036   | 154,513   | 150,283   |
| 25 to 34          | 229,880      | 223,278   | 214,596   | 210,235   | 207,264   | 205,000   | 208,880   | 213,137   | 218,453   | 226,315   | 225,813   | 216,066   | 224,913   | 215,273   |
| 35 to 44          | 316,653      | 308,529   | 295,016   | 284,603   | 275,631   | 265,285   | 257,709   | 247,262   | 235,403   | 232,023   | 223,243   | 210,208   | 214,354   | 203,287   |
| 45 to 54          | 230,173      | 236,314   | 239,176   | 244,478   | 249,603   | 254,828   | 259,661   | 262,720   | 263,368   | 269,301   | 264,311   | 251,756   | 250,183   | 233,438   |
| 55 to 64          | 131,497      | 134,929   | 140,288   | 146,689   | 152,854   | 158,268   | 164,786   | 170,859   | 174,664   | 186,723   | 193,374   | 195,913   | 201,907   | 197,539   |
| 65+               | 114,327      | 112,898   | 111,892   | 111,833   | 114,090   | 117,386   | 120,988   | 125,108   | 128,362   | 136,374   | 138,840   | 141,845   | 149,034   | 147,550   |
| Total             | 1,182,159    | 1,176,777 | 1,162,340 | 1,160,125 | 1,164,983 | 1,164,349 | 1,178,520 | 1,185,301 | 1,185,682 | 1,215,356 | 1,203,803 | 1,163,182 | 1,195,368 | 1,147,862 |
| Subtotal, age 16+ | 1,181,948    | 1,176,472 | 1,162,120 | 1,159,912 | 1,164,726 | 1,164,159 | 1,178,301 | 1,185,092 | 1,185,477 | 1,215,172 | 1,203,527 | 1,162,825 | 1,194,903 | 1,147,370 |

| GENDER (age 16+) | License year |           |           |           |           |           |           |           |           |           |           |           |           |           |
|------------------|--------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                  | 2000         | 2001      | 2002      | 2003      | 2004      | 2005      | 2006      | 2007      | 2008      | 2009      | 2010      | 2011      | 2012      | 2013      |
| Male             | 752,754      | 755,704   | 753,551   | 751,912   | 755,942   | 750,198   | 762,507   | 768,079   | 768,734   | 784,534   | 775,799   | 749,902   | 769,107   | 742,011   |
| Female           | 429,194      | 420,768   | 408,569   | 408,000   | 408,784   | 413,961   | 415,794   | 417,013   | 416,743   | 430,638   | 427,728   | 412,923   | 425,796   | 405,359   |
| Total (age 16+)  | 1,181,948    | 1,176,472 | 1,162,120 | 1,159,912 | 1,164,726 | 1,164,159 | 1,178,301 | 1,185,092 | 1,185,477 | 1,215,172 | 1,203,527 | 1,162,825 | 1,194,903 | 1,147,370 |

| REGION (age 16+) | License year |           |           |           |           |           |           |           |           |           |           |           |           |           |
|------------------|--------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                  | 2000         | 2001      | 2002      | 2003      | 2004      | 2005      | 2006      | 2007      | 2008      | 2009      | 2010      | 2011      | 2012      | 2013      |
| Northwest        | 154,076      | 155,702   | 154,006   | 154,321   | 152,909   | 151,432   | 156,492   | 154,973   | 155,480   | 158,200   | 156,652   | 153,877   | 149,372   | 142,279   |
| Northeast        | 140,858      | 139,745   | 138,700   | 136,899   | 136,636   | 136,290   | 138,935   | 136,942   | 137,177   | 140,756   | 140,305   | 137,093   | 136,568   | 127,392   |
| South            | 226,620      | 221,957   | 220,401   | 222,411   | 224,182   | 223,498   | 223,958   | 229,040   | 229,356   | 234,700   | 229,279   | 220,553   | 237,118   | 226,864   |
| Central          | 173,957      | 174,983   | 173,855   | 175,581   | 178,330   | 179,759   | 185,112   | 186,468   | 186,765   | 190,517   | 189,278   | 183,176   | 188,195   | 183,281   |
| Metro (7 county) | 486,438      | 484,086   | 475,158   | 470,700   | 472,669   | 473,179   | 473,803   | 477,669   | 476,698   | 490,998   | 488,013   | 468,126   | 483,650   | 467,555   |
| Total (age 16+)  | 1,181,948    | 1,176,472 | 1,162,120 | 1,159,912 | 1,164,726 | 1,164,159 | 1,178,301 | 1,185,092 | 1,185,477 | 1,215,172 | 1,203,527 | 1,162,825 | 1,194,903 | 1,147,370 |

## Number of Minnesotans licensed to hunt in Minnesota

### Number of Minnesotans licensed to hunt in Minnesota

(Source: MN DNR, Electronic Licensing System)

(Note: excludes free resident youth hunting licenses, the first of which was introduced in 2009)

| AGE CLASS         | License year |         |         |         |         |         |         |         |         |         |         |         |         |         |
|-------------------|--------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|                   | 2000         | 2001    | 2002    | 2003    | 2004    | 2005    | 2006    | 2007    | 2008    | 2009    | 2010    | 2011    | 2012    | 2013    |
| 15 and under      | 37,324       | 37,114  | 35,884  | 36,411  | 36,724  | 36,612  | 36,364  | 36,342  | 36,237  | 35,132  | 36,562  | 36,884  | 38,043  | 29,339  |
| 16 thru 24        | 95,917       | 94,502  | 91,468  | 92,141  | 90,825  | 88,843  | 89,119  | 89,105  | 87,927  | 85,028  | 84,201  | 82,873  | 83,928  | 83,131  |
| 25 thru 34        | 106,002      | 101,737 | 95,741  | 95,592  | 93,999  | 91,673  | 92,520  | 93,619  | 95,246  | 95,274  | 95,484  | 95,609  | 97,768  | 96,765  |
| 35 thru 44        | 140,375      | 135,902 | 127,081 | 125,129 | 119,820 | 115,118 | 112,013 | 106,581 | 102,337 | 97,523  | 94,061  | 91,257  | 92,245  | 89,408  |
| 45 thru 54        | 103,230      | 105,831 | 104,327 | 109,159 | 111,205 | 114,140 | 117,895 | 119,362 | 120,860 | 119,967 | 118,841 | 116,352 | 115,646 | 109,679 |
| 55 thru 64        | 54,952       | 56,361  | 56,070  | 59,742  | 61,789  | 64,468  | 68,524  | 71,777  | 74,728  | 78,059  | 82,110  | 85,051  | 89,438  | 89,667  |
| 65+               | 35,994       | 36,222  | 34,378  | 36,693  | 37,874  | 39,369  | 41,953  | 44,272  | 46,378  | 48,029  | 50,161  | 52,243  | 56,564  | 57,915  |
| Total             | 573,794      | 567,669 | 544,949 | 554,867 | 552,236 | 550,223 | 558,388 | 561,058 | 563,713 | 559,012 | 561,420 | 560,269 | 573,632 | 555,904 |
| Subtotal, age 16+ | 536,470      | 530,555 | 509,065 | 518,456 | 515,512 | 513,611 | 522,024 | 524,716 | 527,476 | 523,880 | 524,858 | 523,385 | 535,589 | 526,565 |

| GENDER (age 16+) | License year |         |         |         |         |         |         |         |         |         |         |         |         |         |
|------------------|--------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|                  | 2000         | 2001    | 2002    | 2003    | 2004    | 2005    | 2006    | 2007    | 2008    | 2009    | 2010    | 2011    | 2012    | 2013    |
| Male             | 485,501      | 479,362 | 463,859 | 474,743 | 472,177 | 470,141 | 477,083 | 476,981 | 477,065 | 471,116 | 469,847 | 465,708 | 469,533 | 461,470 |
| Female           | 50,969       | 51,193  | 45,206  | 43,713  | 43,335  | 43,470  | 44,941  | 47,735  | 50,411  | 52,764  | 55,011  | 57,677  | 66,056  | 65,095  |
| Total (age 16+)  | 536,470      | 530,555 | 509,065 | 518,456 | 515,512 | 513,611 | 522,024 | 524,716 | 527,476 | 523,880 | 524,858 | 523,385 | 535,589 | 526,565 |

| REGION (age 16+) | License year |         |         |         |         |         |         |         |         |         |         |         |         |         |
|------------------|--------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
|                  | 2000         | 2001    | 2002    | 2003    | 2004    | 2005    | 2006    | 2007    | 2008    | 2009    | 2010    | 2011    | 2012    | 2013    |
| Northwest        | 94,752       | 94,485  | 91,114  | 91,478  | 91,577  | 92,323  | 93,476  | 93,676  | 93,917  | 93,924  | 94,824  | 95,390  | 96,514  | 93,918  |
| Northeast        | 83,034       | 82,101  | 77,026  | 77,716  | 76,918  | 76,276  | 78,739  | 79,019  | 79,156  | 79,622  | 80,105  | 80,098  | 81,324  | 77,982  |
| South            | 117,189      | 114,817 | 109,981 | 114,105 | 113,662 | 113,357 | 114,584 | 115,458 | 116,318 | 112,326 | 111,977 | 110,821 | 114,797 | 112,249 |
| Central          | 86,816       | 86,923  | 84,089  | 85,188  | 85,309  | 85,860  | 88,390  | 88,840  | 90,090  | 90,600  | 90,818  | 90,673  | 93,382  | 93,860  |
| Metro (7 county) | 154,679      | 152,228 | 146,855 | 149,969 | 148,046 | 145,794 | 146,834 | 147,723 | 147,994 | 147,409 | 147,133 | 146,403 | 149,572 | 148,556 |
| Total (age 16+)  | 536,470      | 530,555 | 509,065 | 518,456 | 515,512 | 513,611 | 522,024 | 524,716 | 527,476 | 523,880 | 524,858 | 523,385 | 535,589 | 526,565 |