

Burnsville Deer Management Program 2011 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.

This annual report has been prepared to document the progress of the Program implementation in 2011. This report also provides recommendations for the remaining portion of 2012.

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*.

Based on the low turn out for the "Living with Wildlife" workshops in 2002 and 2003, a workshop has not been held in subsequent years. The City will consider holding future workshops or preparing other information that can be shown on the local cable channel or published in newsletters, as warranted by public interest.

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 2011 and early 2012.

Aerial Counts

An aerial deer count was not performed in late 2011 or early 2012, due to a lack of suitable snow conditions. Therefore, the deer population in Burnsville for March 2012 was estimated (as described in Table 1) based on the previous population projection, and deer removals during 2011 and early 2012. The current population is estimated to be 221 deer.

Table 1: March 2012 Population Estimation

Projected 2011 Population (November)^a	Actual Removals^b		Estimated March 2012 Population
287	Crashes	29	221
	Sharpshooting	21	
	Fetuses removed in Sharpshooting Harvest	5	
	Archery	6	
	Murphy-Hanrehan Park Archery	3 ^c	
	Murphy-Hanrehan Park Muzzleloader	2 ^d	
	<i>Total removed</i>	<i>66</i>	

^a Reported in the 2010 Annual Report of the Burnsville Deer Management Plan

^b Data presented later in the 2011 Annual Report

^c 30 deer were removed in Murphy-Hanrehan Park Special Permit Archery Hunt. Much of the park is located outside of Burnsville, so it is likely that few deer were taken within Burnsville limits. 10% (3 deer) was used for the number of deer removed within Burnsville's portion of the park.

^d Of the 15 deer harvested in the Murphy-Hanrehan Muzzleloader hunt, 2 were reported from within Burnsville city limits.

Deer observations reported to the City throughout 2011 by local residents are shown in Figure 1. These observations only represent periodic observations and were not used in the total population count.

Three Rivers Park District (District) typically conducts aerial deer counts in and around Murphy-Hanrehan Park Reserve, but was unable to perform a count due to the lack of snow in the 2011-2012 season, therefore, there is no District count data to report.

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 2011 was collected from the Burnsville Police Department and the State of Minnesota. Twenty known car/deer crashes were reported to the City. The Burnsville Police Department initiated a new computer program a few years ago, which has made it more difficult

to track deer collisions; therefore, the actual number of car/deer crashes reported to the City may be higher. The State of Minnesota identified five car/deer crash records, with two records overlapping the City’s data. 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 2011. The data provided by the City of Burnsville Police Department included seven deer carcasses removed from the city. Two of the collected deer overlap the City’s crash data.

The total minimum number of car/deer crashes for 2011 was 29 (total includes non-overlapping carcass removals). This is 14 fewer car/deer crashes reported than in 2010. A summary of the 2011 crash data by management unit is provided in Table 3. 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 2011, five report forms were submitted to or recorded by the City from three different individuals (or sites). There were four general observation records. The number of records received for each category is listed in Table 2. One report of depredation was received in 2011. The monitoring reports were from the East Central Management Unit and the Northeast Management Unit. Three of these records (1 in the Northeast Management Unit and 2 in the East Central Management Unit) were located near preferred deer habitat. The approximate locations of the 2011 general observations are shown in Figure 1.

Table 2: 2010 Monitoring Report Forms by Category

Number of Sites	Number of Records	Depredation	General Observations	Carcass/Crash/Collision	Other
5	5	1	4	0	0

Exclosure Data

During 2011, the City continued to monitor the exclosure areas in Terrace Oaks Park. Deer have been excluded from the monitoring areas for ten 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 2010, wild geranium (*Geranium maculatum*), rue anemone (*Anemonella thalictroides*) and jack-in-the-pulpit (*Arisaema*

triphyllum) were present in 2011. One box elder (*Acer negundo*) showed signs of browse outside of an enclosure, though box elder was found in equal abundance in plots with enclosures versus those without. Similar to 2009, prickly gooseberry was found to be higher in abundance within enclosure areas.

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 2011.

Monitoring Data Comparison

Table 3 on the following page compares the monitoring data collected during 2011 and early 2012 with the previous eight years of data.

Population Control

The Program approved two primary population control strategies: archery hunting and sharpshooting. Based on the January 2011 deer counts and projected population for November 2011 (as presented in the 2010 Annual Report), 165 deer were recommended to be removed through a combination of these methods during the fall/winter 2011/2012.

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. 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.

In 2011, the City sponsored archery deer hunts on public land within the city. The Burnsville Archery Hunts were conducted over five periods between October 13 and November 12 in Kelleher Park (formerly named Cam Ram Park). The Minnesota Bowhunters Resource Base coordinated the five hunt periods. A total of 6 deer were harvested from the park as shown in Table 4. Of the 6 deer harvested, 5 were female (four adults and one yearling) and one was male (yearling).

Table 3: Comparison of Annual Monitoring Data for 2003 through Early 2012

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

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

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

^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 three deer removed from Southeast Management Unit.

Table 4: 2011 Burnsville Archery Hunts

Location	Hunt Period	Adult Female	Female Yearling	Adult Male	Male Yearling	Total
Kelleher Park	10/13 to 10/15	1	1	0	0	2
	10/22 to 10/22	0	0	0	0	0
	10/27 to 10/29	0	0	0	0	0
	11/03 to 11/05	1	0	0	1	2
	11/10 to 11/12	2	0	0	0	2
Murphy-Hanrehan Regional Park						3 ^a
Total	---	4	1	0	1	9

^a Estimated that 10 percent (3 deer) of District harvest occurred within Burnsville portion of the park.

Winter 2012 Sharpshooting

The City of Burnsville Police Department conducted sharpshooting within the city limits in 2012. The removal effort occurred January 13 through March 7, 2012. Sharpshooting was conducted within Cliff Fen Park, Black Dog Park, Terrace Oaks, and at the Compost site. Twenty-one deer were harvested as shown in Table 5. Of the 21 deer harvested, four were female (three adults and one yearling) and 17 were male (fourteen adults and three yearlings). It was noted in the summary report that five fetuses were also removed with the adult female deer.

Table 5: Winter 2011/2012 Sharpshooting

Location	Adult Female	Female Yearling	Adult Male	Male Yearling	Total
Cliff Fen Park	1	0	11	2	15
Black Dog Park	1	0	2	1	4
Terrace Oaks			1		
Compost Site	1	1	0	0	2
Total	3	1	14	3	21 + 5^a

^a Five 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 11 through November 13, 2011, and harvested 30 deer from the park. Much of the regional park is located outside the limits of Burnsville, thus it is likely that only a small portion of the 30 deer taken during the hunt was within the city. Three Rivers Park District also held a shotgun/muzzleloader hunt December 3rd and 4th in Murphy-Hanrehan Park in 2011. Two deer were harvested within the limits of Burnsville (Tables 1 and 6).

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 2011.

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 6, along with the target removal goals established in the 2010 Annual Report.

Table 6: 2011/2012 Removal Results

Units	Recommended Fall/Winter 2011/2012 Harvest ^a	Fall 2011 Archery Hunting	Winter 2011/ 2012 Sharpshooting/ Muzzleloader	Total Deer Removed in Fall/Winter 2011/2012
NW	36-46	0	0	0
WC	0-2	0	0	0
SW	74-91	9	2	11
NE	40-61	0	26	26
EC	13	0	0	0
SE	0	0	0	0
Total	165-214	9	28	37

^a Based on adjusted 2011 deer counts, projected population for November 2011, and program goal of 15-25 deer per square mile of preferred habitat (as presented in the 2010 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. The City talked with the respective landowner and no further reports have been received at that location.

Recommendations for the Remainder of 2012

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. Staff will coordinate with the Police Department to improve data collection from the Animal Control contractor for 2012.

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 enclosure observations. It can also aid in identifying additional access points for hunters during population control efforts and potential feeding ban violations.

Population Control

As noted earlier, an aerial deer count within the limits of Burnsville was not completed in late 2011 and early 2012, due to lack of snow. As a result, deer populations were estimated. Based on population estimations, age and gender data collected during the archery hunts, sharpshooting, and carcass removals and typical reproduction/mortality factors, a population projection was calculated for November 2012. The population projection was then used to establish a fall/winter 2012/2013 removal goal. The DNR evaluated the City's deer population projection and removal goal and found them to be reasonable.

Table 7 provides a breakdown (by management unit) of the Program's deer management goal, the results of the 2012 estimation, the population projection and removal recommendation for fall/winter 2012/2013.

Table 7: Additional 2012 Population Control Recommendations

Units	Management Program Goal (15-25 deer/mi ²)	Estimated 2012 Population (March) ^a	Projected 2012 Population (November)	Calculated Fall/Winter 2012/2013 Harvest ^b	Minimum Recommended Fall/Winter 2012/2013 Harvest ^d
NW	11-19	56	73	54-62	54
WC	3-6	0	0	0	0
SW	25-42	98	130	88-105	88
NE	31-52	62	82	30-51	30
EC	4	8	10	6	6
SE	4-7	0 ^c	0	0	0
Total	86-146	221^c	295	178-224^c	178

^a Population estimates as presented in Table 1.
^b Based on 2012 deer population estimate, projected population for November 2012, and program goal of 15-25 deer per square mile of preferred habitat.
^c This range is based on subtracting the total management program goal from the projected 2012 population (295 minus 146 and 295 minus 86). 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 the West Central Management Unit, East Central Management Unit, and Southeast Management Unit 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 2011/2012 deer population that is less than the overall program 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 Based on population and actual removal; total reflects three deer removed from Southeast Management Unit..

As recommended in the 2008 Natural Resource Master Plan, the number of deer per square mile 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 6 for this area.

It is recommended that the archery hunting strategy as outlined in the Program be continued in the fall of 2012; 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 2011 archery hunts.

It is also recommended that sharpshooting in the East Central, Northeast, and Northwest Management Units be conducted in the winter of 2012/2013.

Between archery hunting and sharpshooting, the goal for fall/winter 2012/2013 should be to harvest 6 deer in the East Central Management Unit, 88 deer in the Southwest Management Unit, 30 deer in the Northeast Management Unit, and 54 deer in the Northwest Management Unit. An additional 31 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.

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 8 provides an adjusted estimate of costs for the implementation of the Program in 2012.

Table 8: Estimated Cost to Implement Recommendations

Recommendation	Adjusted 2011 Costs
Education	
Website Updates, Newsletter Articles, Cable Programs Video Production	City Staff \$ 2,000
Subtotal	\$ 2,000
Monitoring	
Aerial Counts Monitoring Coordination Deer Reporting Statistics/Figures, Program Update	\$ 2,600 City Staff \$ 400 \$ 8,000
Subtotal	\$ 10,800
Population Control	
Archery Program Coordination Sharpshooting Signs, Supplies, Misc.	City Staff \$ 23,250 \$ 1,800
Subtotal	\$ 25,250
Feeding Ban Ordinance	
Administration	City Staff
Subtotal	\$ 0
TOTAL	\$ 38,050