

**BURNSVILLE DEER
MANAGEMENT
PROGRAM**

**2012-2013
Program Year
Annual Report**

Introduction

The City of Burnsville (City) prepared a Natural Resources Master Plan in 1999 which identified the need for a citywide deer management program, especially for areas where woodland restoration or regeneration is a high priority objective. This, along with concerns regarding the biological integrity of the City's natural areas, increasing complaints about nuisance deer, car/deer crashes, and concern over the long-term health of the deer herd, initiated the preparation of a deer management program for Burnsville.

The Burnsville Deer Management Program (Program) was adopted in September 2001 to minimize conflicts between deer, habitat, and residents. The Program provided recommendations in four key areas: education, monitoring, population control, and feeding ban. The Program runs from April 1st of one year to March 31st of the next, which was set to coincide with Program implementation (activities such as archery hunts, aerial counts, sharpshooting removals) and population projection analysis (post-removal, pre-fawning). Since the program's inception, this schedule has been followed, however, it was always referenced as the program update for the previous year. This is the first year the annual report will be referenced as the 2012-2013 Annual Report even though the annual data covered is the same as in years past.

This annual report has been prepared to document the progress of the Program implementation in 2012-2013. This report also provides recommendations for the remaining portion of 2013 and early 2014.

Education

The Program made a number of recommendations regarding education – including use of the City's website, City's newsletter, and a neighborhood workshop. The intent of the education component is to disseminate information to the community regarding the Program, feeding ban, and other deer management topics, and to provide residents with tools to cope with deer on their property.

Program information continues to remain linked to the City's website (www.ci.burnsville.mn.us) and can be found under the Natural Resources Department, Wildlife section. Information regarding the Program and feeding ban is periodically included in the City's newsletter, *Burnsville Bulletin*. An article appeared in the Winter 2013 City of Burnsville Bulletin titled "Feed the Birds, Not the Deer". The article explained that feeding deer was not allowed within the City limits and ways to avoid having your bird feeder become a deer feeder. It also identified reasons as to why residents should not feed deer.

Based on the low turnout for the "Living with Wildlife" workshops in 2002 and 2003, a workshop has not been held in subsequent years.

The City held a joint neighborhood meeting with Three Rivers Park District in the City's southwest region to inform the residents and hunters of the City's deer management program and current City Ordinances. The City's goal is to provide information to the hunters of the area on the Program's goals and targeted deer populations within this region since it has one of the highest deer densities within the City. The City would like to keep track of the number of hunters hunting during the regular state archery season and record the number of deer removed during the season. Due to minimal response by the hunters in the southwest region, the numbers from this year have not been recorded as part of this report.

Monitoring

This annual report, the deer population, car/deer crashes, depredation complaints, and habitat diversity are all key components to managing the deer population within the city. The following section presents the monitoring data collected during 2012 and early 2013.

Aerial Counts

An aerial deer count was performed on February 8, 2013 (see **Figure 1**). The aerial count limits were minimally changed since the 2011 Annual Report and prior years. The City decided to include wooded areas within 0.25 miles of the City limits in the aerial counts this year. This was done in attempt to get a more accurate count of the total population of deer within the City of Burnsville as deer ranges are not confined to the City limits. The total number of deer counted within 0.25 miles of the City boundary and within the City boundary was 226.

Deer observations reported to the City (between April 1, 2012 and March 31, 2013) by local residents are shown in **Figure 3**. These observations only represent periodic observations and were not used in the total population count. More information on how the deer observations are reported can be found in the Monitoring Report Forms section below.

Three Rivers Park District (District) conducted aerial deer counts in and around Murphy-Hanrehan Park Reserve on February 12, 2013. Its aerial count for the park and surrounding area located within the city limits was 77 deer. Due to the overlap in aerial survey between the City and the District, this number was not added to the overall total population counts for the City.

In addition, the U.S. Fish and Wildlife Service (USFWS), in cooperation with the Minnesota Department of Natural Resources (DNR), periodically collects aerial count data for the Minnesota Valley National Wildlife Refuge, which includes the northern portion of the Northeast Management Unit. Recent survey efforts have been focused in other areas of the refuge, outside the limits of Burnsville, therefore, there is no USFWS or DNR count data to report.

Crash Data

Car/deer crash data for the 2012-2013 Program was collected from the Burnsville Police Department and the State of Minnesota. Twenty-six (26) known car/deer crashes were reported to the City. The State of Minnesota identified 13 car/deer crash records. Dakota County forwards all car/deer crash data to the State, thus, the County's crash data is included in the State's records.

In addition to City and State car/deer crash data, report forms from the City's animal control contractor were collected through the Police Department, documenting each deer carcass retrieved during the 2012-2013 Program year. The data provided by the City of Burnsville Police Department included six deer carcasses removed from the city.

The total minimum number of car/deer crashes for the 2012-2013 Program year is 45. This is 16 more car/deer crashes than reported in the 2011 Annual Report which is a 35% increase from the previous report year. A summary of the 2012-2013 crash data by management unit is provided in **Table 2**. **Figure 2** shows the distribution of car/deer crashes and deer carcass removals.

Monitoring Report Forms

The City created a Deer Monitoring Report Form in October 2001 to provide supplemental information on the deer population, expanding the type of information recorded by the previous complaint records. The monitoring form includes four categories for reporting information, including deer depredation (i.e., damage to vegetation), general observation of deer presence and behavior, carcass and crash/collision, and an "other" category. The "other" category has included past comments regarding the Program, feeding ban violations, offers to provide hunting access, and miscellaneous information related to deer management.

In 2012, the City made the reporting forms available electronically, therefore, residents do not have to come to the office to fill out a form. The forms are sent via email to City staff to be recorded. Residents still have the option to fill out a hard copy of the form at the Maintenance Facility.

In 2012-2013, five report forms were submitted to or recorded by the City from three different individuals (or sites). There were three general observation records and two depredation reports received during the 2012-2013 Program year. The number of records received for each category is listed in **Table 1**. The monitoring reports were from the West Central, East Central, and Northeast Management Units. Two of these records (one in the Northeast Management Unit and one in the East Central Management Unit) were located near preferred deer habitat. The approximate locations of the 2012-2013 Program year general observations are shown in **Figure 3**.

Table 1: 2012 Monitoring Report Forms by Category

Number of Sites	Number of Records	Depredation	General Observations	Carcass/Crash/Collision	Other
3	5	2	3	0	0

Exclosure Data

During the 2012-2013 Program year, the City continued to monitor the exclosure areas in Terrace Oaks Park. Deer have been excluded from the monitoring areas for eleven winter seasons.

No clear trends are evident from a preliminary review of the data. Common buckthorn (*Rhamnus cathartica*) seems to be maintaining abundance. Similar to 2011, wild geranium (*Geranium maculatum*), rue anemone (*Anemonella thalictroides*), and jack-in-the-pulpit (*Arisaema triphyllum*) were present in 2012-2013. Overall species diversity within the exclosure areas was higher than that in the no exclosure areas. Herbaceous species cover percentages were also higher for exclosure areas versus the no exclosure areas. There is not a significant difference between the different areas, however, the no exclosure areas have more species with less than 1 percent (>1%) cover compared to the exclosure areas, potentially indicating these species thrive better without deer browse.

As noted in the 2008 Natural Resource Master Plan, select areas with woodland restoration programs should reduce the deer population goal from 15-25 per square mile to 5 deer per square mile. A five-year respite from browse is needed in order for the select woodland areas to recover. The deer density goal for the East Central Unit was modified in the 2010 annual report. This reduced density goal was still in place for the 2012-2013 Program year.

Monitoring Data Comparison

Table 3 on the following page compares the monitoring data collected during the 2012-2013 Program with the previous nine years of data.

Population Control

The Program approved two primary population control strategies: archery hunting and sharpshooting. Based on the estimated January 2012 deer count and projected population for November 2012 (as presented in the 2011 Annual Report), 178 deer were recommended to be removed through a combination of these methods during the fall/winter 2012/2013.

Archery Hunting

In an effort to make the archery hunting program as effective as possible, changes to the City’s firearms ordinance were made in 2003 as suggested in the adopted Program. This ordinance modification allows opportunity for more private landowners in the southwestern portion of the city to archery hunt on their property per current DNR hunting regulations. The ordinance states that the discharge of a bow must be 200 feet from a property line, rather than the previous 500 feet.

In the summer of 2012, the City Council adopted the ordinance amending Title 6, Chapter 4 of the Burnsville City Code Establishing a Permit System for Archery Hunting adjacent to City Parks. The ordinance states that “the City Manager may authorize hunting on or within two hundred feet (200’) of city park property by permit issued under Section 8-6-4 of this Code, in conjunction with special hunting seasons in closed park areas as specified in paragraph (J), with additional conditions in the discretion of the Manager.” This amendment to the City Code was done to encourage land owners with property adjoining to park property with special hunting seasons to participate in the hunt. In 2012, one resident applied and received a permit for hunting.

At this time, neither the City nor DNR has a method of tracking the number of deer taken within the city by hunters on private property. During the joint informational meeting held in 2012 with the residents of the southwest region, the City encouraged the hunters in the area to report the number of hunters and deer taken to the City to help track the number or removals by private parties. For the 2012-2013 Program year, City staff received feedback from five hunters, however, their hunts were unsuccessful.

In 2012, the City sponsored archery deer hunts on public land within the city. The Burnsville Archery Hunts were conducted over four periods between October 18 and November 10 in Kelleher Park (formerly named Cam Ram Park). The Minnesota Bowhunters Resource Base coordinated the four hunt periods. A total of three deer were harvested from the park as shown in Table 3. Of the three deer harvested, two (2) were female (adults) and one (1) was male (fawn).

Table 2: Comparison of Annual Monitoring Data for 2003 through Early 2013

Units	Aerial Counts									
	2004	2005	2006	2007	2008	2009	2010	2011	2012 ^a	2013
NW	23	14	10	0	46	26	26	43	56	14
WC	0	1	2	14	16	18	12	4	0	22
SW	66	66	21	50	39	54	94	87	98	83
NE	38	78	111	78	107	75	127	95	62	72
EC	27	34	2	29	36	22	2	13	8	27
SE	0	16	5	9	1	3	0	0	0 ^e	8
Total	154	209	151	180	245	198	261	242	221^e	226^f

Units	Crashes ^b									
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012 – 2013
NW	1	3	3	2	1	2	0	4	1	1
WC	9	9	10	6	4	4	6	4	5	3
SW	25	10	11	11	13	6	6	10	7	14
NE	4	12	12	10	5	6	6	7	4	4
EC	23	26	14	13	5	10	16	9	9	16
SE	11	11	8	13	5	2	5	10	3	7
Total	73	68+1^c= 69	58	55	33+5^c= 38	30+2^c= 32	39	44+1^c= 45	29	45

Units	Depredation Complaints									
	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012 – 2013
NW	0	0	0	0	0	0	0	0	0	0
WC	0	1	0	0	1	2	0	0	0	1
SW	3	0	0	0	0	0	0	0	0	0
NE	1	0	0	2	0	2	1	0	0	1
EC	5	3	0	0	0	0	0	0	1	0
SE	2	4	0	0	0	0	0	0	0	0
Total	11	8+2^d =10	0	2	1	4	1	0	1	2

^a Represents the population estimation for 2012 (as no aerial count was completed due to poor snow conditions)

^b Crash numbers include non-overlapping carcass removals in addition to reported crashes.

^c Indicates Carcass Collection data that could not be identified by location due to incomplete information

^d Indicates Depredation Complaint data that could not be identified by location due to incomplete information

^e Based on population and actual removal; total reflects 3 deer removed from Southeast Management Unit

^f Aerial count based on deer within 0.25 miles of the City limits

Table 3: 2012 Burnsville Archery Hunts

Location	Hunt Period	Adult Female	Female Yearling	Adult Male	Male Yearling	Total
Kelleher Park	10/18 to 10/19	1	0	0	0	1
	10/25 to 10/26	0	0	0	0	0
	11/01 to 11/03	1	0	0	0	1
	11/08 to 11/10	0	0	0	1	1
Murphy-Hanrehan Regional Park	11/09-11/11	2 ^a	0	0	1	3 ^b
Total	---					6

^a Sex and age of deer was based on information provided by Three Rivers Park District (percentage of bucks vs. does taken within the entire park). Specific sex and age data was unavailable.

^b Estimated that 10 percent (3 deer) of District harvest occurred within Burnsville portion of the park, therefore gender/age data unavailable

Winter 2013 Sharpshooting

The City of Burnsville Police Department conducted sharpshooting within the city limits in 2013. The removal effort occurred January 1 through March 11, 2013. Sharpshooting was conducted within Black Dog Park, Cliff Fen Park, Terrace Oaks, Wolk Park, and at the Compost site. Forty-six deer were harvested as shown in **Table 4**. Of the 46 deer harvested, 20 were female (15 adults and 5 juveniles) and 26 were male (13 adults and 13 juveniles). It was noted in the summary report that 27 fetuses were also removed with the adult female deer.

Table 4: Winter 2012/2013 Sharpshooting

Location	Adult Female	Juvenile Female	Adult Male	Juvenile Male	Total
Black Dog Park	6	1	6	7	20
Cliff Fen Park	6	2	5	4	17
Terrace Oaks	2	2	0	0	4
Wolk Park	0	0	2	0	2
Compost Site	1	0	0	2	3
Total	15	5	13	13	46 + 27^a

^a Twenty-seven fetuses were reported with the females removed during sharpshooting.

Population Control Efforts by Other Jurisdictions

Three Rivers Park District held a Special Permit Archery Hunt at Murphy-Hanrehan Park Reserve. The hunt was conducted November 9 through November 11, 2012 and harvested 25 deer from the entire park. Much of the regional park is located outside the limits of Burnsville, thus it is likely that only a small portion of the 25 deer taken during the hunt were within the city. The USFWS periodically performs deer removals within the Minnesota Valley National Wildlife Refuge. No deer removals were conducted in the Burnsville portion of the refuge in the 2012-2013 Program year.

Population Control Summary

The total number of deer removed from each management unit within the city by archery hunting and sharpshooting is summarized in **Table 5**, along with the target removal goals established in the 2011 Annual Report.

Table 5: 2012/2013 Removal Results

Units	Recommended Fall/Winter 2012/2013 Harvest ^a	Fall 2012 Archery Hunting	Winter 2012/2013 Sharpshooting	Total Deer Removed in Fall/Winter 2012/2013
NW	54	0	0	0
WC	0	0	0	0
SW	88	6	0	6
NE	30	0	40	40
EC	6	0	6	6
SE	0	0	0	0
Total	178	6	46 + 27 fetuses	52 + 27 fetuses

^a Based on adjusted 2012 deer counts, projected population for November 2012, and program goal of 15-25 deer per square mile of preferred habitat (as presented in the 2011 Annual Report)

Feeding Ban

A feeding ban ordinance was approved by the City on September 17, 2001. The purpose of the feeding ban is to discourage residents from placing corn or other grains in amounts and locations that would attract deer to the area.

Since adoption of the feeding ban, the City received (via the monitoring report form) two comments regarding individual landowners feeding deer in 2001, one in 2002, three in 2003, one confirmed in 2004, five in 2005, and one in 2007. One feeding violation was reported in 2011, located within the Southwest Management Unit. No feeding ban violations were reported in the 2012-2013 Program year.

Recommendations for the Remainder of 2013

Education

Based on low turnout in both 2002 and 2003, no further workshops are planned. Deer management information from past workshops can be provided to individual citizens as requested. It is recommended that previous efforts put into the workshops be redirected into providing additional information via the website, newsletters, and local cable channel. Information regarding the City's monitoring report program and feeding ban, including reasons for the ban, seems to be a priority.

Monitoring

It is recommended to continue collecting annual aerial counts, crash data, exclosure observations, and monitoring report forms, and to continue generating and exhibiting annual reports. It is also recommended that carcass removal data continue to be collected from the City's animal control contractor on an annual basis. The carcass removal data helps identify car/deer crashes, which are typically under-reported.

The availability and use of the monitoring report form should be periodically discussed in the City's newsletter in order to further promote resident feedback on the Program and current conditions. This information is helpful when reviewing aerial counts, crash and carcass data, and exclosure observations. It can also aid in identifying additional access points for sharpshooters during population control efforts and potential feeding ban violations.

Population Control

Based on aerial count data, population estimations, age and gender data collected during the archery hunts, sharpshooting, carcass removals, and typical reproduction/mortality factors, a population projection was calculated for November 2013. The population projection was then used to establish a fall/winter 2013/2014 removal goal. The DNR evaluated the City's deer population projection and removal goal and found them to be reasonable.

Table 6 provides a breakdown (by management unit) of the Program's deer management goal, the results of the 2013 aerial count, the population projection, and removal recommendation for fall/winter 2013/2014.

Table 6: Additional 2013 Population Control Recommendations

Units	Management Program Goal (15-25 deer/mi ²)	2013 Count (February)	Adjusted 2013 Count ^a	Projected 2013 Population (November)	Calculated Harvest ^b	Minimum Recommended Fall/Winter 2013/2014 Harvest ^d
NW	11-19	14	14	17	0-6	0
WC	3-6	22	22	29	23-36	23
SW	25-42	83	83	110	68-85	68
NE	31-52	72	53	71	19-40	19
EC	4 ^e	27	27	36	32	32
SE	4-7	8	8	11	4-7	4
Total	78-130	226	207	274	146-196^c	146

^a The aerial count was conducted during the sharpshooting effort; 19 deer were removed after the count. Prior to calculating projections for November 2013, counts were adjusted by subtracting out the post-count sharpshooting results.

^b Based on 2013 deer count, projected population for November 2013, and program goal of 15-25 deer per square mile of preferred habitat

^c This range is based on subtracting the management program goals from the projected 2013 population (274 minus 130 and 274 minus 78). However, the harvest ranges for the management units in the column above do not add up to the total calculated harvest range because the projected populations for some management units are equal to or less than the corresponding program goal. Zeros replace negative numbers that would have resulted if the program goals for these units were subtracted from the projected populations.

^d Removing deer based on the calculated ranges for the management units could result in a total 2013/ 2014 Program deer population that is less than the overall goal. Therefore, the lower end of the calculated harvest range for each management unit is recommended in order to stay within the target program range.

^e As recommended in the 2008 Natural Resource Master Plan, the deer per square mile goal for areas with woodland restoration projects was reduced to five deer per square mile in 2011 for a five year span to allow for woodland re-growth. Since a woodland restoration program is in place in Terrace Oaks Park, the target deer population in the East Central Management Area has been decreased from 12-20 deer to 4 deer until 2016; thus resulting in a recommended harvest of 32 for this area.

It is recommended that the archery hunting strategy as outlined in the Program be continued in the fall of 2013; the primary focus should be in the Southwest Management Unit. The guidelines and polices of the hunts will be refined based on the observations and suggestions made during the 2012 archery hunts.

It is also recommended that sharpshooting in the East Central, Northeast, West Central, and Southeast Management Units be conducted in the winter of 2013/2014.

Between archery hunting and sharpshooting, the goal for fall/winter 2013/2014 should be to harvest 32 deer in the East Central Management Unit, 68 deer in the Southwest Management Unit, 19 deer in the Northeast Management Unit, 23 deer in the West Central Management Unit, and 4 deer in the Southeast Management Unit. An additional 50 deer could be removed if funding allows; the additional harvest should be implemented as allowed by opportunity within these management units.

Archery hunting and sharpshooting activities in the Southwest Management Unit should continue to be coordinated with the District. The USFWS periodically performs deer removals within the Minnesota Valley National Wildlife Refuge. Deer removal efforts by the City in the Northeast Management Unit should be coordinated with the USFWS. Further coordination efforts should be made between the City and USFWS in efforts to reduce the deer population in the Northeast management unit. The City plans to meet with the USFWS in 2013 to discuss further efforts.

Feeding Ban

No changes to the deer feeding ban are recommended. Continue to provide information to the public, and continue to monitor and follow up on feeding complaints as they occur.

Program Costs

Each year the annual budget will be adjusted based on the estimated deer density and removal needs, funding availability, and the goals of the overall program. Table 7 provides an adjusted estimate of costs for the implementation of the Program in 2013/2014.

Table 7: Estimated Cost to Implement Recommendations

Recommendation	Adjusted 2013/2014 Costs
Education	
Website Updates, Newsletter Articles, Cable Programs	City Staff
Video Production	\$ 2,000
Subtotal	\$ 2,000
Monitoring	
Aerial Counts	\$ 2,700
Monitoring Coordination	City Staff
Deer Reporting	\$ 400
Statistics/Figures, Program Update	\$ 7,000
Subtotal	\$ 10,100
Population Control	
Archery Program Coordination	City Staff
Sharpshooting	\$ 23,950
Signs, Supplies, Misc.	\$ 1,800
Subtotal	\$ 25,750
Feeding Ban Ordinance	
Administration	City Staff
Subtotal	\$ 0
TOTAL	\$ 36,050