

Burnsville Deer Management Program 2010 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 2010. This report also provides recommendations for the remaining portion of 2011.

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 2010 and early 2011.

Aerial Counts

An aerial deer count was performed by the City on January 19, 2011. The aerial count was conducted after the fall 2010 archery hunts, but before the winter 2010/2011 sharpshooting was conducted (see Population Control). Snow conditions were good at the time of the count, with minimum snow depths of six inches throughout the city.

The aerial count observed 242 deer within the city limits. A summary of the 2011 aerial count by management unit is provided in Table 2. Figure 1 shows the distribution of deer observed during the flight. Deer observations reported to the City throughout 2010 by local residents are shown in Figure 3. These observations only represent periodic observations and were not used in the total population count.

Three Rivers Park District (District) also conducts aerial deer counts in and around Murphy-Hanrehan Park Reserve, which includes the Southwest Management Unit of Burnsville. The District performed an aerial count on January 18, 2011. Their count for the Southwest Management Unit was 91 deer, which is comparable to the City's count of 87 deer for the same unit. The data demonstrates the importance of cooperating with adjacent jurisdictions, given the movement of deer from nearby habitat outside 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.

Crash Data

Car/deer crash data for 2010 was collected from the Burnsville Police Department and the State of Minnesota. Twenty-five (25) 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 seven car/deer crash records, with three 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 2010. The data provided by the City of Burnsville Police Department included 20 deer carcasses removed from the city. Four of the collected deer overlap the City's crash data.

The total minimum number of car/deer crashes for 2010 was 44 (total includes non-overlapping carcass removals). This is five more car/deer crashes than in 2009. A summary of the 2010 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 2010, three report forms were submitted to or recorded by the City from three different individuals (or sites). There were three general observation records. The number of records received for each category is listed in Table 1. No reports of depredation were received in 2010. The monitoring reports were all from the East Central Management Unit, with two records located near preferred deer habitat. The approximate locations of the 2010 general observations are shown in Figure 3.

Table 1: 2010 Monitoring Report Forms by Category

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

Exclosure Data

During 2010, the City and S.T.O.P. (Stewards to Our Parks) continued to monitor the exclosure areas in Terrace Oaks Park. Deer have been excluded from the monitoring areas for nine winter seasons.

A preliminary review of the data did not provide a clear indication of any new trends. Common buckthorn (*Rhamnus cathartica*) seems to be maintaining abundance. Similar to 2009, wild geranium (*Geranium maculatum*), rue anemone (*Anemonella thalictroides*) and jack-in-the-pulpit (*Arisaema triphyllum*) were present in 2010. American elm had signs of browse outside one exclosure and was found in greater abundance within the exclosure.

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. No changes in deer density goals have been implemented to date.

Monitoring Data Comparison

Table 2 compares the monitoring data collected during 201 and early 2011 with the previous eight years of data.

Table 2: Comparison of Annual Monitoring Data for 2003 through Early 2011

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

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

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

^a Represents the actual counts as shown in Figure 1. Later in Table 6, the counts are adjusted to represent the population after sharpshooting occurred.

^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.

Population Control

The Program approved two primary population control strategies, archery hunting and sharpshooting. Based on the February 2010 deer counts and projected population for November 2010 (as presented in the 2009 Annual Report), 84 deer were recommended to be removed through a combination of these methods during the fall/winter 2010/2011.

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 2010, the City sponsored archery deer hunts on public land within the city. The Burnsville Archery Hunts were conducted over five periods between October 14 and November 13 in Kelleher Park (formerly named Cam Ram Park). The Minnesota Bowhunters Resource Base coordinated the four hunt periods. A total of 15 deer were harvested from the park as shown in Table 3. Of the 15 deer harvested, 13 were female (seven adults and six yearlings) and two were male (adults).

Table 3: 2010 Burnsville Archery Hunts

Location	Hunt Period	Adult Female	Female Yearling	Adult Male	Male Yearling	Total
Kelleher Park	10/14 to 10/16	2	1	0	0	3
	10/21 to 10/23	1	3	0	0	4
	10/28 to 10/30	0	1	0	0	1
	11/04 to 11/06	4	0	1	0	5
	11/11 to 11/13	0	1	1	0	2
Total	---	7	6	2	0	15

Winter 2010/2011 Sharpshooting

The City of Burnsville Police Department conducted sharpshooting within the city limits in 2011. The removal effort occurred February 1 through March 25, 2011. Sharpshooting was conducted within Cliff Fen Park, Black Dog Park, and at the Compost site. Twenty-five (25) deer were harvested as shown in Table 4. Of the 25 deer harvested, 14 were female (13 adults and one yearling) and 11 were male (seven adults and four yearlings). It was noted in the summary report that 20 fetuses were also removed with the adult female deer.

Table 4: Winter 2010/2011 Sharpshooting

Location	Adult Female	Female Yearling	Adult Male	Male Yearling	Total
Cliff Fen Park	5	0	2	0	7
Black Dog Park	4	0	5	1	10
Compost Site	4	1	0	3	8
Total	13	1	7	4	25

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 12 through November 14, 2010, and harvested 18 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 18 deer taken during the hunt was 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 2010.

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 2009 Annual Report.

Table 5: 2010/2011 Removal Results

Units	Recommended Fall/Winter 2010/2011 Harvest ^a	2010 Archery Hunting	Winter 2010/2010 Sharpshooting ^b	Total Deer Removed in Fall/Winter 2010/2011
NW	15-23	0	0	0
WC	10-13	0	0	0
SW	83-100	15	0	15
NE	115-136	0	25	25
EC	0	0	0	0
SE	0	0	0	0
Total	197-257	15	25	40

^a Based on adjusted 2010 deer counts, projected population for November 2010 and program goal of 15-25 deer per square mile of preferred habitat (as presented in the 2009 Annual Report).

^b All twenty-five deer were removed via sharpshooting after the January 19, 2011 aerial count.

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. All of the complaints have been in different areas, and further complaints in these areas have not been received since. No feeding ban violations were reported in 2008, 2009, or 2010.

Recommendations for the Remainder of 2011

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.

Deer management training is planned for the Burnsville Police Department to improve removal success. This training will be conducted by a sharpshooting professional prior to the 2011/2012 sharpshooting efforts.

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 2011.

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 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 completed in January of 2011. Based on the aerial count results, adjustments for the timing of sharpshooting efforts, 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 2011. The population projection was then used to establish a fall/winter 2011/2012 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 2011 aerial count, the population projection and removal recommendation for fall/winter 2011/2012.

Table 6: Additional 2011 Population Control Recommendations

Units	Management Program Goal (15-25 deer/mi²)	2011 Count (January)^a	Adjusted 2011 Count^a	Projected 2011 Population (November)	Calculated Harvest^b	Minimum Recommended Fall/Winter 2011/2012 Harvest^d
NW	11-19	43	43	57	38-46	38
WC	3-6	4	4	5	0-2	0
SW	25-42	87	87	116	74-91	74
NE	31-52	95	70	92	40-61	40
EC ^e	4	13	13	17	13	13
SE	4-7	0	0	0	0	0
Total	86-146	242	217	287	154-214^c	165

^a The aerial count was conducted before the sharpshooting effort; 25 deer were removed after the count. Prior to calculating projections for November 2011, counts were adjusted by subtracting out the post-count sharpshooting results.

^b Based on adjusted 2011 deer count, projected population for November 2011, 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 2011 population (287 minus 146 and 287 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 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 As noted in the 2008 Natural Resource Master Plan, a reduction in the deer population density to 5 deer per square mile is needed in areas where woodland restoration projects are underway. These woodland areas being restored need a 5 year respite from brown in order for the woodland areas to recover with more herbaceous and young woody species.

As recommended in the 2008 Natural Resource Mater Plan, the number of deer per square mile for areas with woodland restoration projects should be reduced to five (5) deer per square mile for a five (5) 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 for the next five years; thus resulting in a recommended harvest for this area.

It is recommended that the archery hunting strategy as outlined in the Program be continued in the fall of 2011; 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 2010 archery hunts.

It is also recommended that sharpshooting in the East Central, Northeast, and Northwest Management Units be conducted in the winter of 2011/2012.

Between archery hunting and sharpshooting, the goal for fall/winter 2011/2012 should be to harvest 13 deer in the East Central Management Unit, 74 deer in the Southwest Management Unit, 40 deer in the Northeast Management Unit and 38 deer in the Northwest Management Unit. An additional 49 deer could be removed if funding allows; the additional harvest should be implemented as allowed by opportunity within these management units.

Three Rivers Park District is planning to conduct an archery hunt in 2011 (scheduled for November 11-13) within Murphy-Hanrehan Park Reserve. A muzzleloader hunt is also planned for the Park in 2011. Archery hunting and sharpshooting activities in the Southwest Management Unit should 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 7 provides an adjusted estimate of costs for the implementation of the Program in 2011.

Table 7: Estimated Cost to Implement Recommendations

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