



Results of the 2017 Duluth City Bowhunt

Report prepared by Brian Borkholder on behalf of the Arrowhead Bowhunters Alliance

February 2018

GENERAL 2017 SUMMARY: The Arrowhead Bowhunters Alliance (ABA) placed 296 hunters into the 2017 Duluth City Bowhunt. Those 296 hunters harvested a total of 290 white-tailed deer (239 antlerless & 51 antlered males) (Table 1).

For the third consecutive year in the thirteen-year history of the Duluth Bowhunt, the harvest rate as measured by the number of deer harvested per hunter was less than 1.0 (Tables 1 and 2). Harvest for the 2017 season was 0.98 ± 0.15 deer / hunter (Table 2). This represents the harvest for all registered hunters, including those hunters that failed to harvest any deer. Not knowing whether failing to harvest a deer in 2017 was the result of not spending much time in the woods, or not even getting into the woods, is unknown. All of the hunters not reporting any harvested deer were removed, and the reported harvest / successful hunter statistics are presented in Tables 1 and 2. Harvest for successful hunters averaged 1.81 ± 0.21 deer (Tables 1 & 2), higher than 2016 but still lower than the long-term average (Table 2).

The placement of 296 hunters in 2017 continues the decline in participation since the high in 2013 (Blue bars in Figure 1). The percentage of individuals harvesting deer in 2017 was 54.1%, higher than the lowest observed value in 2016. Just over half the hunters participating harvested an animal (Red line in Figure 1). Total harvest was the second lowest observed, even in the first year when far fewer hunters were placed (Blue bars in Figure 2). 2016 still represents the lowest total harvest. When standardized for number of participants, 2017 saw the second lowest number of antlerless and total harvest per hunter (Blue & red lines in Figure 2).

Similar to past seasons, the 2017 harvest was dominated by antlerless individuals (Table 1, Figure 3). Of the 290 deer harvested, 82.4% (N=239) were antlerless individuals. The breakdown of antlerless was 166 adult does, 36 fawn does, and 35 fawn bucks (Figure 3). These numbers are in line with past years' harvest distribution.

The Duluth City Council has established 42 Designated Hunting Areas (DHAs) throughout the City of Duluth. Harvest among these DHAs is highly variable (Figure 4). DHA 12B had the highest harvest in 2017 at 25 deer. DHA 1, for the third year in a row, had one of the highest reported harvests at 22 deer. DHA 16B has always been a top producer, and was once again in 2017. Hot spots are areas outside of DHAs, which the ABA Board and the Duluth Police Department set up on an ad hoc basis to target localized problem deer populations. In 2017, only 8 deer were harvested from Hot Spots (Table 4). Figure 5 shows the City of Duluth with the 42 various DHAs identified, along with the number of deer harvested for each of the DHAs.

Cumulative harvest throughout the season, by week number, is shown in Figure 6. 2017 data is depicted by the orange diamonds. Lighter markers present data from other seasons, 2008 – 2016. The harvest in 2017 tracks the harvest of 2016, and is among the lowest observed in the Duluth Hunt.

For the 13 seasons of the Duluth Bowhunt, total harvest by registered bowhunters is 6143 white-tailed deer; of which 5157 were antlerless while 986 were antlered males (Table 1). Only 16.0% of the harvest was antlered males, completely in line with the stated goals of this hunt to reduce antlerless individuals, and thus the reproductive potential of the Duluth deer herd.



Total harvest had been somewhat stable from 2006 thru 2012, between 500 and 600 animals (Blue bars in Figure 2). Beginning with the 2013 season, and continuing thru the 2017 season, harvest dropped well below this level (Figure 2), to the frustration of many of the Duluth hunters. The number of deer harvested / hunter was essentially flat at about 1.8 deer / hunter from 2007 – 2010, and dropped to approximately 1.0 deer / hunter in 2013 (Red line in Figure 2). In 2015, it dipped below 1.0 for the first time. 2016 saw a further decline in harvest / hunter. The percentage of hunters harvesting deer increased slightly in 2017 from the low observed in 2016 (Figure 7). During the first season of the hunt, more than 92% of participating hunters harvested a deer. In 2016, that percentage was below 50%, but rose slightly in 2017 to 54.1% (Figure 7, Table 1).

The 2017 results continue the observed trend of fewer deer harvested per participant, and fewer deer total harvested. Deer populations, by all accounts, are down from levels observed prior to the start of this Hunt Program. Our hunters have been very successful at lowering the Duluth deer herd as promised to the Duluth residents and City Council. While not enjoyable for those hunters that have to sit eight, ten, or even twelve times between deer sightings, it is hard to argue against the successes observed in this Hunt Program. Our hunters are to be commended.

Section 2: Further Evidence of a Declining Duluth Herd and Declining Duluth Hunter Success

Raw harvest numbers do not tell the complete story. Effort needs to be accounted for. When standardized by effort (number of hunters) or area (harvest / mile²), harvest trends are pretty clear. Harvest per square mile (mile²) is presented in a map view of the City of Duluth (Figure 8) and by various geographic areas of the City (Figure 9). Figure 10 shows a consistent decline in harvest / mile² over the entire history of the hunt on a city-wide basis. In 2017, harvest / mile² was only about 1/3rd of our first year's harvest (Figure 11). Table 4 presents the raw data for the last twelve years. Harvests in excess of 20 deer harvested / mile² were once common (Table 4, 2006 – 2012 seasons), but in 2017, harvest was never observed to be higher than 11.4 deer / mile² within any area of the City (Table 4, DHA 15). These data further suggest that the deer herd is not as high as it was at the start of this Hunt Program in 2005.

Another way of analyzing harvest is on a per hunter basis. Figures 2 (red line) and 7 present data suggesting a decline in hunter success. During the early years of the Hunt, the benchmark for success had been 2 deer / hunter, presumably one antlerless and one antlered deer. Figure 12 presents this data, and illustrates how much has changed between 2005 and the decline beginning in 2013. Between 2005 and 2017, the percentage has dropped from just under 60% of hunters harvesting two or more deer, to less than 25% in 2017, which is actually an increase from 2016 levels (Figure 12). Figure 13 shows a consistent decline in total harvest / hunter, antlerless harvest / hunter, and antlered buck harvest / hunter, where the slope of all three regressions is negative. The new benchmark for hunter success, and subsequent hunter expectation, may need to be adjusted downward to perhaps only a single deer / hunter.

Hunters were placed into discrete categories in order to look at hunting success. Two digits (XY) will be used to describe each hunter, where X = the number of antlerless harvested and Y = the number of adult males. Thus, 00 = no deer harvested; 10 = one antlerless and no antlered males; 50 = five antlerless and no males; 11 = one antlerless and 1 male. Figure 14 presents the hunter categories for the 2017 season. By itself, this graph doesn't reveal much about the 2017 Hunt, save that 136 individuals failed to register a deer. When compared to other seasons (Figure 15), we see an increase in the proportion of our hunters that failed to register any deer (category 00) (red line), and a slight increase in the number of hunters registering a single antlerless deer (10) (black line). The proportion of hunters registering one antlerless and one antlered (11) peaked in 2011, and has been declining since (green triangles).



However, when we look at the most successful hunters, i.e. those harvesting more than four deer, we see a consistent decline in these hunters (all three lines in Figure 16). As hunters drop out of these categories, they naturally fall into the 00 and 10 categories, which explains the increase observed in Figure 15. This observed decline in hunter success corroborates other data observed from this hunt.

Hunter selectivity is very difficult to model and assess. It's safe to assume that hunters will harvest the first antlerless for which they have a safe and ethical opportunity. After the first antlerless has been harvested, it's difficult to know what hunter selectivity patterns truly are. Some hunters intentionally pass on fawns, as the time spent processing a deer is not worth the small amount of meat. Others go out of their way to harvest fawns, as they feel the higher quality meat is worth the lower quantity. Assuming that hunter selectivity has not changed from one year to the next, we can evaluate the harvest to see if winters or hunter success in the past are likely the causes for the declining hunter success and harvest totals observed in recent years. The antlered portion of the harvest for each season was removed from the total. Fawns were combined into one category separate from adult females in another. There's little, if any, change over time in the percentages of each deer type (Figure 17). This suggests that the winters may not have as much of an influence on the declining deer harvest in Duluth as have the registered bowhunters.

At the end of the season, our hunters are asked to provide input in a Year End Survey. One of the questions in this survey was to ask returning hunters about their observations on deer densities in the woods. This is anecdotal information only, but trends become apparent with a few years' worth of observational data. Survey participants were asked to rate deer observations relative to just the 2016 season in the Duluth Hunt, on a scale from 1 to 7, with 1 being "a lot fewer deer observed" to 7 being "I saw a whole lot more deer relative to previous seasons". 4 meant "no change in Deer Numbers Observed". In previous surveys, hunters were asked to rate their deer observations relative to "previous seasons". Obviously many of our hunters remember the "good old days" when it was routine to see 20 – 30 deer per night, and observational data corroborated this with annual mean scores typically in the range of 2.0. Figure 18 presents the data for antlerless, antlered, and total deer observations in 2017 relative to ONLY the 2016 season. Of the 131 returning hunters that responded, mean observational scores for the 2017 season were 3.1 ± 0.2 antlerless deer observed, indicating that hunters reported seeing only slightly fewer deer this season relative to 2016. Hunters reported seeing more antlered males (3.3 ± 0.3) relative to antlerless deer (Figure 18), though this was not significantly different. Differences in observational data between 2017 and 2016 were significantly different ($t = 4.6034, P < 0.000001$). Again, this is likely comparing the observations between 2016 to 2017 (one year worth of data) to observations between the "good old days" and 2016 (multiple years of the herd declining). This suggests that the herd, while much lower than when this Hunt Program started in 2005, may have leveled off to a new equilibrium deer density.



Table 1. Summary Statistics for the Duluth City Bowhunt. Total harvest / hunter for each deer type reports the harvest for all hunters participating in the Hunt. Harvest / successful hunter removes all of the hunters that failed to register a deer during each season. Percentage Donated reports the percentage of harvested deer donated to friends, family, or food shelves. The number of hunters and percentage harvesting two or more deer is also reported, along with the percentage of hunters that were successful in harvesting any deer. Mean (average), maximum and minimum observed values are summarized at the bottom of the table. Total harvest numbers are also presented.

	# Hunters Placed	# Hunters Harvesting	Total Harvest	Total Antlerless	Total Antlered	Total Harvest / Hunter	Total Harvest / Successful Hunter	Buck Buck Harvest / Hunter	Buck Buck Harvest / Successful Hunter	Antlerless Antlerless Harvest / Hunter	Antlerless Antlerless Harvest / Successful Hunter	% Donated	% Hunters Harvesting a Deer
2005	192	177	333	265	68	1.73	1.88	0.35	0.38	1.38	1.50		92.2%
2006	252	196	564	485	79	2.24	2.88	0.31	0.40	1.92	2.47		77.8%
2007	315	252	568	477	91	1.80	2.25	0.29	0.36	1.51	1.89		80.0%
2008	289	220	533	458	75	1.84	2.42	0.26	0.34	1.58	2.08		76.1%
2009	315	247	588	494	94	1.87	2.38	0.30	0.38	1.57	2.00	51.7%	78.4%
2010	339	272	604	515	89	1.78	2.22	0.26	0.33	1.52	1.89	61.8%	80.2%
2011	377	268	587	476	111	1.56	2.19	0.29	0.41	1.26	1.78	57.9%	71.1%
2012	359	274	574	483	91	1.60	2.09	0.25	0.33	1.35	1.76	53.7%	76.3%
2013	391	231	399	346	53	1.02	1.73	0.14	0.23	0.88	1.50	58.3%	59.1%
2014	355	208	451	375	76	1.27	2.17	0.21	0.37	1.06	1.80	51.2%	58.6%
2015	375	209	371	309	62	0.99	1.79	0.16	0.30	0.82	1.48	47.7%	55.7%
2016	352	174	281	235	46	0.80	2.02	0.13	0.26	0.67	1.35	50.4%	49.4%
2017	296	160	290	239	51	0.98	1.81	0.17	0.32	0.81	1.85	52.8%	54.1%
Mean	323.62	222.15	472.54	396.69	75.85	1.50	2.14	0.24	0.34	1.26	1.80	53.9%	69.9%
Min	192	160	281	235	46	0.80	1.73	0.13	0.23	0.67	1.35	47.7%	49.4%
Max	391	274	604	515	111	2.24	2.88	0.35	0.41	1.92	2.47	61.8%	92.2%
Sum			6143	5157	986								



Table 2. Hunter harvest statistics for the 2017 Duluth Bowhunt, along with 2016 statistics and the long-term averages. As in Table 1, total harvest / hunter for each deer type reports the harvest for all hunters participating in the Hunt. Harvest / successful hunter removes all of the hunters that failed to register a deer during each season.

	2017	2016	Long-term Duluth Average
Total Harvest/Hunter	0.98 ± 0.15	0.80 ± 0.12	1.50 ± 0.27
Buck Harvest / Hunter	0.17 ± 0.04	0.13 ± 0.04	0.24 ± 0.04
Antlerless Harvest / Hunter	0.80 ± 0.13	0.67 ± 0.10	1.26 ± 0.23
Harvest / Successful Hunter	1.81 ± 0.21	1.61 ± 0.16	2.14 ± 0.19
Buck Harvest / Successful Hunter	0.32 ± 0.07	0.26 ± 0.07	0.34 ± 0.03
Antlerless Harvest / Successful Hunter	1.49 ± 0.18	1.35 ± 0.14	1.80 ± 0.18

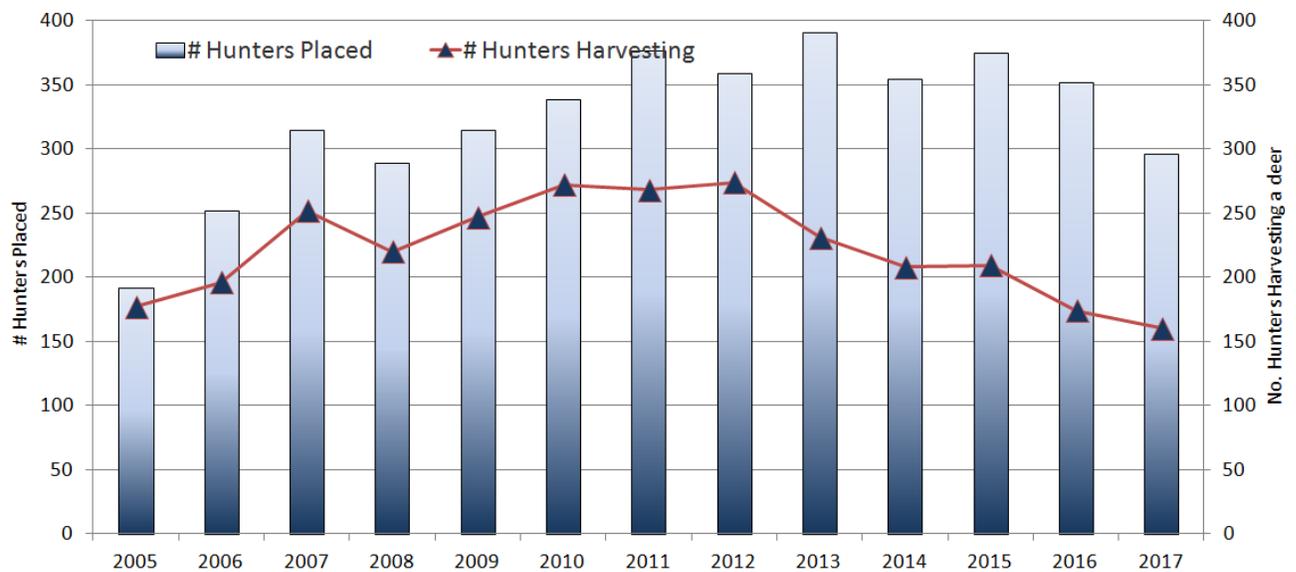


Figure 1. Number of hunters placed (left axis) and the number of those hunters harvesting deer (right axis) in each season of the Duluth City Bowhunt. The placement of 296 hunters in 2017 marks a decline in interest since the high in 2013. The number harvesting deer in 2017 also continues the declining trend since a high in 2012.



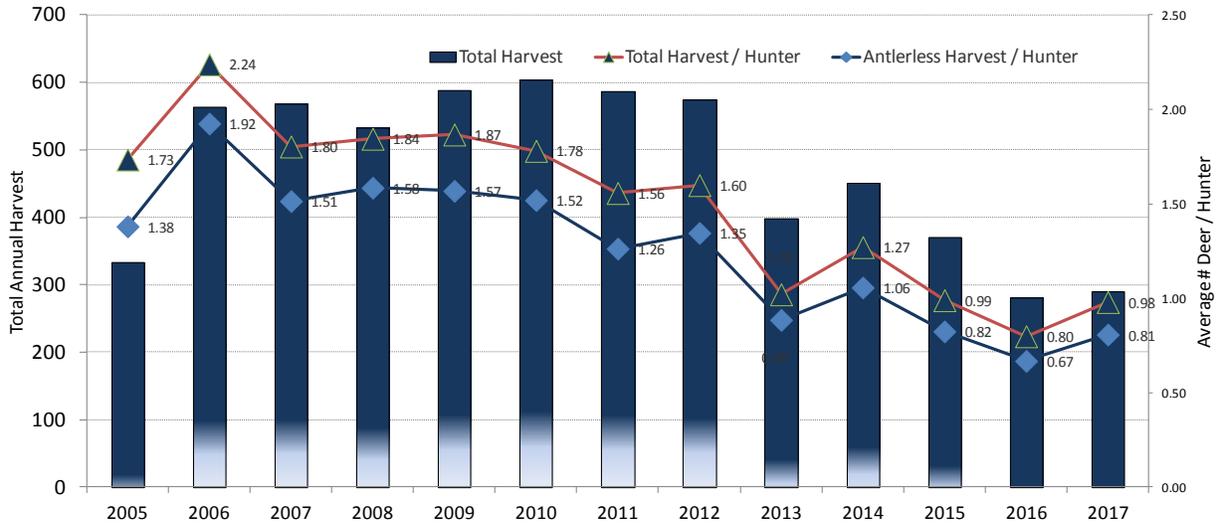


Figure 2. Total harvest, total per hunter, and total antlerless per hunter for the twelve seasons of the Duluth City Bowhunt. Total harvest is near the lowest level since 2005, when far fewer hunters were placed. When standardized for number of participants, hunter harvest rate was slightly higher in 2017 than the low observed in 2016.

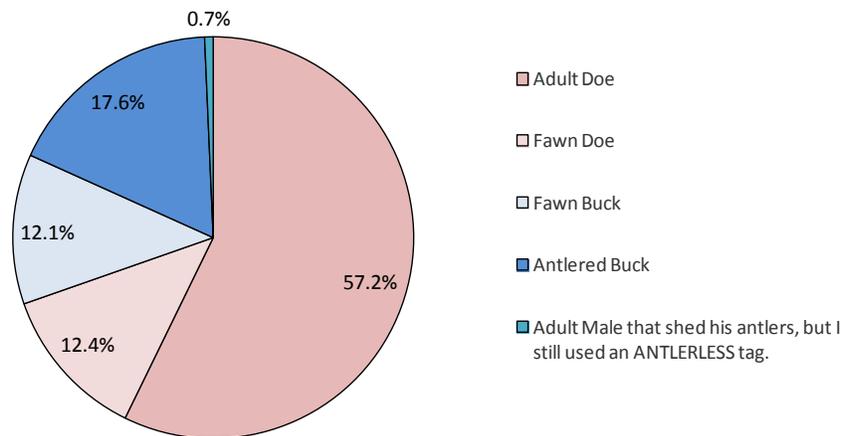


Figure 3. Breakdown of harvest by deer type for the 2017 Duluth Bowhunt.



Total Harvest by DHA

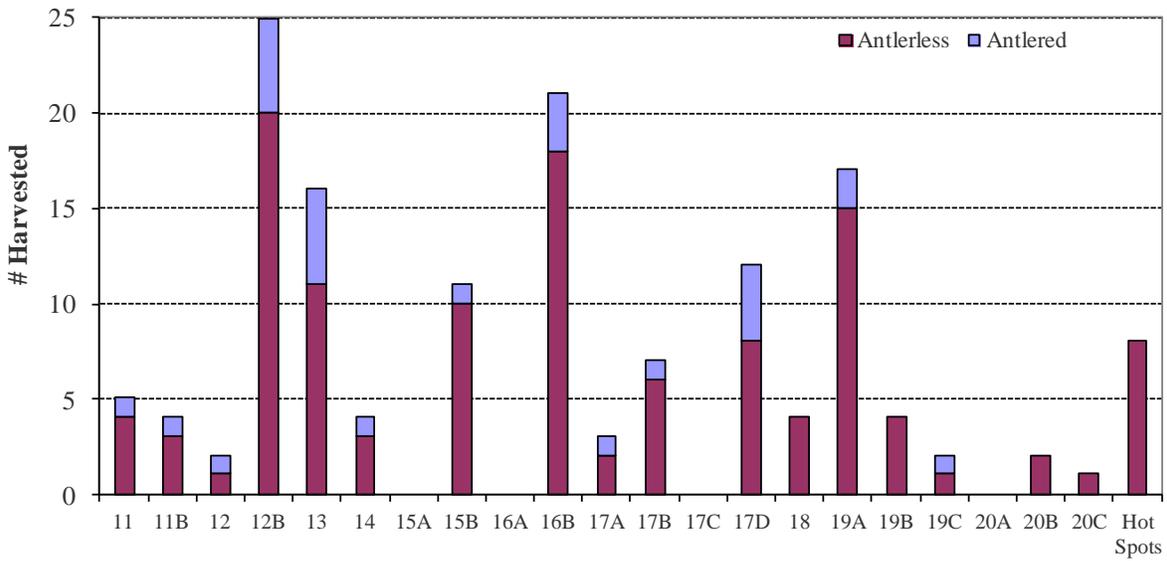
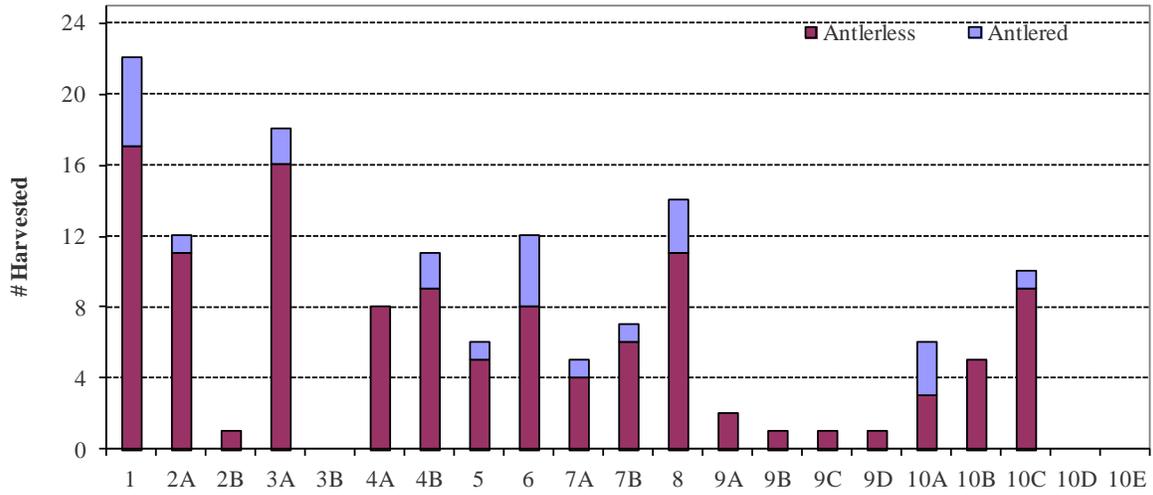


Figure 4. Number of deer harvested by deer type (Antlerless or Antlered) within each of the 42 designated hunting areas (DHAs) within the City of Duluth during the 2017 bowhunt.



Table 3. Harvest within Hot Spots during the 2017 Duluth City Bowhunt. Harvest within Hot Spots is limited to antlerless only.

Description	No. Antlerless Harvested
Grand Ave west	1
Lakeside	3
Sneve	2
Wabasha	2
TOTAL	8

Overall, the deer harvested / mile² is the lowest observed (Figures 10 & 11). Total harvest / hunter and antlerless harvest / hunter are also at all-time lows (Figure 13). The data in Figure 13 was partitioned out into what is being interpreted as the three phases of this hunt (Figure 19). During the early years of the hunt, the white-tailed deer density was high, as was hunter success, which was relatively constant at just under 2.0 deer / hunter (blue line, Figure 19). After several successive seasons of high harvest, our hunters began to have a noticeable effect on the herd, and it, along with hunter success, began a five year decline during what may be referred to as the “declining years” of the Duluth Hunt (red line, Figure 19). 2017 represents the third consecutive year of the “Maintenance Phase” of the hunt, where the deer herd seems to have stabilized (for the time being) as has hunter success at a level just under 1.0 deer per hunter (green line, Figure 19). Note that the regression lines for the “early years” and the “maintenance phase” are essentially parallel lines in Figure 19, illustrating the two distinct time periods.

Hunters, politicians, and landowners need to begin adjusting expectations and redefine the definition of “success” for this urban hunt. In 2005, “success” was defined by the hunters as “punching all five tags”. Politicians and landowners defined “success” as a harvest of 500 or more deer during those early seasons. Politicians sought to increase hunter participation and recruitment from one year to the next in order to increase harvest and their definition of “success”. The ABA believes that those days are past, as we now have a new deer herd sustained at levels far lower than those observed prior to the start of this hunt in 2005, and far lower than what can sustain a harvest exceeding 500 deer per season.

“Success” needs to be redefined as we move from the phase of depressing the deer herd to one of maintaining it at this low level. Bowhunters have never been successful at total deer herd removal in any urban hunt within the United States. Reduction is possible, and Duluth hunters have demonstrated this. But bowhunters will never completely eliminate white-tailed deer from the landscape. Further, Duluth residents do not largely support a complete elimination of the deer herd. A new definition for success should be the continued opportunity for our bowhunters to participate in a sport that is a passion of many, in our own backyard. Continuing this opportunity provides services to our community by keeping the herd at current levels, one seemingly accepted by gardeners, homeowners, and those that drive vehicles and have to dodge darting deer during the autumn months. Eliminating this opportunity will no doubt increase the deer herd back to 2005 population levels in a few short years, a level completely unacceptable by the residents, insurance companies, and the Duluth Police Department.



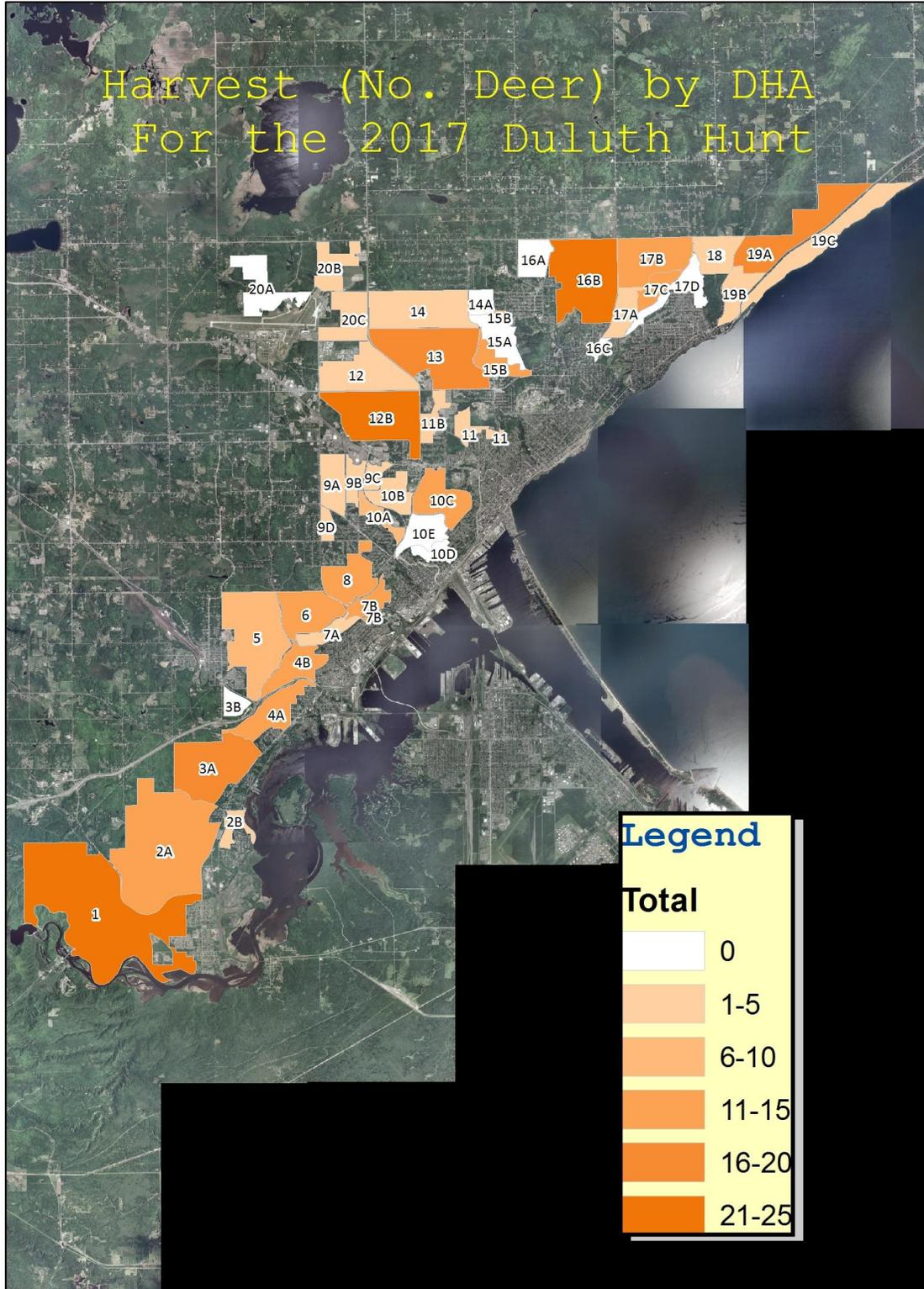


Figure 5. Map of the City of Duluth, along with harvest (number of deer) within each of the 42 Designated Hunting Areas during the 2017 Duluth City Bowhunt. DHAs are labelled on the map. The color of the DHA indicates the number of deer harvested as identified in the legend at the right.



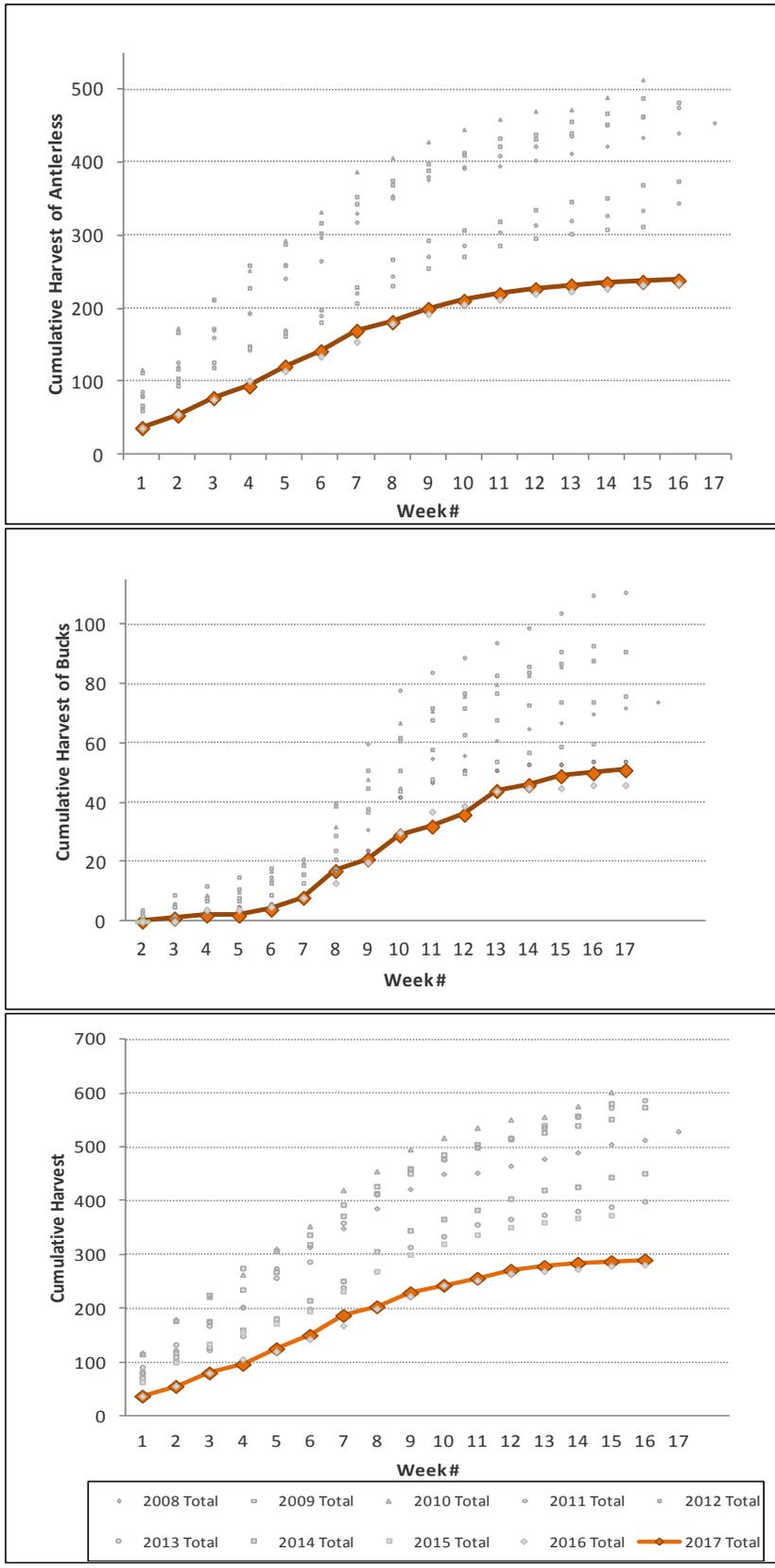


Figure 6. Harvest throughout the season, by week number, for the 2017 Duluth City Bowhunt (orange lines). Top panel shows harvest of antlerless deer; middle panel shows harvest for antlered males; bottom panel is total harvest by week. Weeks are measured Saturday thru Friday, starting on 16 September 2017 thru the end of the season on 31 December 2017. Other seasons are shown for comparison using non-colored markers.



% Hunters Harvesting a Deer

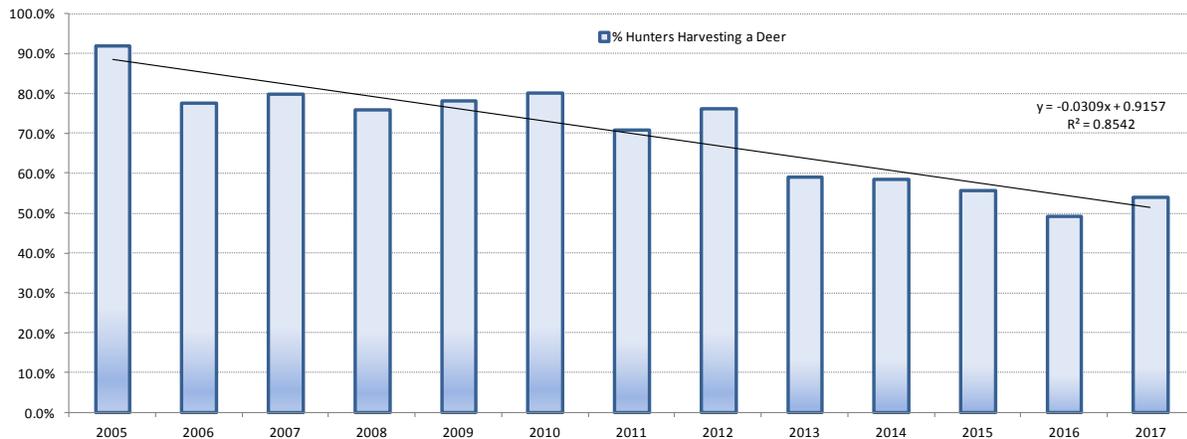


Figure 7. Percentage of hunters harvesting deer while participating in the Duluth City Bowhunt. Hunters in 2017 were slightly more successful than those in 2016, which was the lowest percentage of successful hunters observed. Regression line is shown.

It is important to note that even though our hunters are largely not satisfied with the success rates in recent seasons, it is still significantly higher than the MN Statewide archery success rate of 18.7% (C. Balzer, MN DNR, personal communication). This statistic is for successful hunters throughout the State. Clearly, when compared to the past success rates in the city hunt, the success rate is down (54.1%, Table 1), but it is still pretty good when compared to the statewide average. Our hunters can be expected to harvest at least one deer every 2.0 years (ABA Data), as opposed to the statewide average of hunters harvesting 1 deer every 5.4 years (C. Balzer, MNDNR, personal communication). There are several hypotheses that may explain this difference in success rates, even given a real or perceived lack of deer in the woods. Duluth hunters jump thru a lot of hoops to get into this Hunt, and thus are likely to invest more time in the woods. Plus, it is very convenient to hunt in your back yard or after work to jump into a stand three blocks away. It is much less convenient to run up to deer shacks 30 miles out of town, or to leave the city after work and still have the daylight time to get in an evening sit. Without this opportunity, many of our hunters would likely spend much less time in the woods, and their hunting success would reflect that lack of effort.

In addition, there's hunter selectivity that can't be modeled between the City's opportunities (unlimited antlerless) and that of the other Bowhunters within Minnesota. Most areas of MN limit hunters to a single deer. Due to the unfortunate perceptions propagated by the modern deer hunting media complex, a "true" hunter only shoots "trophy" bucks. Many hunters throughout the State hunt patiently for the "perfect" deer. Many shot opportunities are passed. These hunters may, or may not, end up punching their tag. This may be reflected in the low statewide success of 18.7%. Duluth City hunters are essentially required by the earn-a-buck regulation to take the first legitimate shot opportunity on any antlerless individual. This likely inflates our success rate much higher than it would be in the absence of unlimited tags and the earn-a-buck requirement. Our hunters' relatively high success may not be truly indicative of deer densities within the City, and probably shouldn't be compared to those outside of the City.



Perhaps it is time to reconsider what this hunt is all about. Deer reduction, while a major component of any urban hunt, is not the only benefit to the City and the participants. There's little argument that the reduction of the deer herd has been effectively accomplished. But the Hunt continues to provide a wonderful and safe recreational opportunity in our own backyards. In addition, many participants rely upon the "free range" meat that they can provide to their families. Continuing the Hunt has additional benefits to society in addition to keeping the deer herd at socially acceptable levels.

Bowhunters will need to adjust their expectations in the future. Gone are the days of seeing a dozen deer every evening in the woods. While this Hunt Program continues, those population levels will likely never be seen again. Hunters that don't have the time or patience to wait for just two or three harvest opportunities in a season are encouraged to hunt elsewhere. What the ABA and law enforcement can't tolerate are hunters taking matters into their own hands, and artificially increasing harvest opportunities at the expense of ethics and the law. Examples include baiting or creating illegal food plots on public lands. Another example is choosing to ignore the DHA boundaries and hunting illegally in areas not approved by the Duluth City Council or the Duluth Police Department. While lower deer numbers and harvest opportunities are a hard reality for hunters that have been with this Program since inception, it's vital that participants consider the future of the Hunt Program and our continued acceptance by the Duluth residents before choosing to break the law. If these lower deer numbers are not acceptable to individual hunters, please pull out a State map and find other areas that may have higher deer densities than what is currently observed within Duluth.

For most readers, this will conclude the 2017 Annual Report by the ABA. On behalf of the Arrowhead Bowhunters Alliance, we thank all of those individuals that participated in the 2017 Duluth Bowhunt, and who made this another successful, albeit difficult, season. See you in the woods in 2018!

Section 3, beginning on page 21, will go into fine details of the 2017 Hunt, our hunters and their successes, and other such seemingly insignificant details that few, if any, will find even remotely interesting. For those brave souls that opt to continue, you may be tempted to interpret the statistics and graphs that follow as "*blah, blah, blah* . . .". If you have a misbehaving child, make them continue reading until their behavior and attitude improves, or until they fall asleep from sheer boredom.



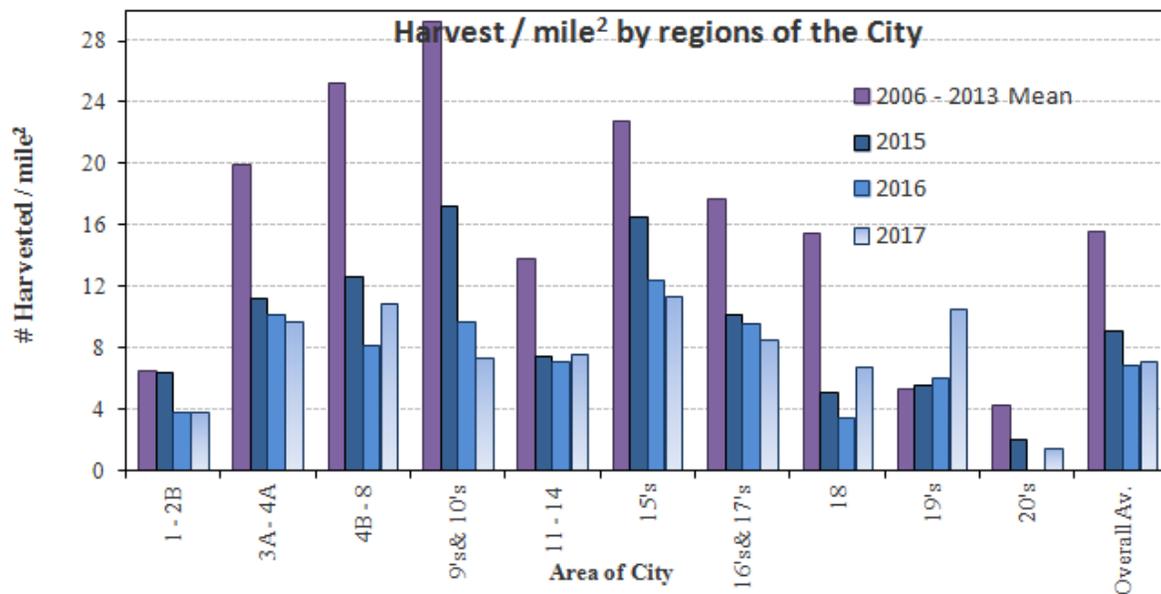


Figure 9. Harvest / mile² in various areas of the City of Duluth. Data presented is for the 2015 – 2017 seasons, and the long-term average (mean).

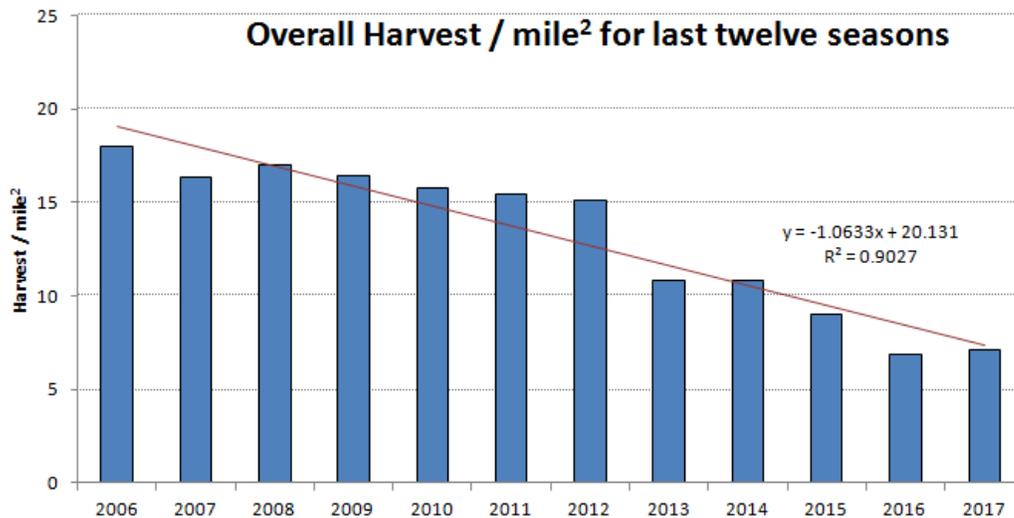


Figure 10. Harvest per mile² over a twelve-year time period in the Duluth City Bowhunt. Harvest is not included for 2005, as the DHAs were redrawn and are not the same as during the first season. Regression line is shown.



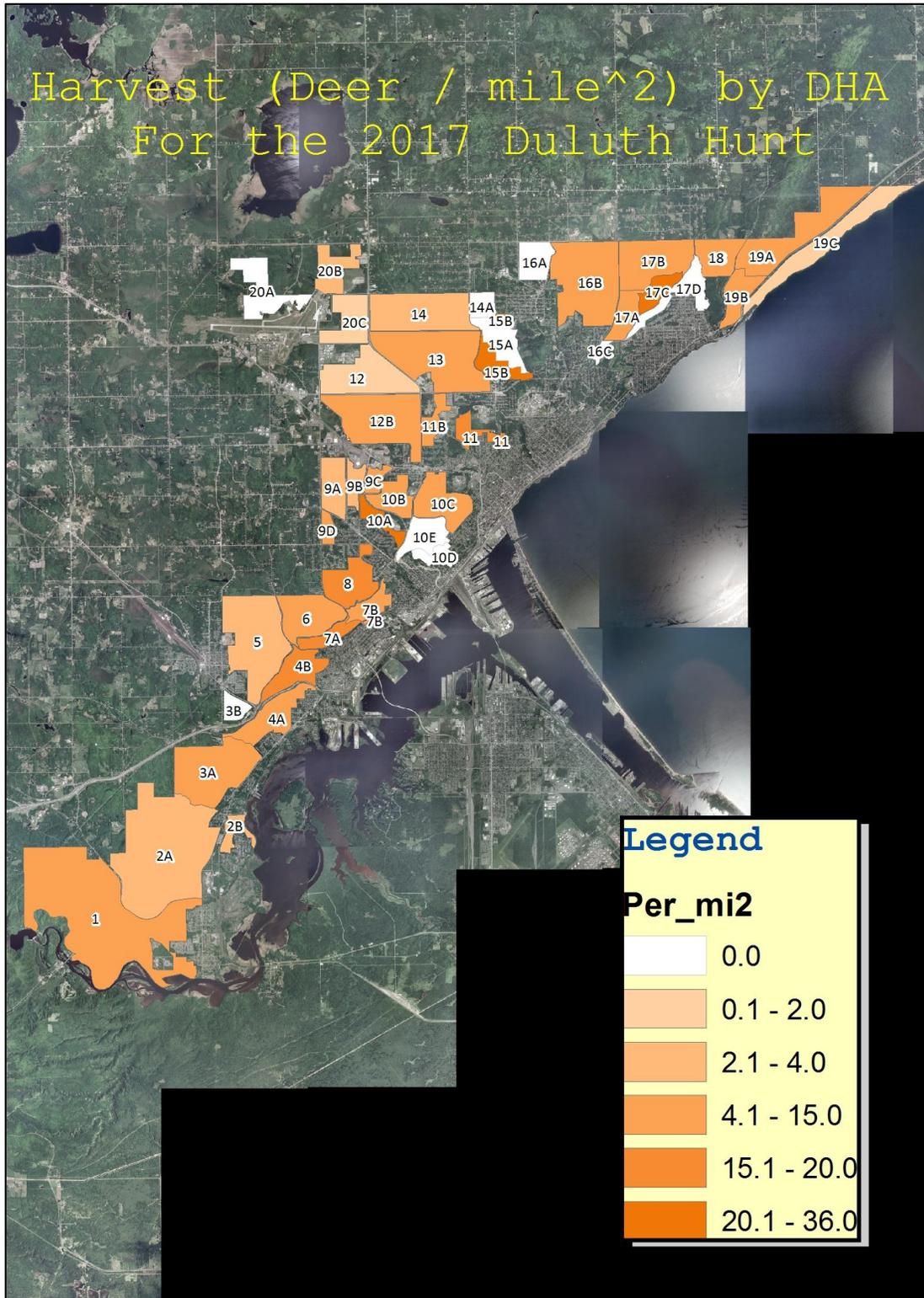


Figure 8. Map of the City of Duluth, along with harvest per mile² within each of the 42 Designated Hunting Areas during the 2017 Duluth City Bowhunt. DHAs are labelled on the map. The color of the DHA indicates the number of deer harvested per mile² as identified in the legend at the right.



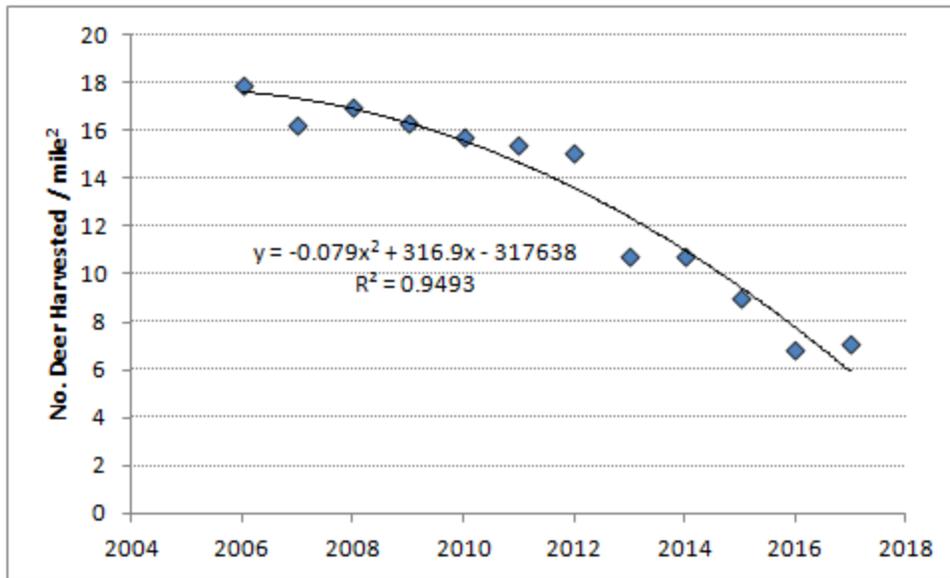


Figure 11. Overall harvest / mile² throughout the entire city encompassing all of the Designated Hunting Areas (DHAs).

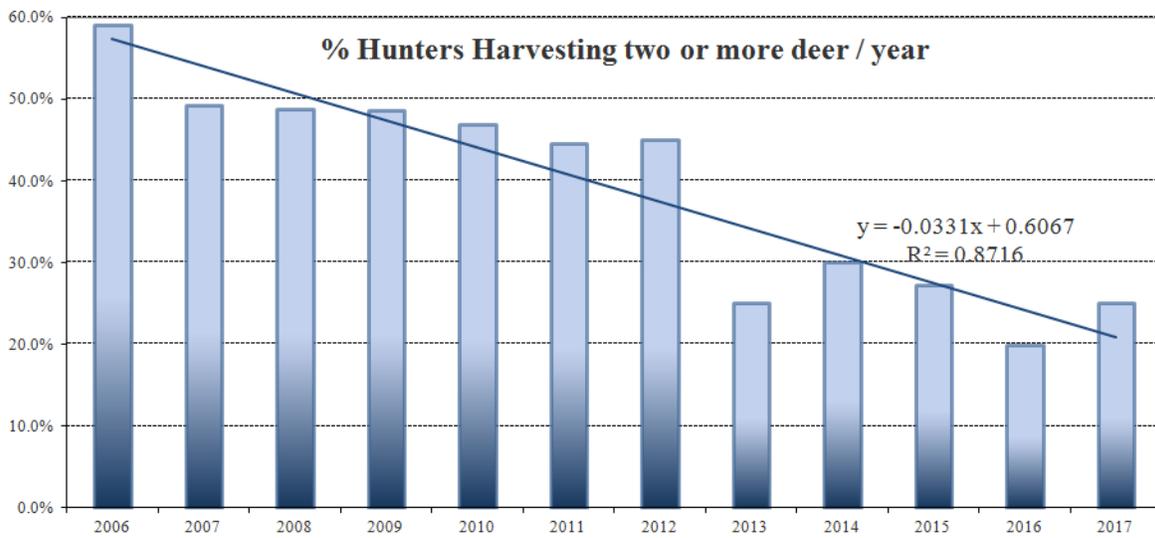


Figure 12. Percentage of hunters harvesting two or more deer per season while participating in the Duluth City Bowhunt. Regression line is shown.



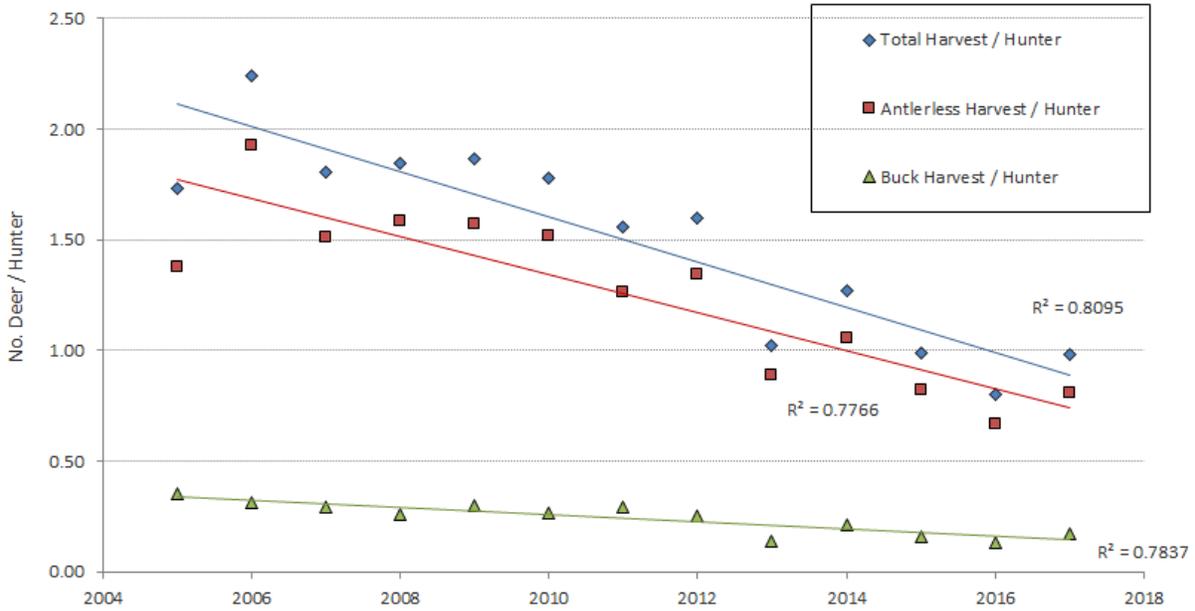


Figure 13. Harvest / hunter statistics for the 13 years of the Duluth City Bowhunt.

Table 4. Harvest / mile² in various areas (DHAs) of the City of Duluth, for the last 13 years where DHA boundaries have not changed.

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
1 - 2B	4.1	5.6	6.7	7.0	7.8	6.3	8.7	5.4	5.3	6.3	3.8	3.8
3A - 4A	24.4	18.4	13.6	26.0	21.6	24.8	18.8	11.5	10.9	11.2	10.1	9.7
4B - 8	29.8	28.2	28.2	25.0	26.6	24.7	25.0	14.3	15.2	12.6	8.1	10.9
9's & 10's	45.4	33.6	25.4	25.4	27.2	32.7	23.5	20.3	20.6	17.2	9.7	7.4
11 - 14	15.7	15.8	13.3	16.3	13.8	13.3	11.9	10.0	12.4	7.4	7.1	7.6
15's	39.7	20.4	25.8	26.9	16.1	17.2	24.7	11.4	13.4	16.5	12.4	11.4
16's & 17's	16.5	18.2	18.2	19.6	18.6	18.6	19.6	12.2	15.2	10.2	9.6	8.6
18	8.5	15.2	25.4	13.5	20.3	18.6	16.9	5.1	6.8	5.1	3.4	6.8
19's	3.6	5.7	2.0	6.1	5.3	3.3	11.8	4.7	4.0	5.5	6.0	10.5
20's	3.0	5.8	8.4	3.1	4.2	2.6	5.8	1.0	1.5	2.0	0	1.5
Overall Av.	18.0	16.3	17.0	16.4	15.8	15.4	15.1	10.8	10.8	9.0	6.9	7.1



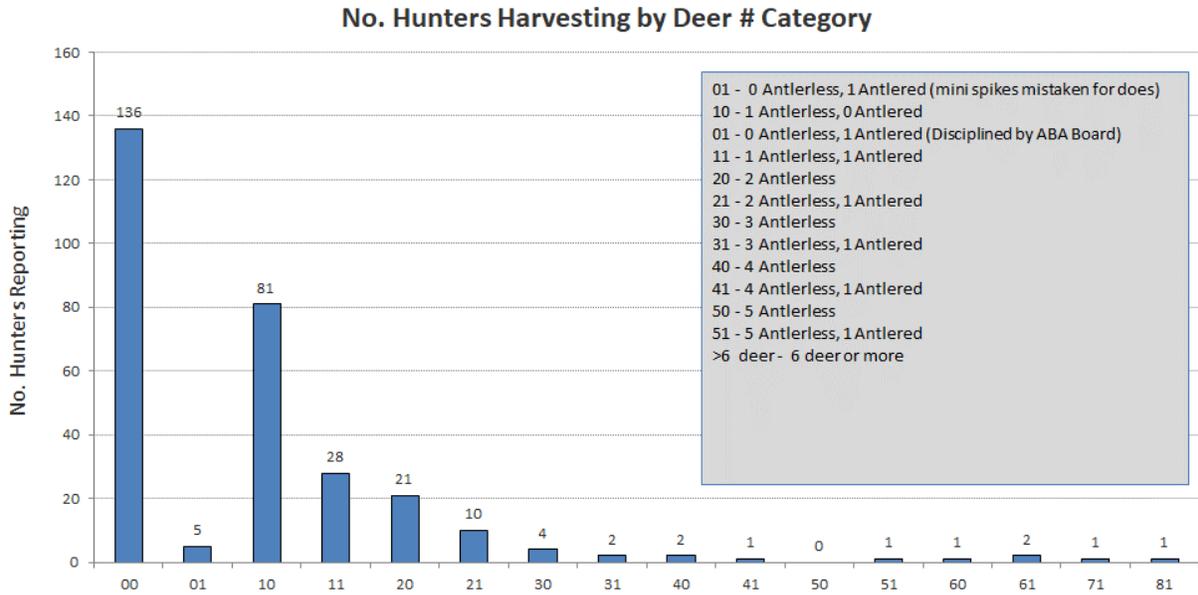


Figure 14. The number of Duluth City bowhunters by harvest category for the 2017 Duluth City Bowhunt.

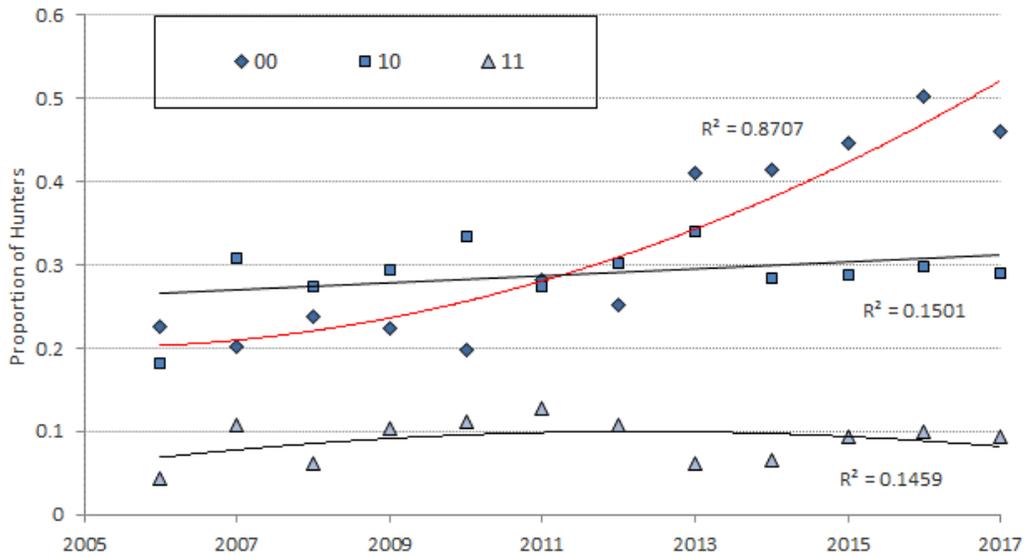


Figure 15. Hunter category for hunters in the Duluth City Bowhunt, for seasons 2006 – 2017. Data presented here are for hunters harvesting zero deer (00), one antlerless (10), and one antlerless and one antlered male (11).



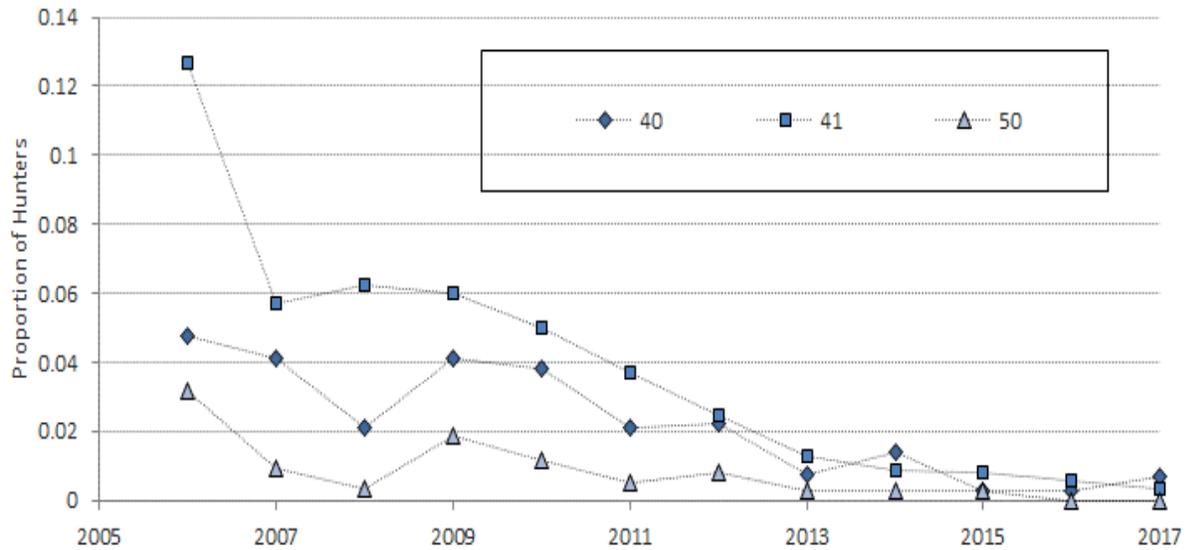


Figure 16. Hunter category for hunters in the Duluth City Bowhunt, for seasons 2006 – 2017. Data presented here are for hunters harvesting four antlerless (40), four antlerless and one antlered individual (41), and five antlerless (50).

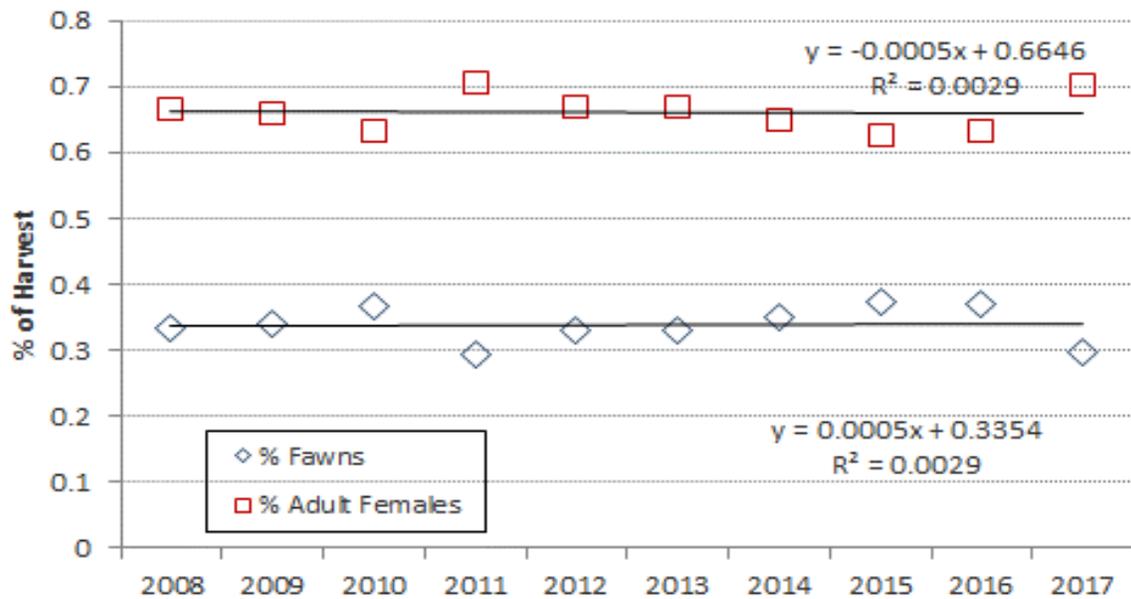


Figure 17. The percentage of antlerless harvest in the Duluth Bowhunt, from 2008 thru 2017.



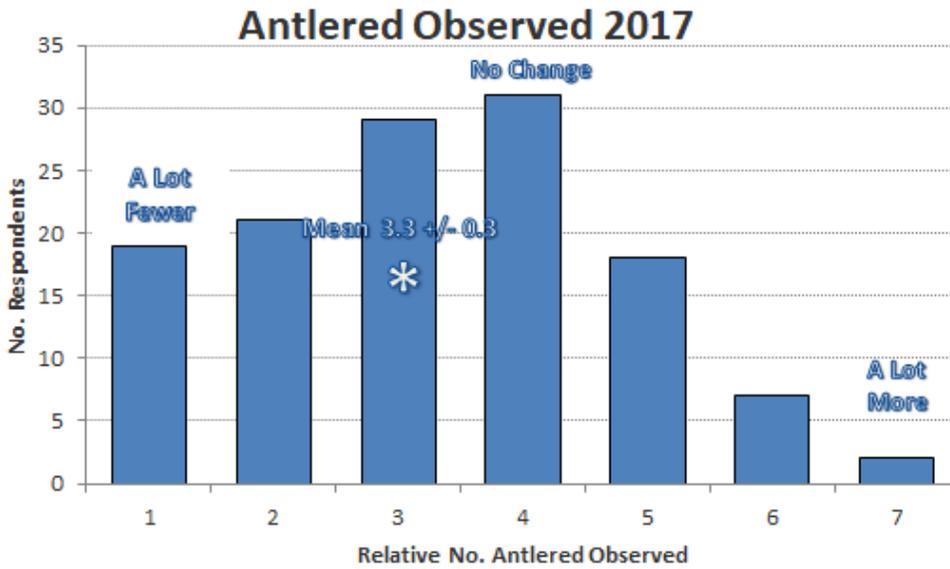
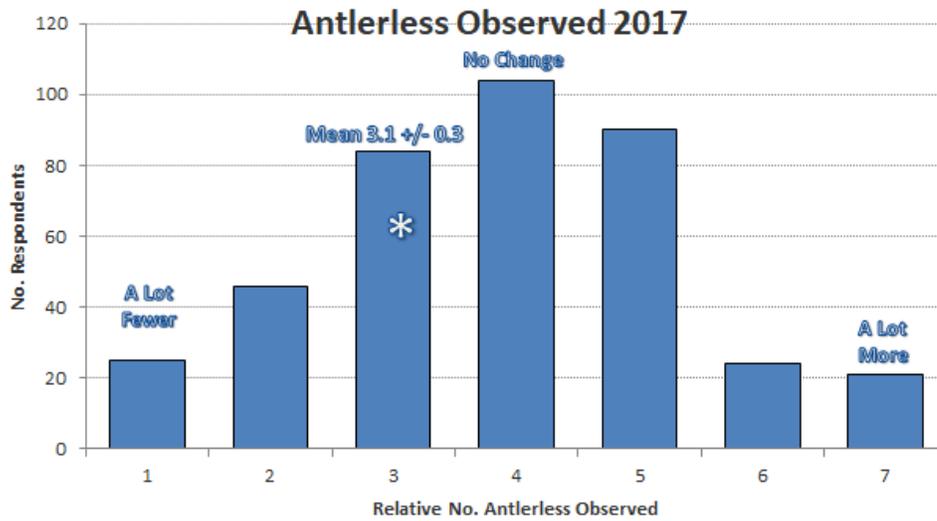


Figure 18. Relative number of deer observed by returning hunters in the 2017 Duluth Bowhunt, as compared to what was observed during the 2016 Hunt.



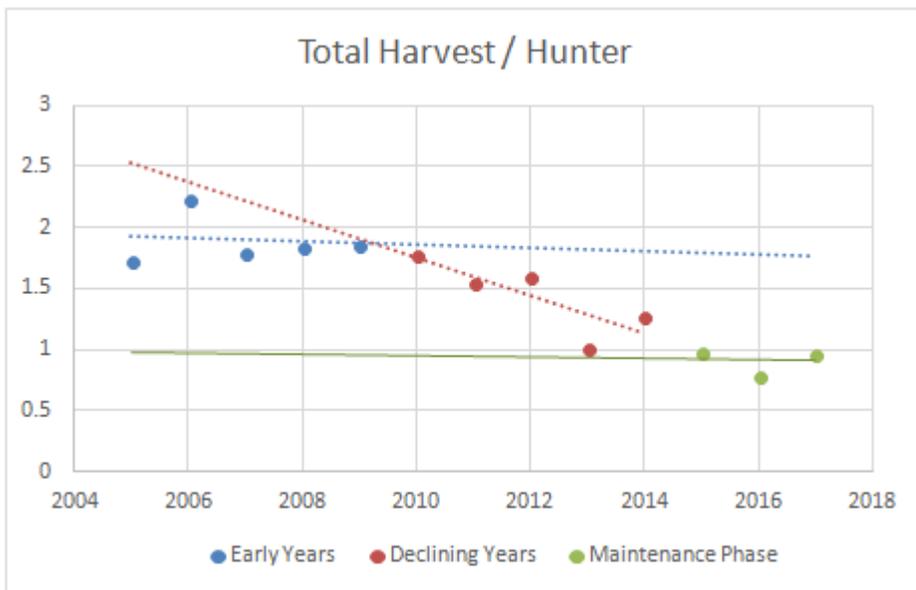
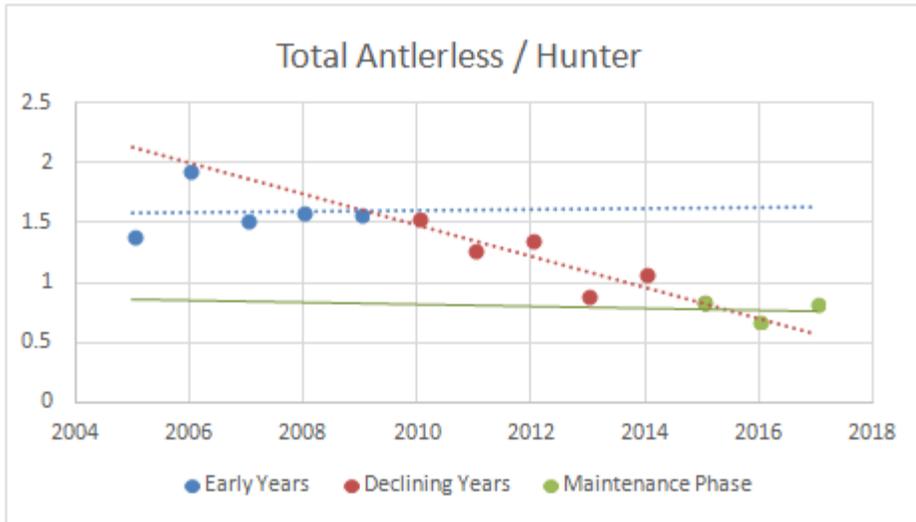


Figure 19. Total antlerless deer / hunter (top pane) and total harvest / hunter (bottom pane) for all years of the Duluth Urban Bowhunt, illustrating the three distinct phases of the Hunt, i.e. the “early years”, the “declining years” and the “maintenance phase” of the Duluth white-tailed deer herd.



Section 3: General Hunt details for the 2017 season

First of all, many hunters will recognize Figure 20. It's been used in most of the Hunt summaries. If you appreciate the humor, you will probably find the following section interesting. If you view figure 20 as moronic, now's a great time to put this report away, grab the ice-rod and your children, and head out for a much better use of your time.

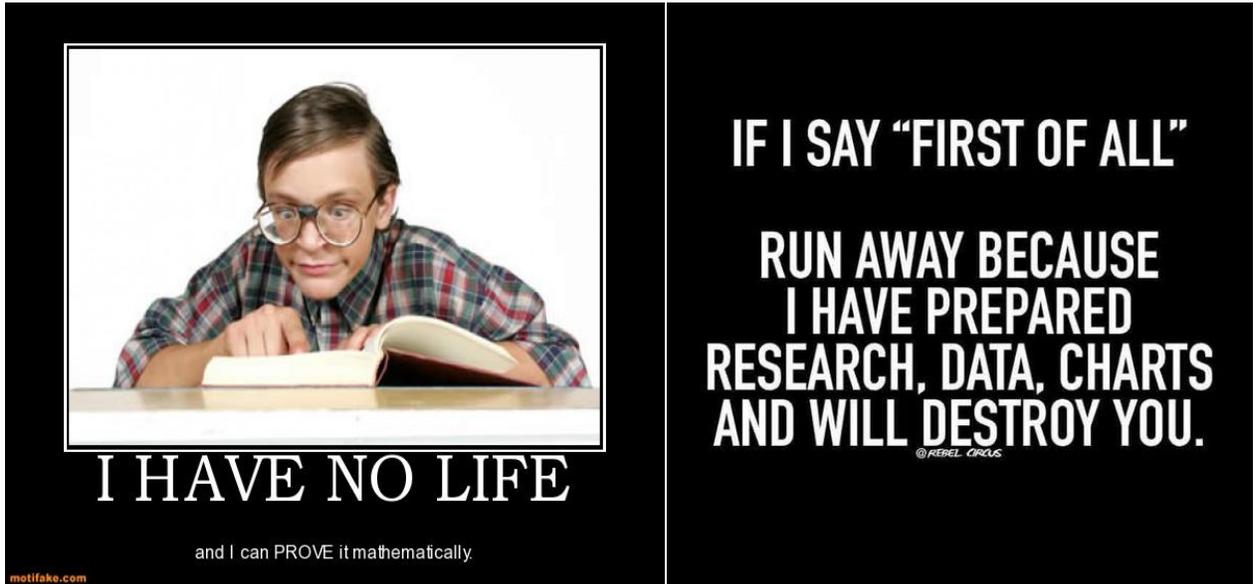


Figure 20. Needs no caption. Self-explanatory for those who know Bork.

Private Lands

The Duluth City Council has opened up private lands within the DHAs to our bowhunters. The Council could have limited hunting solely to public lands owned by the City. But to increase harvest, hunters can access any private property, with permission, within any of the DHAs. Our hunters once again took advantage of this opportunity in 2017. Harvest from private lands accounted for 48.3% of the 2017 harvest (Figure 21). A general misconception among some of the hunters, especially new ones, is that one needs access to private land in order to harvest deer, and specifically antlered males. Figure 22 breaks down harvest on public and private lands by deer type, and demonstrates that deer are still found on the public tracts of land within the City. However, it also demonstrates the importance of continued public support for this hunt, and forging positive relationships with Duluth landowners who continue to allow bowhunters to participate in this sport on their property.

**Public vs. Private Land Harvest
Total No. Deer**

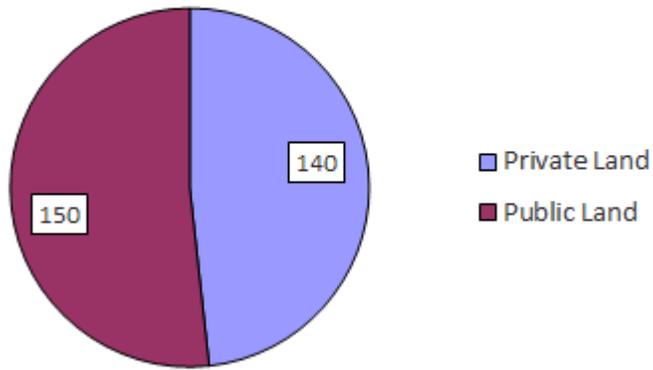


Figure 21. Harvest on public and private lands within the designated hunting areas during the 2017 Duluth City Bowhunt.

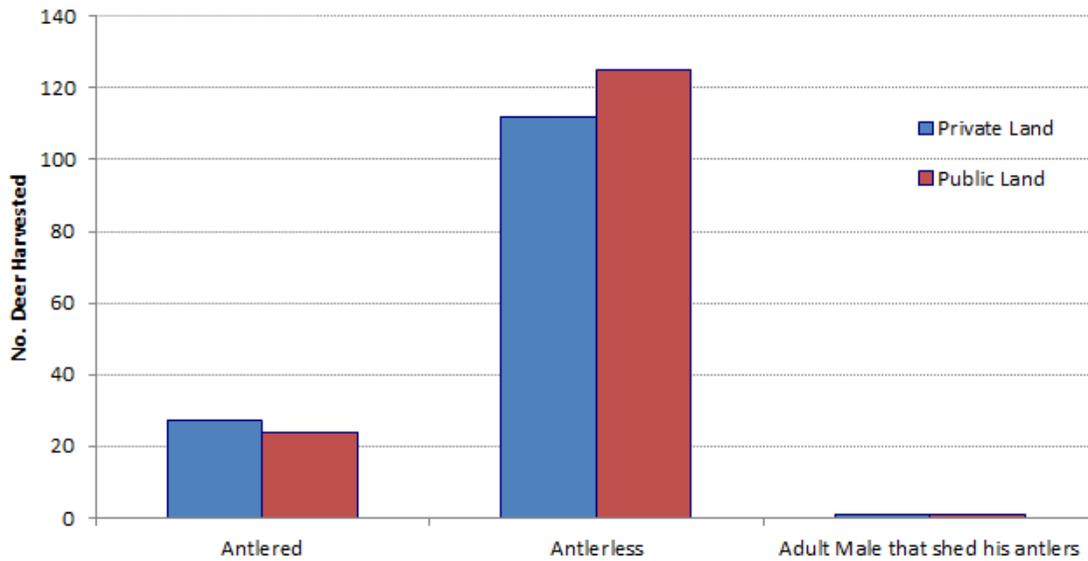


Figure 22. Harvest by deer type on public and private lands within the designated hunting areas during the 2017 Duluth City Bowhunt.



Not all of the DHAs are created equally, in terms of the portion of public and private lands within the boundaries of each DHA. Figure 23 breaks down harvest within the various DHAs by public and private. Clearly DHAs such as DHAs 1, 2A, 2B, 3A, and 19A are dominated by City-owned public lands, whereas 4B, 7B, 12B, 15B 16B, 13, and the 9's, for example, have many more opportunities available on private lands.

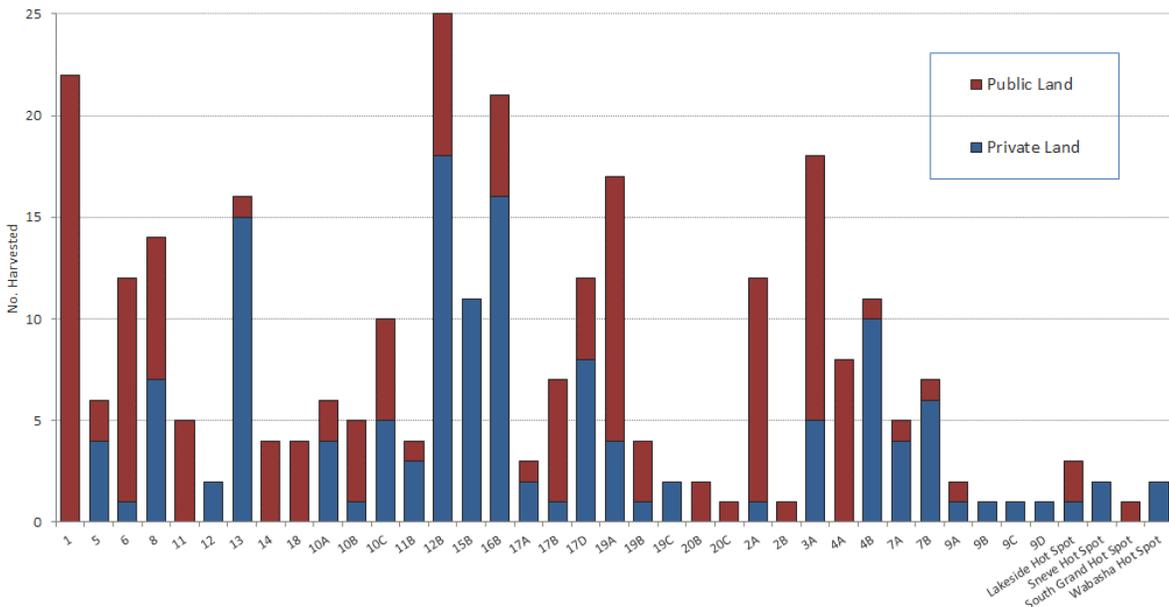


Figure 23. Harvest by Designated Hunting Area on public and private lands during the 2017 Duluth City Bowhunt.

Ground Blinds:

During the first years of the Duluth Hunt, the rules specified that hunters could ONLY hunt from elevated stands. Hunters requested the use of ground blinds to further open up areas within DHAs. The City Council approved, and ground blinds have been allowed by permission only from both the ABA and the respective DHA Hunt Coordinator. Figure 24 shows the results of ground blind use in 2017. Harvest was minimal from ground blinds, with only 6 harvested, hardly a significant amount (2.0%). However, once again, there were no incidents involving Duluth participants or any accidents resulting from the use of ground blinds. The ABA will continue to advocate for the use of ground blinds as a reasonable opportunity within areas of the City where tree stand setups are simply not feasible.



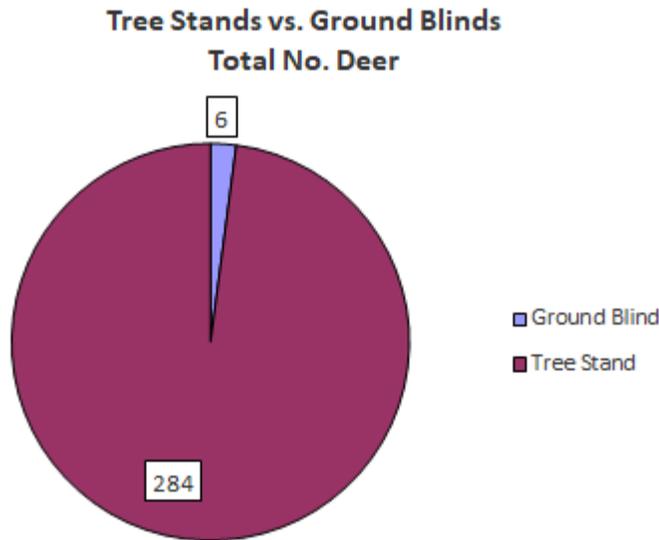


Figure 24. Number of deer harvested from ground blinds and tree stands during the 2017 Duluth City Bowhunt.

Hearts and Livers:

Again in 2017, Duluth hunters were asked to save hearts and livers from their harvested white-tailed deer. Hearts are used by the University of Minnesota – Duluth Medical School for dissection and anatomy. Medical School personnel approached the ABA many years ago, requesting hearts for their future surgeons to learn fine and intricate heart anatomy. Fresh hearts have much finer detail, in terms of arteries and capillaries, than do formalin-preserved ones. Hearts were collected on 8 November, when the harvest had reached 203 deer. 74 hearts were collected by UMD Medical School staff, which was about what they needed. Only 36% of our hunters indicated that they intended to participate in this opportunity to give back to the community (Figure 25).

A researcher associated with UMD requested livers from harvested deer for the fourth consecutive year. This individual is examining the occurrence of liver flukes in various white-tailed deer populations. Duluth was included in the study for the opportunity to receive many more samples at little to no cost. Figure 26 shows that Duluth hunters were largely un-supportive of this project, and only provided 24 samples for this researcher.

Hunter participation in these two programs was in the 26% - 36% range (Green pie sections in Figures 25 & 26), well below participation rates of the past, which even in 2016 was as high as 60%. This is a wonderful opportunity for hunters to participate in cutting-edge research as well as give back to the community that has opened up their backyard for our bowhunting recreation. The ABA Board struggles with how to make this program relevant to our hunters, and to encourage continued / further participation. Results from the 2017 Year End Hunter Survey (Details in Section 4, page 34) suggest that this Program is still important to our hunters (Figure 27), with 76% of survey respondents indicating that they'd participate. However, when it comes down to actually saving hearts and livers, our hunters tend to not bother or simply forget. Even some of our own ABA Board of Directors opt to not bother. The ABA will discuss in the near future whether or not to commit once again to UMD to collect these. Please understand that the ABA is immensely grateful to those hunters that went out of their way to collect, store, and ultimately deliver these hearts and livers. Should the ABA opt to continue participation in these programs in the future, the Board would encourage ALL hunters to participate. This is especially important given that harvest is likely to continue to decline, meaning there will be fewer hearts available to collect, and UMD needs approximately 75 hearts each fall. Every heart will be important in 2018!



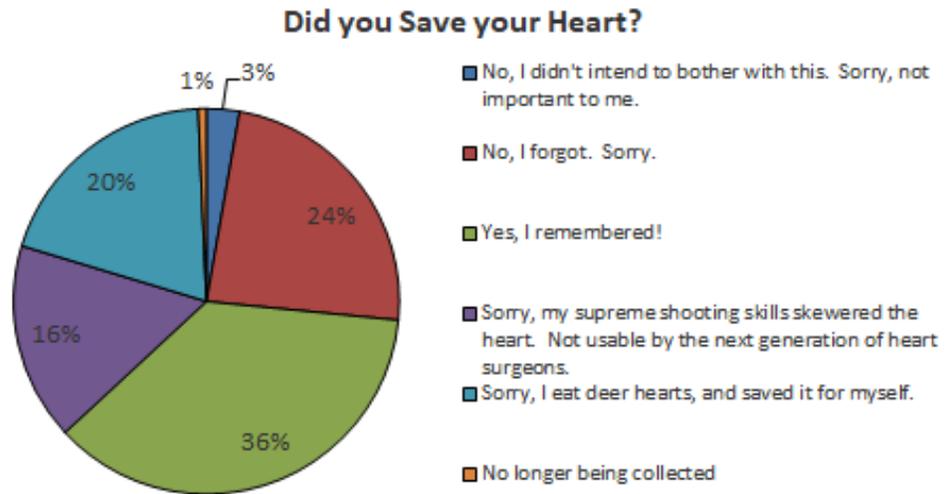


Figure 25. Responses from hunters asked to save deer hearts for the UMD-Medical School during the 2017 Duluth City Bowhunt.

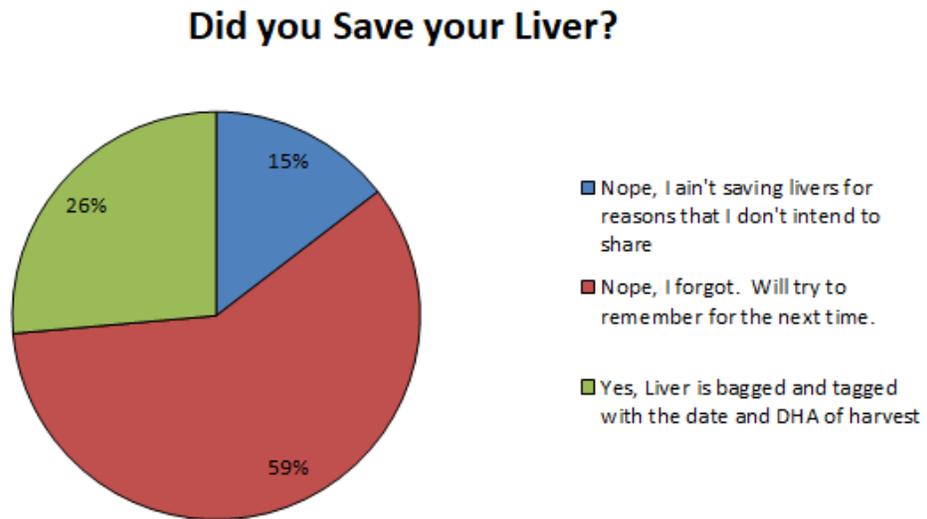


Figure 26. Responses from hunters asked to save deer livers for the UMD liver fluke study during the 2017 Duluth City Bowhunt.

Will You Save a Heart for UMD in 2018?

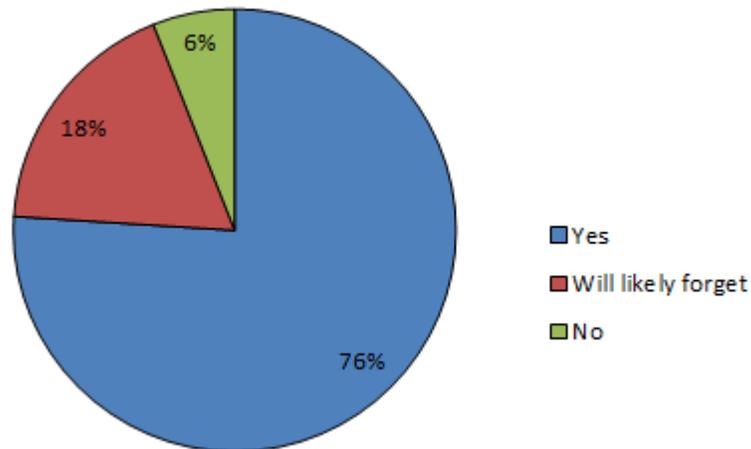


Figure 27. Results from the Year End Hunter Survey when asked whether a hunter would be willing to save a heart for the UMD Medical School in 2018.

Hunter Demographics, Locals vs Non-Local Hunters:

So, who participated in the 2017 Duluth City Bowhunt? Local hunters, defined as those living within 30 miles of Duluth (e.g. Cloquet, Hermantown, Saginaw, and Carlton) were obviously the majority (88.5%, Table 5). Local hunters accounted for 92.5% of the antlerless harvest, and 98.0% of the antlered harvest, suggesting that local hunters had more opportunity and harvested deer in a higher percentage than their representation in the hunter pool. Duluth residents made up 68.6% of the hunting population, and were responsible for 66.5% of antlerless and 68.6% of antlered harvest, in line with their participation rates (Table 5). Out-of-State hunters made up only 3.4% of the 2017 hunter population (Table 5). When standardized by participation rates, we see that local hunters, which include Duluth residents, harvested deer at a higher rate than their rate of participation, as evidenced by proportion of harvest levels greater than 1.0 (Figure 28). Out-of-State hunters harvested antlerless deer in proportion to their participation in the Hunt (harvest ratio = 0.991). All other hunter groups failed to harvest deer in proportion to their participation rates (harvest ratio < 1.0) (Figure 28).

The ABA and the City of Duluth routinely receive complaints that out-of-state and non-local hunters are in this hunt solely for the chance to harvest a trophy buck, and then move on. Local hunters harvested 1.03 ± 0.17 total deer per hunter (0.84 ± 0.14 antlerless deer / hunter). Non-locals and out-of-State hunters harvested 0.53 ± 0.23 total deer per hunter (0.50 ± 0.21 antlerless deer / hunter). These differences were significant for both total deer harvested ($t = 3.52, P = 0.00036$) and for antlerless deer harvested ($t = 2.67, P = 0.0047$), indicating that local hunters harvest deer at a much higher rate than do non-locals and out-of-state hunters. This isn't too surprising. Out-of-state hunters have to pay much higher fees for MN hunting licenses and tags, and may not be willing to purchase multiple antlerless bonus tags. Time constraints and travel make it improbable that the average non-local or out-of-state hunter would be able to invest the time and effort required to find deer in our diminishing herd, and to harvest at the same rate as local hunters. Local hunters appear to have the advantage when it comes to harvest opportunity.



Table 5. Breakdown of hunter demographics for hunters participating in the 2017 Duluth City Bowhunt. Locals are hunters living within 30 miles of Duluth. Duluth residents are a subset of “locals”, and are Duluth residents. Non-locals are hunters residing within the State of Minnesota outside of the 30-mile radius. Out-of-state hunters in 2017 were all individuals living in Wisconsin or North Dakota. The number and percentage of antlerless and antlered harvest is reported by hunter residency.

	# Hunters Participating (%)	# Antlerless Harvested (%)	# Antlered Harvested (%)
Locals	262 (88.5%)	221 (92.5%)	50 (98.0%)
Duluth Residents	203 (66.8%)	159 (66.5%)	35 (68.6%)
Non-Locals	24 (8.1%)	10 (4.2%)	1 (2.0%)
Out-of-State	10 (3.4%)	8 (3.3%)	0 (0.0%)
TOTAL	290	239	51

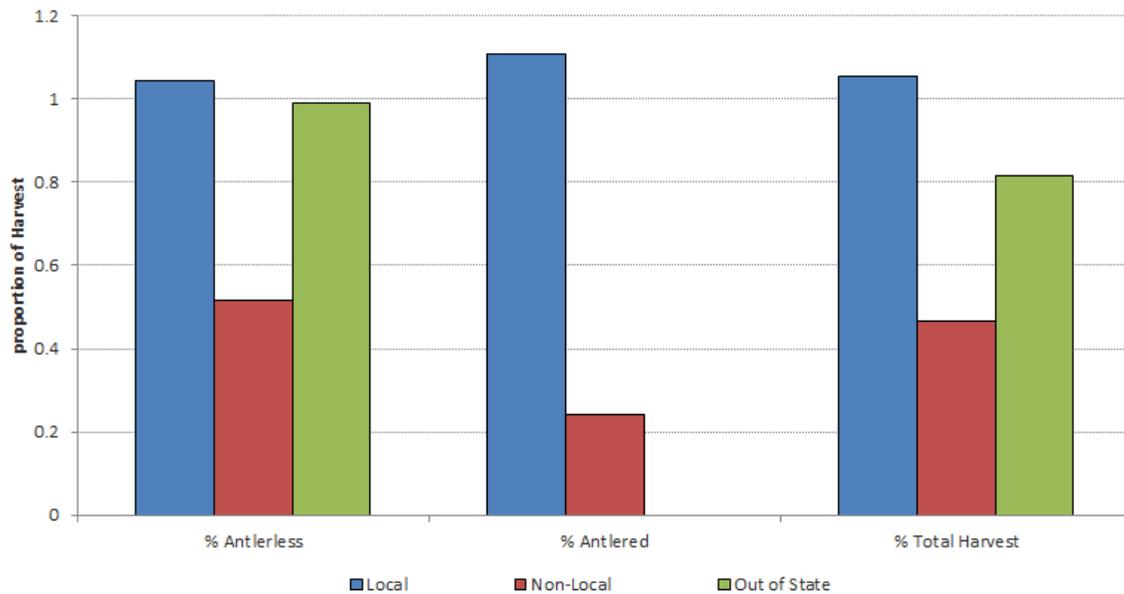


Figure 28. Harvest rates standardized by participation for hunters residing within 30 miles of Duluth (Locals), Minnesota residents outside of the Duluth area (non-locals), and out-of-state hunters for the 2017 Duluth City Bowhunt.



Hunter Demographics, New vs Returning Hunters:

In 2017, the ABA placed 37 new hunters and 259 returning hunters from the 2016 hunt (Table 6). Returning hunters accounted for a much higher percentage of the harvest than did new hunters, when standardized by the number participating (Figure 29). Returning hunters harvested 1.03 ± 0.17 total deer per hunter, significantly different than the new hunters total harvest of 0.57 ± 0.30 ($t = -2.713, P = 0.00429$). Returning hunters harvested 0.84 ± 0.14 antlerless deer per hunter, not significantly different than the new hunters' antlerless harvest of 0.51 ± 0.26 ($t = -2.27, P = 0.0133$).

The observed difference in 2017 was entirely due to the harvest of antlered male deer, where new hunters failed to harvest in proportion to their participation. Without knowing for sure, it may be hypothesized that new hunters just didn't see "the buck" that is seemingly legendary here in Duluth, and perhaps waited too long to harvest an antlered male. They may have then simply ran out of time, opportunity, or it just got too cold to sit out any longer.

ANY OTHER HYPOTHESES OR GUESSES HERE??

Table 6. Breakdown of hunter demographics by returning status that participated in the 2017 Duluth City Bowhunt. New hunters are defined as those that did not participate in the 2016 Duluth City Bowhunt. Returning hunters were registered in 2016. The number and percentage of antlerless and antlered harvest is reported by hunter status.

	# Participating	Antlerless (%)	Antlered (%)	Total Harvest (%)
New	37 (12.5%)	19 (7.9%)	2 (3.9%)	21 (7.2%)
Returning	259 (87.5%)	220 (92.1%)	49 (96.1%)	269 (92.8%)
TOTAL	296	239	51	290



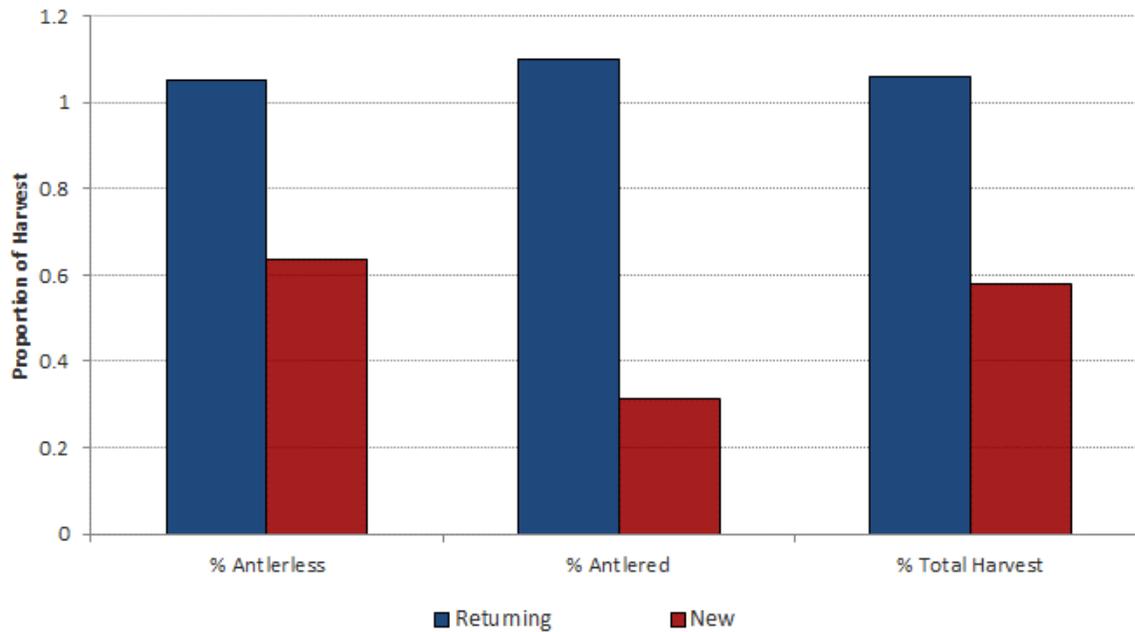


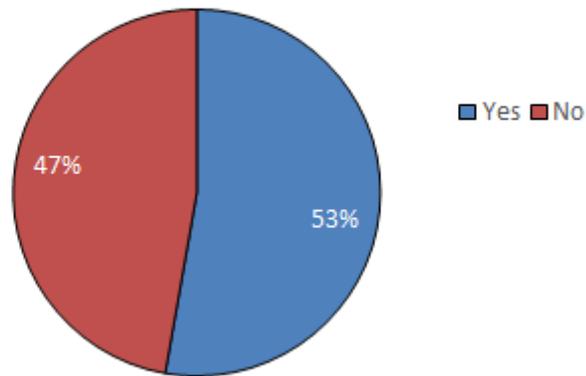
Figure 29. Harvest rates standardized by participation for new and returning hunters for the 2017 Duluth City Bowhunt.

Venison Donation:

In 2017, Duluth bowhunters reported donating all or part of 153 harvested deer (52.8%, Table 1) to friends and family. This value was inflated do to the seven most successful hunters, that collectively harvested 40 deer and donated 36 of these. Two of these hunters reported harvesting animals to donate to veterans, an honorable act. However, this probably isn't the "true" donated percentage by the average hunter. By removing these 40 deer, and adjusting harvest down from 290 to 250, the percentage of deer donated by everyone else was 46.8% (Figure 30). This is the exact percentage reported as donated in 2016, and continues the downward trend for donated venison. As deer densities continue to decline, and hunters have a more difficult time filling their own freezers, it's to be expected that the deer available for donation will continue to decline. And perhaps hunters need to start reflecting on the needs of their fellow hunters. While the ABA can't (and won't) tell hunters what they should or shouldn't do with their venison, successful hunters can opt to pull themselves out of good locations, and allow Hunt Coordinators to move in those hunters that have yet to harvest a deer. With the herd at such low levels, there may be more fair and equitable ways of distributing the harvest among more individuals that have paid for the City permit, taken the proficiency test, and jumped thru all of the hoops. Seven hunters harvesting 13.8% of the total harvest may not sit well with the 45.6% of hunters that failed to harvest even a single deer.



Will you be donating this deer?



Will you be donating this deer (seven most successful hunters removed)?

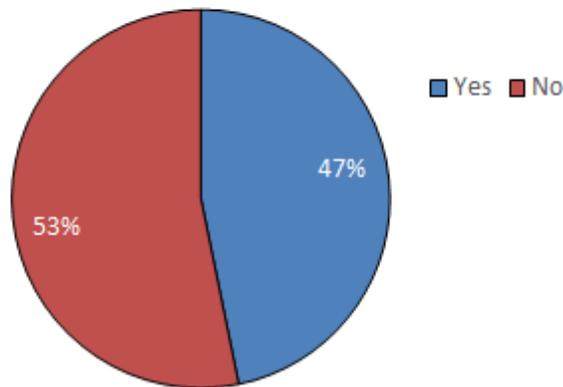


Figure 30. Percentage of deer reported as “donated” by Duluth hunters in 2017 (top pane). In the second pane, 40 deer harvested by the seven most successful hunters were removed, resulting in a lower estimate of “donated” deer.

Lottery Results, the Application Process, and Subsequent Harvest

By the 30 June deadline, a total of 304 hunters had applied for the 2017 Duluth City Bowhunt, down from 365 applicants in 2016. Five individuals were subsequently removed for not turning in all of the required paperwork or a check by the 30 June deadline. This left 299 hunters eligible for the Lottery Night to be placed into DHAs.

263 Returning hunters were ultimately placed. 140 (53.2%) of these were placed into their First Choice DHA prior to the Lottery Night, due to requesting DHAs where more spots were available than interested individuals. An additional 71 individuals received their First Choice at the Lottery Event, thus placing 211 hunters (80.1%) into their First Choice DHA. Another 20 hunters received their second choice DHA, identified during the application



process. A total of 230 returning hunters (88.2%) were placed into one of their first two DHA choices, making it hard to argue that the ABA's lottery model is flawed.

At Lottery night, 37 new hunters were ultimately placed, 16 of whom were actually placed into their first choice DHA identified at the application process (43.2%). Four others were placed into their second choice (10.8%).

Being assigned a public land DHA does not necessarily mean that is where our hunters spend their time or harvest their deer. At the Year End Survey, hunters were asked to indicate where they hunted the most. Figure 31 shows that 60% of the hunters spent the majority of their time hunting on public land assigned during the Lottery Night. An additional 18% of hunters spent most of their time on private land within the DHA assigned.

Actual harvest from the database was very similar to the data provided by hunters in the Year End Survey (Table 7), where 59% of harvest was recorded from the hunter's assigned DHA, either from public or private land (Figure 32). Hunters harvesting deer on public land NOT in their assigned DHAs were due to two opportunities: 1) having the opportunity to harvest within a Hot Spot located on public land, and 2) late-season DHAs switches that were not in their originally assigned DHA. The ABA looked at the data, and unlike previous seasons, no hunter was identified as having illegally hunted public land outside of an assigned DHA.

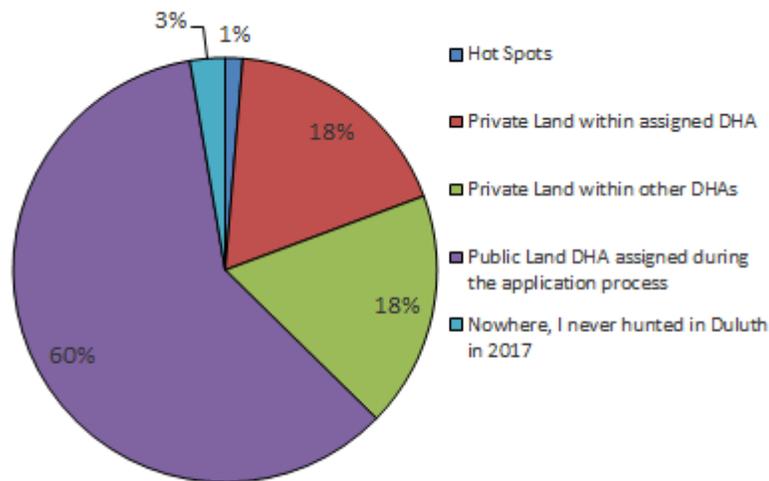


Figure 31. Percentage of hunters identifying in the 2017 Year End Survey where they spent the majority of their time hunting during the 2017 Duluth City Bowhunt.



Table 7. Location of Deer harvested relative to the hunters' assigned DHAs in the 2017 Duluth City Bowhunt. This is not the amount of time spent hunting each spot, as identified in Figure 32.

Count of Harvest = Assigned		
Harvest = Assigned	Public?	Total
Assigned DHA	Private Land	10.00%
	Public Land	48.97%
Assigned DHA Total		58.97%
Not Assigned DHA	Private Land	28.97%
	Public Land	1.38%
Not Assigned DHA Total		30.34%
Opt Out	Private Land	9.31%
	Public Land	1.38%
Opt Out Total		10.69%
Grand Total		100.00%

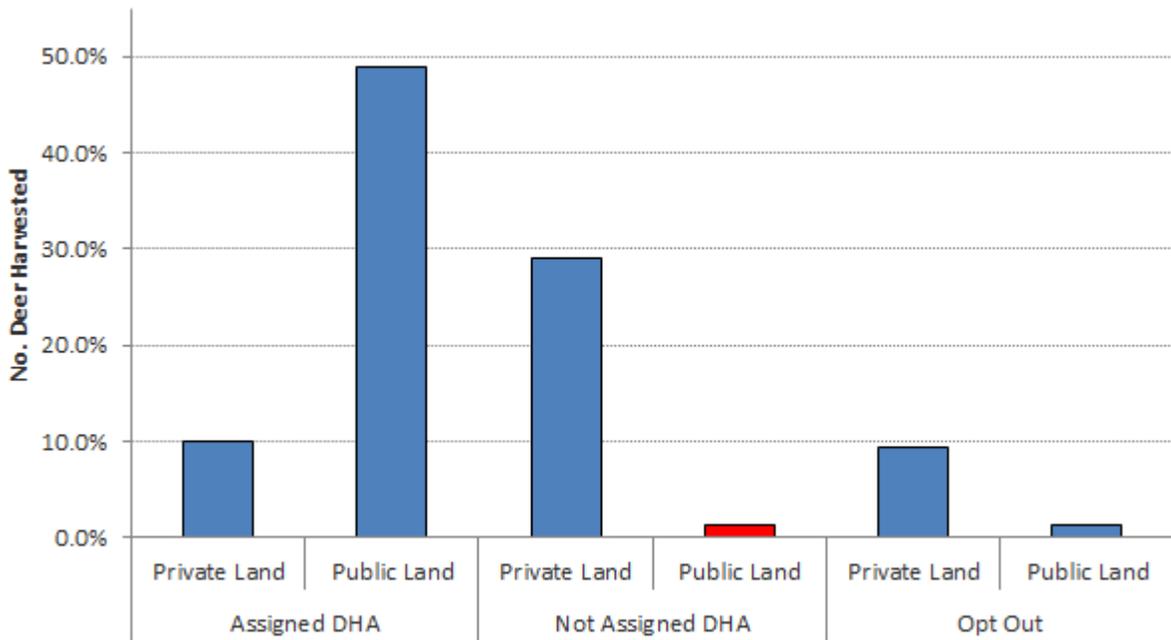


Figure 32. Percentage of deer harvested in public and private lands, and by originally assigned DHAs, for deer harvested in the 2017 Duluth City Bowhunt.



Many folks believe that other hunters have their public land “doe” spots and their private land “buck” spots. The data does not support this perception (Table 8; Figure 33). The vast majority of the antlerless harvest did come from public lands, as did the majority of the antlered buck harvest. The ABA is not suggesting that this is not occurring on a case-by-case basis. This is known to occur, based upon the hunter-hunter conflicts that the Board and Hunt Coordinators have to contend with on an annual basis. But the data suggests that this isn’t widespread. Two Opt Out hunters harvested four deer on public land following a late-season DHA move. When registering their harvest, they failed to properly indicate that their “originally assigned DHA” was OPT OUT. They incorrectly listed that they were assigned to the DHA of harvest. This is not a violation of any Hunt Rule, but is the reason why it appears suspicious.

Table 8. Location of Deer harvested by deer type, relative to the hunters’ assigned DHAs in the 2017 Duluth City Bowhunt.

Row Labels	Deer Type Generalized	Count of Deer Type Generalized
Assigned DHA		
Private Land	Antlered Buck	3
	Antlerless	26
Public Land	Antlered Buck	23
	Antlerless	119
Not Assigned DHA		
Private Land	Antlered Buck	16
	Antlerless	68
Public Land	Antlerless	4
Opt Out		
Private Land	Antlered Buck	8
	Antlerless	19
Public Land	Antlered Buck	1
	Antlerless	3
Grand Total		290



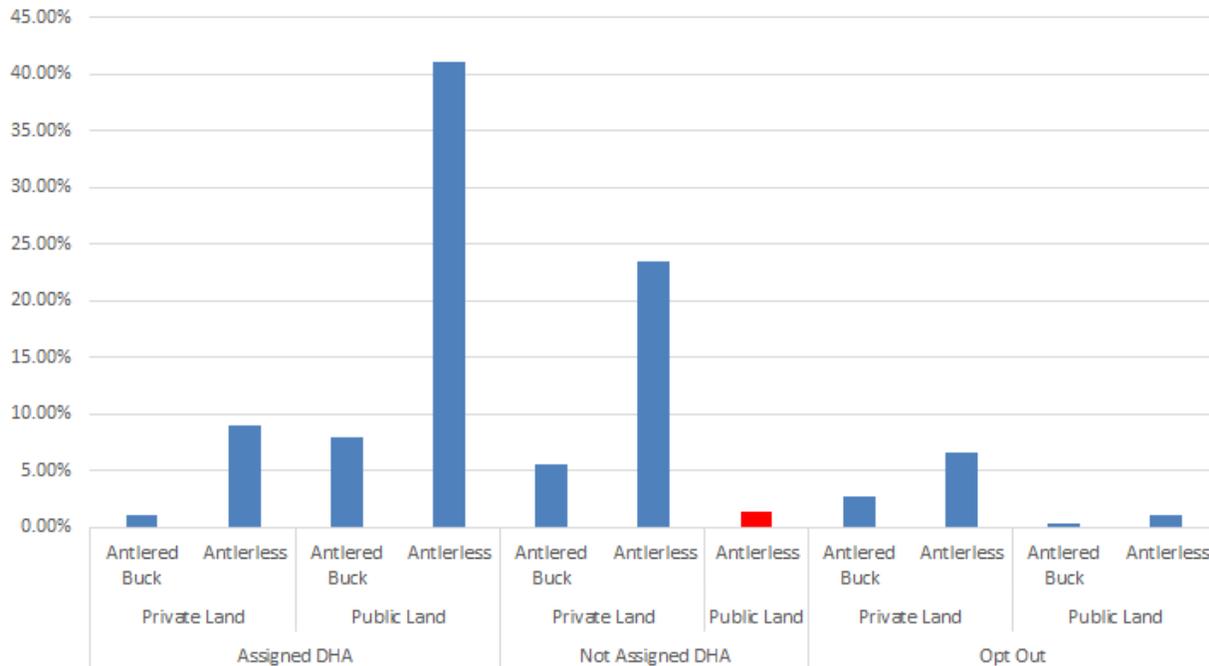


Figure 33. Location of Deer harvested by deer type, relative to the hunters' assigned DHAs in the 2017 Duluth City Bowhunt.

Section 4: Year End Survey:

At the conclusion of every season in the Duluth City Bowhunt, our hunters are asked to complete a Year End Survey. This survey is 100% anonymous. Participants are asked several questions, ranging from wounding deer to observational reports. This season saw a low participation rate for this survey. Only 150 of the 296 hunters (50.7%) took part in the survey. By comparison, survey response rate was 44.3% in 2016, 34.9% in 2015, and 58.0% in 2014. Our 2017 survey respondents were responsible for a reported 61.4% of the harvest, suggesting that if hunters were successful this season, they were a little more likely to participate in the Year End Survey. The ABA Board is very grateful for those hunters that took the time to provide feedback to the Board and to the City of Duluth. That said, for the 49.3% of the hunters that didn't feel obligated to provide the Board with any feedback, just like if you opt to not vote for politicians, you likewise forfeit your right to complain about what the Board and the City does with respect to the management of this hunt.

Response rate was essentially the same for returning hunters (50.6%) as for new hunters (51.4%). 131 returning hunters and 19 new hunters filled in this survey. Of these hunters, 97.3% reported that they actually hunted in 2017 after being placed. The ABA understands that life does happen, and not everyone placed into the hunt at Lottery Night will have the opportunity to actually participate. The respondents largely reported that most (95.3%) will likely apply to participate in the 2018 Hunt. Seven individuals indicated that they were still undecided as to whether or not they will apply in 2018.

Respondents reported harvesting 178 of the 290 deer. An additional 24 deer were reported as being wounded, with 17 of these deer reported as being "known to have survived" with nothing more than haircuts or scratches. This gives a reported wounding rate of 11.9% total, or 3.5% if the presumed surviving deer are removed from the analysis.



Individuals indicated that they bowhunted in other areas outside of the Duluth City Limits a little less than reported in the past (48.7% in 2017, 59.4% in 2016, & 58.8% in 2015). Even with harvest rates being lower than the earlier years of this Hunt, it suggests the importance of the Duluth hunting opportunity to a vast majority, 51.3%, of our participating hunters.

Experience as a participant in the Duluth hunt averaged 6.93 ± 0.67 years of experience for all hunters, and 7.63 ± 0.67 years for returning hunters (Figure 34). The ABA is aware of some of our 2017 “new” hunters are returning from previous seasons. The ABA is encouraged by the large number of returning hunters that have been participating for all 13 seasons (Figure 34).

Hunters were asked about the amount of effort spent in the woods pursuing white-tailed deer. This is to gauge how “serious” our hunters are about their recreation. The distribution of activity is significantly different between the two groups of hunters (Figure 35). New hunters hunted an average of 13.3 ± 4.8 days, whereas returning hunters spent 20.8 ± 2.6 days afield ($t = -2.777, P = 0.0046$). These estimates are actually a bit higher than reported in previous seasons for New hunters, and identical for returning ones. Twenty days hunting represents relatively low effort compared to past seasons, especially the early years of the hunt. This suggests that our hunters may still be frustrated with the hunting or deer density, and choosing not to spend as much time in the woods. But regardless, having this easy and convenient ability to participate in this sport just outside of our front doors is an opportunity that cannot be taken for granted.

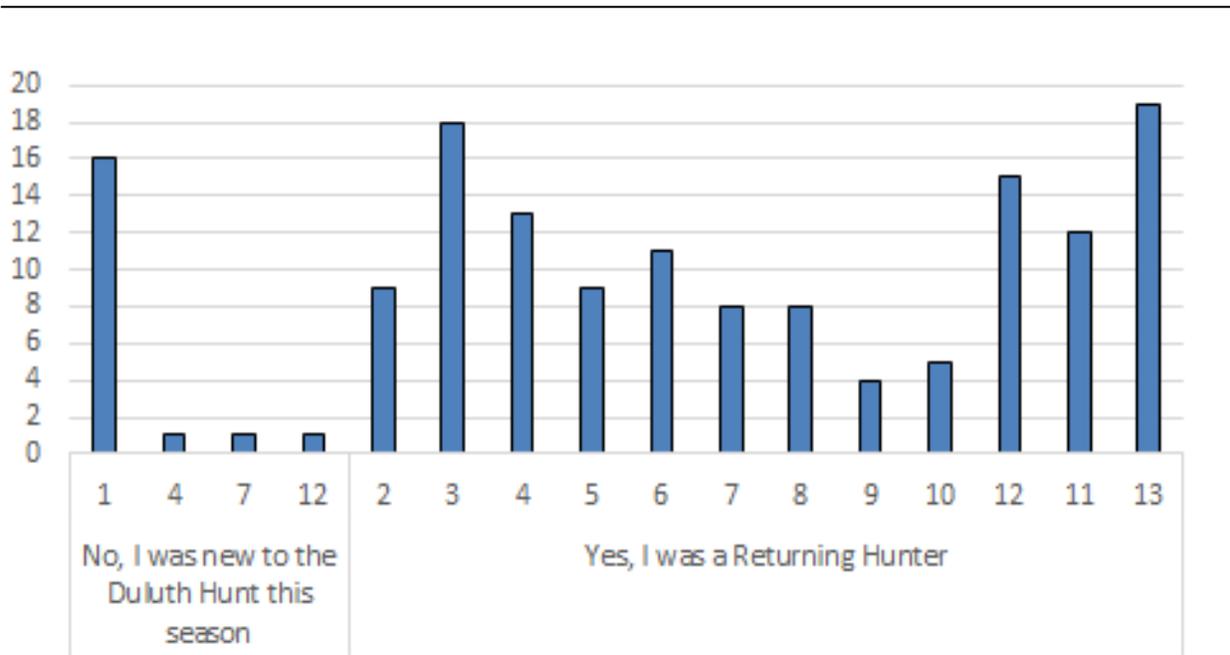


Figure 34. Years of experience in the Duluth City Bowhunt as of the 2017 season, separated by returning hunters and by new hunters that did not participate in 2016. Note many of these “new” hunters have participated previously, but not in 2016.



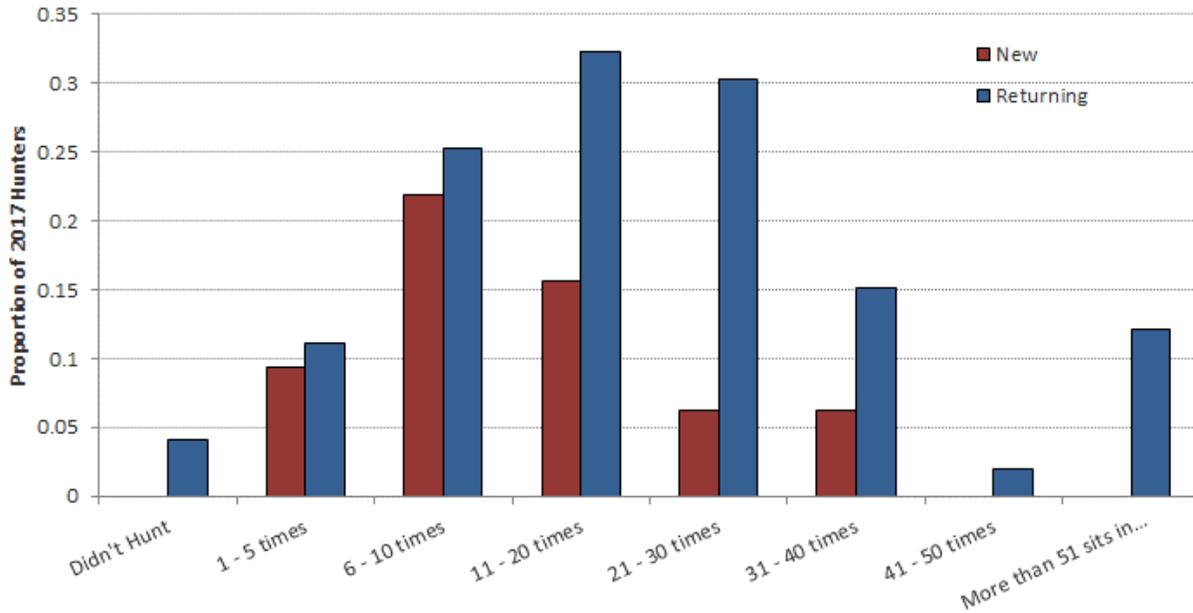


Figure 35. Proportion of new and returning hunters and the effort each group invested in hunting within Duluth during the 2017 Bowhunt Season.

By all accounts, 2017 continued the trend of being difficult to put Duluth-raised venison in the freezer. Survey participants were asked whether or not they hunted in other areas. Figure 38 indicates that a majority of New hunters did bow hunt for white-tailed deer in areas other than Duluth. About 50% of Returning chose to hunt ONLY within Duluth, with the remaining 50% choosing either to not hunt in 2017 or to also hunt elsewhere. When asked if hunters participated in the MN State Firearms season, more than half of the new hunters indicated that they had hunted during the firearms season, while only 32.8% of Returning hunters also rifle hunted (Figure 37). There are likely several reasons for this participation. Many individuals identified as being members of deer camps, either with friends or family, which represent important traditions. Other hunters did report that they took advantage of the firearms season in order to put venison into the freezer, as they were largely unsuccessful here in Duluth. Others reported simply that they love to hunt, and will take advantage of every available opportunity.

The ABA has been asked by City officials on several occasions why our participating hunters don't harvest more antlered male deer than they do. Obviously there are hunter selectivity patterns that are difficult to model and survey. Many hunters just want meat, and don't care about antlers. Other hunters will only harvest a mature "trophy". These reasons are entirely personal choices that our hunters are allowed to make. A third reason may be that our hunters punch their one-and-only "buck" tag during the firearms season. For those participating in the Year End Survey, 8% of our hunters reported harvesting a buck with their rifle (Figure 38). If the percentage holds true for the entire Duluth bowhunter population, this could mean as many as 23 of our hunters punched their buck tags during the firearms season.



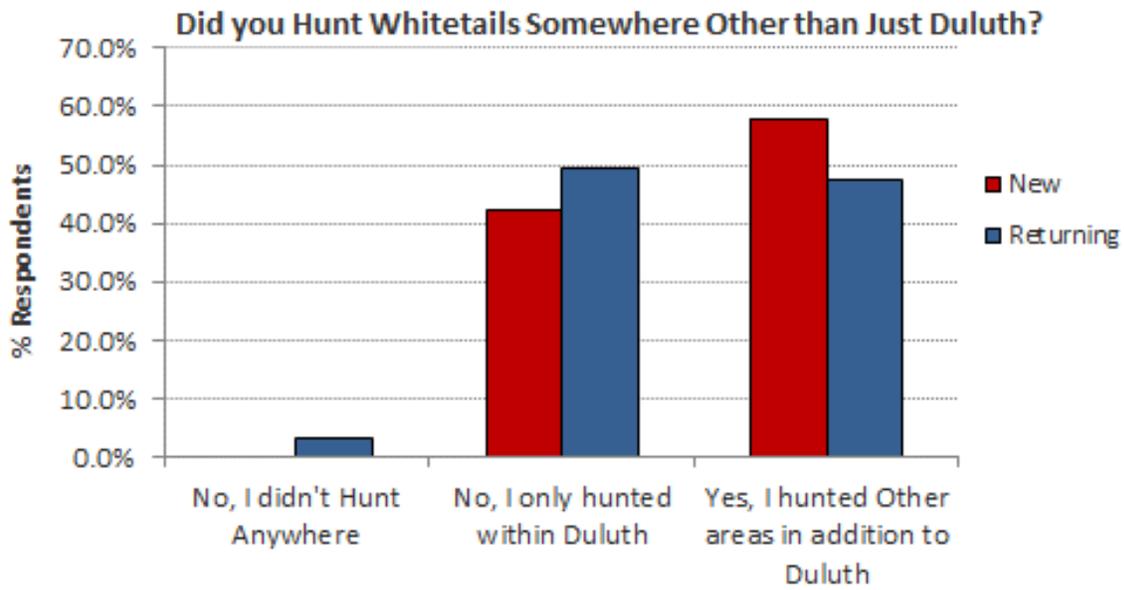


Figure 36. Percentage of year end survey respondents that identified themselves as either new or returning 2017 Duluth hunters, and that indicated whether they bowhunted in areas other than just Duluth.

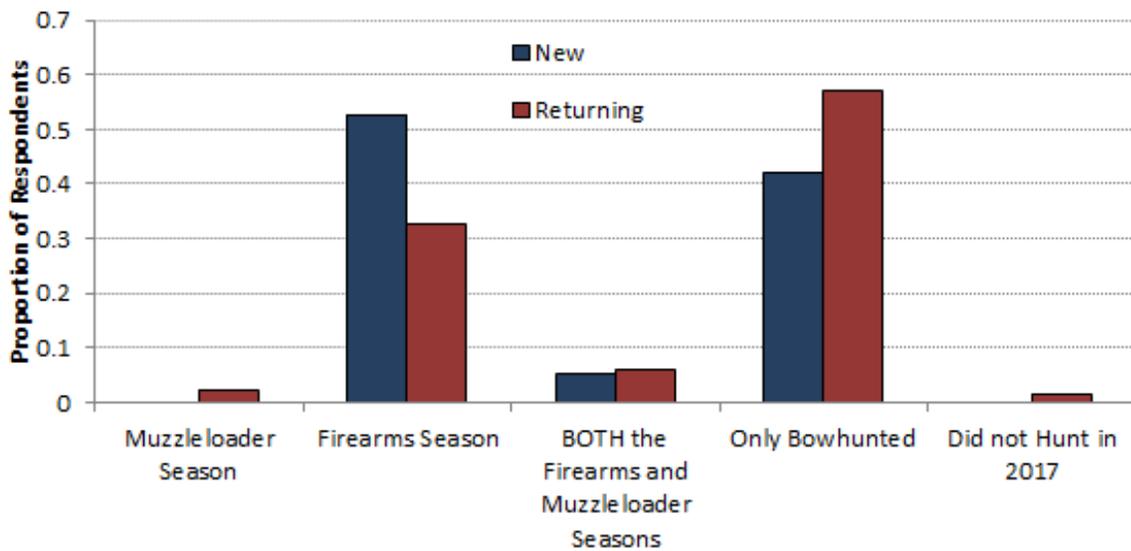


Figure 37. New and returning hunters indicating whether or not they participated in the 2017 Minnesota Firearms Season.



Did you harvest a Buck during the 2017 MN Firearms Season

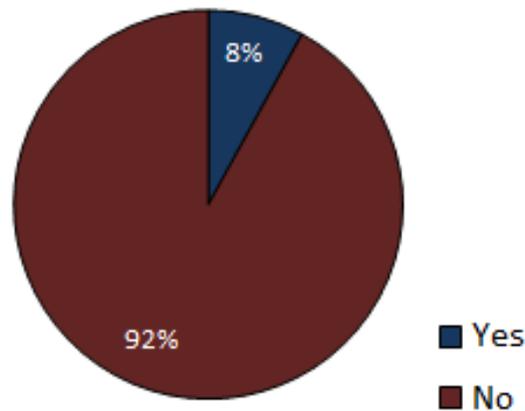


Figure 38. Year End Survey participants indicating whether or not they harvested an antlered male white-tailed deer during the 2017 MN Firearms season.

Metro Designation:

Again in 2017, the MNDNR maintained Duluth as a Metro Hunt. No other issue seemed to polarize our hunters as did this one. This designation allowed our hunters to harvest as many antlerless individuals that they wanted to. While some folks took advantage of this new designation, many opposed it. A total of six hunters took advantage of this designation, and harvested a total of 43 deer, or 13 more than would have been harvested under the former five (5) deer limit ($6 * 5 = 30$).

When asked to indicate a level of support for the Metro Designation, and to rank their support between 1 (absolutely no support) to 10 (full support), survey respondents had an average score of 5.5 ± 0.5 (Figure 39). Comments are included in Appendix 2 at the end of this report. Figure 39 is very interesting, with the three most common answers being 1 (No support), 5 (indifferent), and 10 (Full Support).

Survey participants were asked to vote on preferences for the 2018 hunt with respect to the Metro Designation. Only 10% indicated that they didn't care what the MNDNR did next year (Figure 40). The majority of the survey respondents, 59%, recommended that the MNDNR reduce the deer bag limits for 2018, ranging from 15% wanting either a two (2) deer limit or the previous five (5) deer limit, to 29% suggesting a three (3) deer limit.

When comparing the Metro Designation (unlimited antlerless) to the former Intensive Harvest Designation (up to five deer, four of which had to be antlerless), it would, at face value, seem that our hunters harvested an additional 13 deer under this Metro Designation (hunter categories 51, 60, 61, 71, and 81) (Figure 14). These extra deer hardly make an argument for rescinding or changing the Metro Designation. Analyzing this season's harvest and supposing that different harvest limits had been in place, the data suggests that with a 2-bag limit, perhaps as many as 60 deer would have not been harvested by the most successful hunters, and thus available for those hunters that did fail to harvest a deer this season (Figure 41). As previously mentioned, had the previous 5-bag limit been in effect, the savings would have only been 13 deer either saved or available for others to harvest (Figure 41).

The assumption made by those wishing for the herd to increase in number is that these additional 13 to 60 deer would not have been harvested under lower bag-limit scenarios. This is probably not a reasonable conclusion. Given the high hunter densities within our DHAs (See hunter comments in Appendix 1 for evidence of the perception of too many hunters), these 13 – 60 deer may have been harvested by another hunter, and perhaps



one that failed to harvest any deer in 2017. The true “additional harvest” may actually be lower than the 13 deer reported in Figure 14 and suggested in Figure 41.

Further, it’s apparent from our hunters’ comments (Appendix 1) (Figure 40) that no other issue has caused more angst among our hunters, especially with those who failed to harvest any deer. Clearly, from a purely statistical / numbers perspective, it makes no difference to have the Metro Unlimited designation in place or to change it to a lower bag-limit, especially when half of the hunters fail to harvest a single deer. But from a human-dimensions perspective, there is a compelling argument for revisiting this topic. There’s increasing resentment among our participants toward those hunters taking what is perceived as too many deer. Certainly it’s impossible without directly interviewing our hunters to determine whether lack of hunter success is due to other hunters “overharvesting” within some of the DHAs, or whether it’s due to their own issues, e.g. poor hunting skills or just not investing the required time. Further, whether real or perceived, there has been more than one complaint from participants related to other hunters making deer harvest a competition between each other. Reducing the bag-limit to a set number, whether 2, 3 or 5, would eliminate this “game”. The ABA understands the politics surrounding any regulation change on the part of the State DNR. But perhaps the benefits of discontinuing the Metro Designation may be worth the time and effort to suspend this for the foreseeable future.

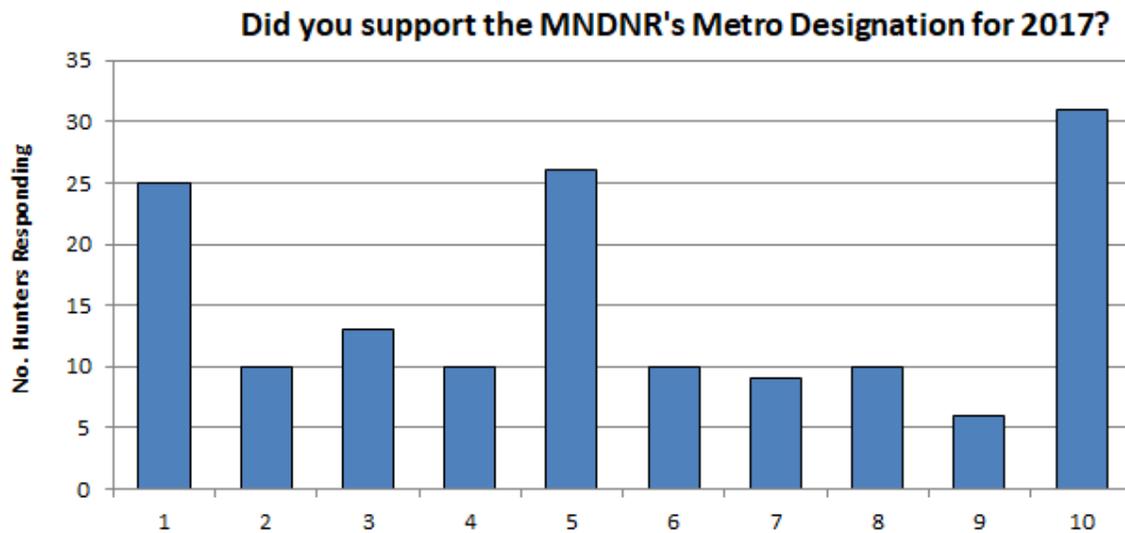


Figure 39. Participants in the 2017 Year End Survey indicating their support or non-support for the continued Metro designation for the City of Duluth.



Suggestions for 2018 Hunt

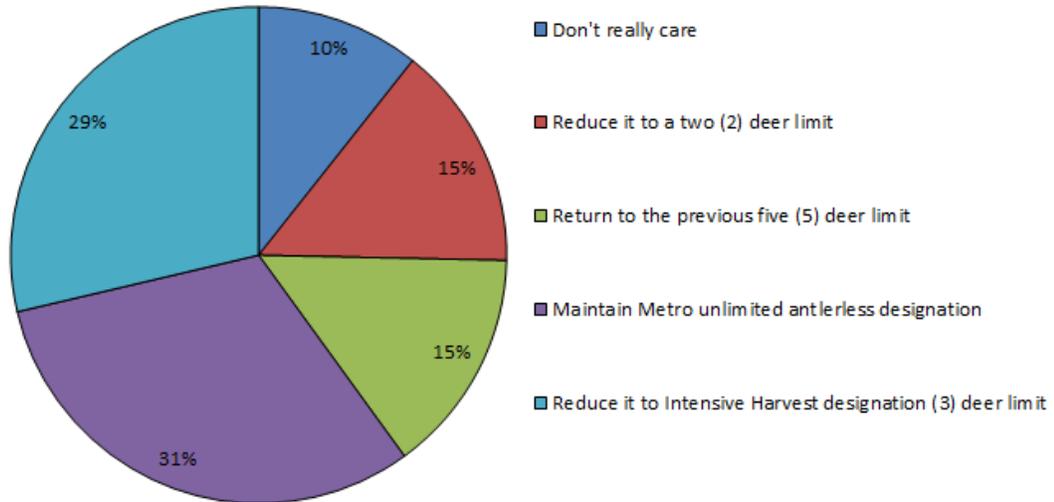


Figure 40. Participants in the 2017 Year End Survey indicating their recommendations for the continued Metro designation for the City of Duluth.

Earn-A-Buck Requirement:

During the last several seasons, many of our hunters complained that they could have harvested an antlered deer, but did not since they had not yet fulfilled the earn-a-buck requirement of first harvesting an antlerless. There had been inquiries about a one-year suspension of this requirement to determine if harvest could be increased in the absence of this requirement. Many of our hunters had expressed that it is more important to put meat into their freezer than it is to put a trophy on the wall. In February 2017, the ABA recommended a temporary suspension of this requirement for a one-year trial. The Deer Review Committee approved of a suspension of this requirement beginning on 1 December of this season.

As a result, beginning on 1 December, this requirement was removed for a one-year trial basis, with re-evaluation scheduled for 2018. Only five (5) of our hunters took advantage of this opportunity by harvesting a buck without first harvesting an antlerless individual. This amounts to 9.8% of the total harvest of antlered males.

Survey participants were asked for input for the 2018 season. Only 10% of respondents indicated support for keeping the earn-a-buck regulation in place for 2018 (Figure 42). The majority of hunters support either suspending the earn-a-buck requirement again in December 2018 (42%) or eliminating the requirement altogether for a one-year trial basis (40%, Figure 40).



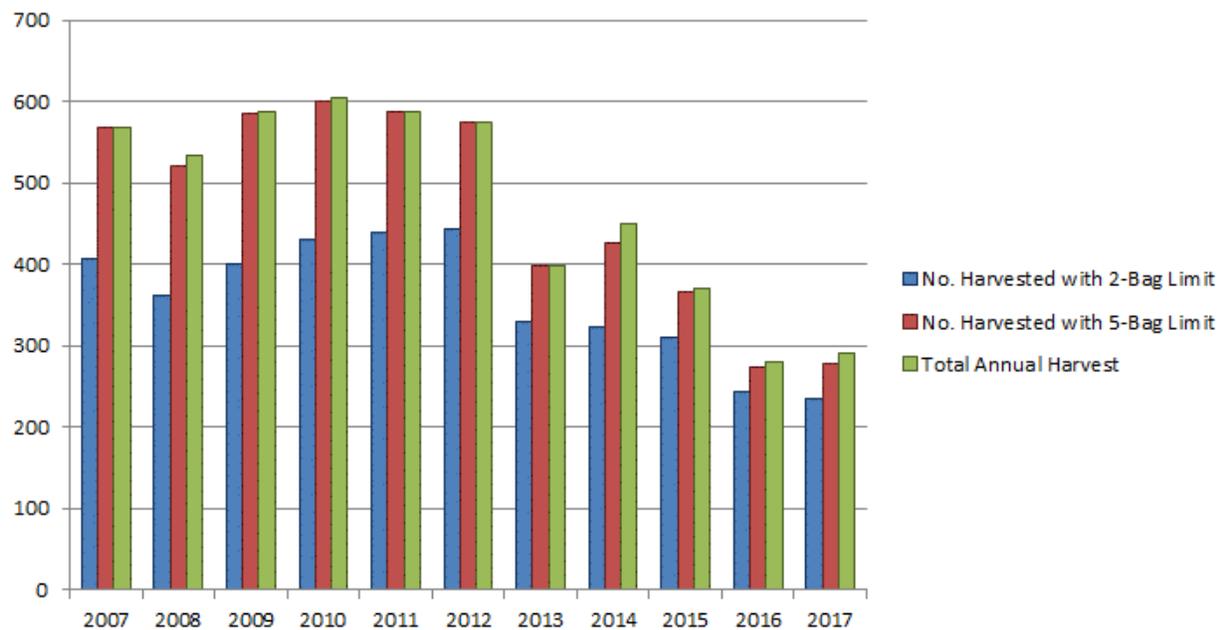
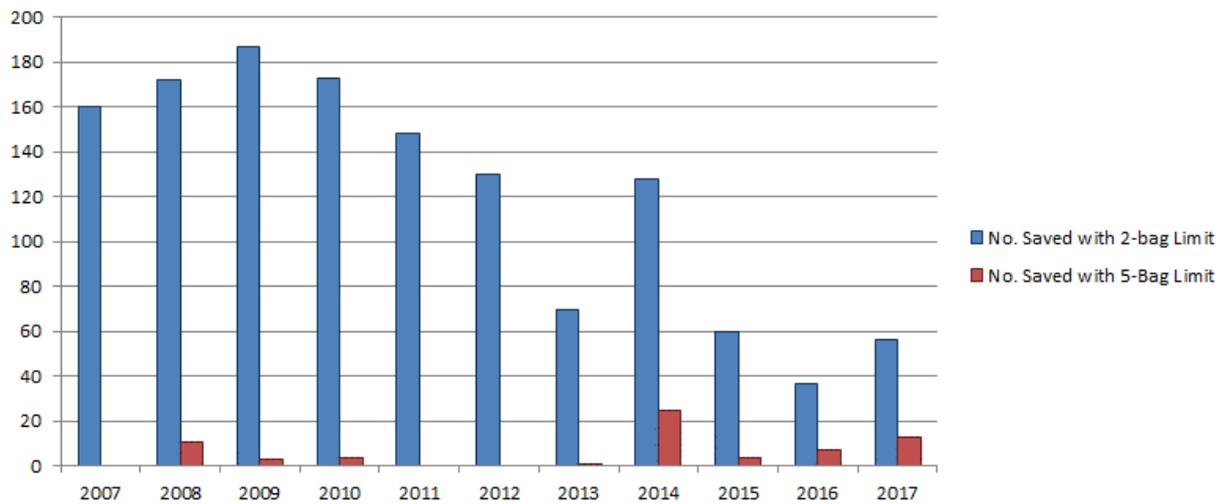


Figure 41. Number of deer that would not have been harvested by our more successful hunters under either a 2-bag or 5-bag limit (top pane), and the possible total harvest under the same limits (bottom pane) had all of these harvested deer not been taken by another hunter.



Earn-A-Buck Recommendations for 2018

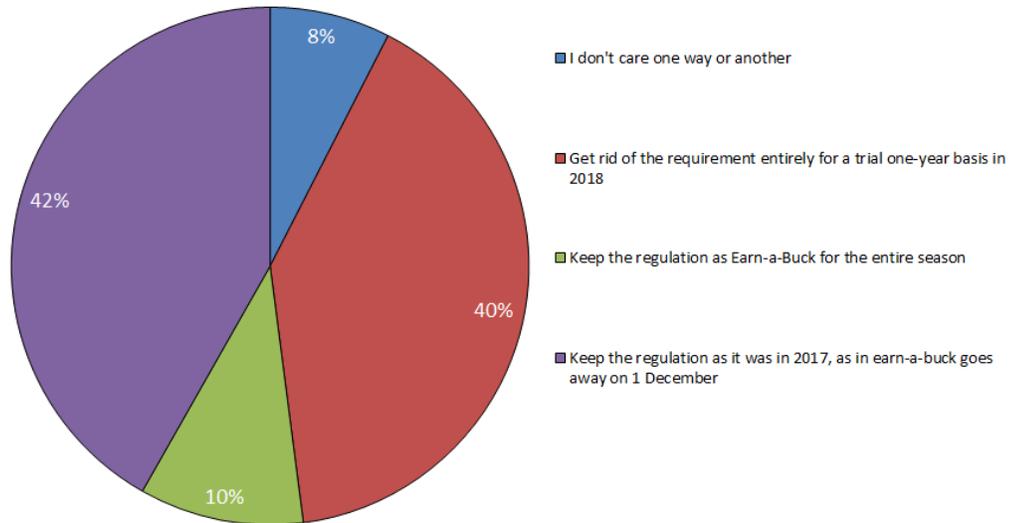


Figure 42. Participants in the 2017 Year End Survey indicating their recommendations for the earn-a-buck requirement for the City of Duluth for the 2018 season.

Bike Trails

The bike trail system within Duluth is clearly one of the best in the nation. There's no arguing that it certainly attracts tourists into our great City to enjoy the trails, the scenery, and our hotel and restaurant industry. But the trail system seems to be unregulated and somewhat out of hand. Many of the DHAs that have been hunted for more than a decade are now so carved up with the bike trail network as to render them almost unhuntable.

Our hunters were surveyed for their impression of the trail network. The majority of our hunters (61.0%) indicated that the trail network is more than sufficient to meet the needs of the bicyclists (Table 9, Figure 43). Only a minority of our hunters are also bikers (4.6%) and would love to see the trail network expanded.



Table 9. Summary of responses to the 2017 Year End survey asking Duluth hunters about their opinions of the bike trail network in the City of Duluth.

Row Labels	Count of Biking and Hiking Trails
Enough is enough! We have too many trails! It's beginning to affect our ability to pursue our recreational activity.	68
I know nothing about the bike trail system, and it really doesn't concern me in the least.	26
I'm an avid biker (and hunter), and feel that we have enough bike trails in Duluth.	13
I'm an avid biker (and hunter), and would like to see the trail network expanded even more.	6
I'm in favor of expanding the current bike trail system. There's plenty of space for everyone.	2
I'm in favor of the current bike trail system, and feel the woods are large enough to share.	15
Grand Total	130

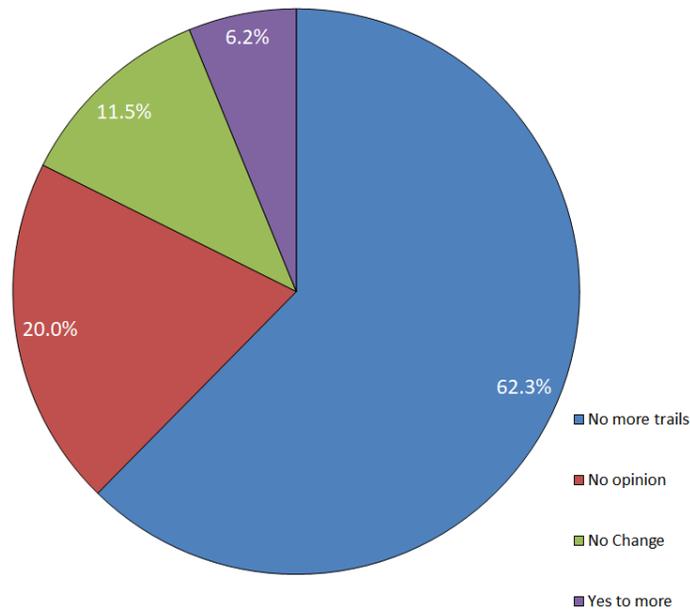


Figure 43. Participants in the 2017 Year End Survey indicating their opinion on the bike trail network within the Duluth City woods. Responses were pooled and simplified from the data presented in Table 9.



DHA Crowding and Hunter Density:

A portion of our hunting community continues to advocate for reducing hunter density. Survey respondents don't necessarily agree. When asked about "feeling crowded", the vast majority of respondents indicated that they were not crowded in their hunting areas (Figure 44). For respondents reporting that perhaps some of the DHAs may be over-crowded, 16B was the only DHA to receive more than one vote as being crowded. 16B experienced heavy tree damage in the 2016 wind storm. Several large tracts of land have been privatized within this DHA. The ABA met with hunters in the spring of 2017, and as a result did lower hunter density within this DHA. Perhaps the ABA needs to review the current hunter density and adjust accordingly.

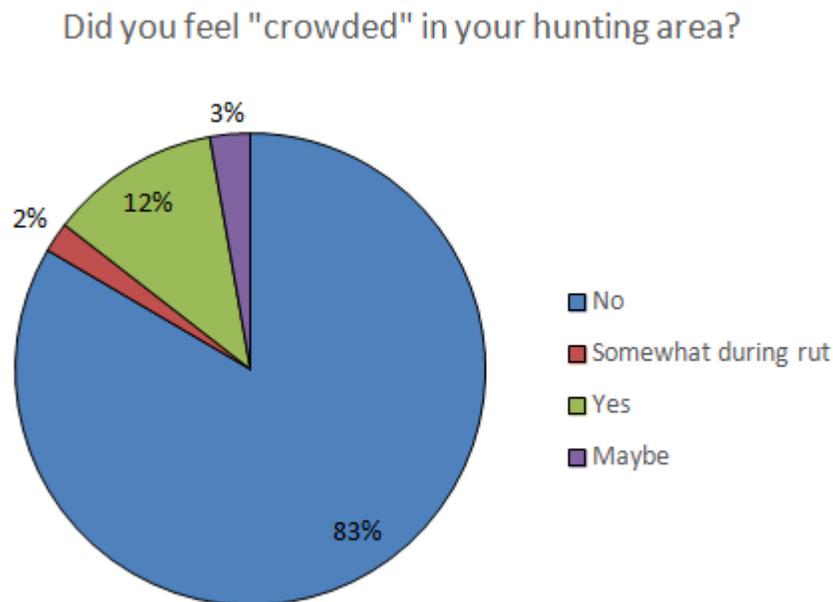


Figure 44. Percentage of Year End survey respondents that reported whether or not they felt there were too many other hunters within the DHA hunt area they were assigned to.

Impressions of the Duluth Deer Herd:

Almost all hunters probably recognize that the deer herd is nowhere near what it was at the start of this hunt. Perhaps landowners may not agree that the herd is at an acceptable level, but that there still may be gains to be made at depressing the herd to even lower levels. Our hunters were asked what they thought about the current deer numbers. Most survey respondents indicated that the herd is near "acceptable" levels from a bowhunter's perspective (Figure 45). Still, many of our hunters believe there's too few deer (Figure 45; Appendix 1). Interestingly, no one indicated that there were still too many deer (value of 7 in Figure 45). It would be interesting to know what Duluth residents still think.



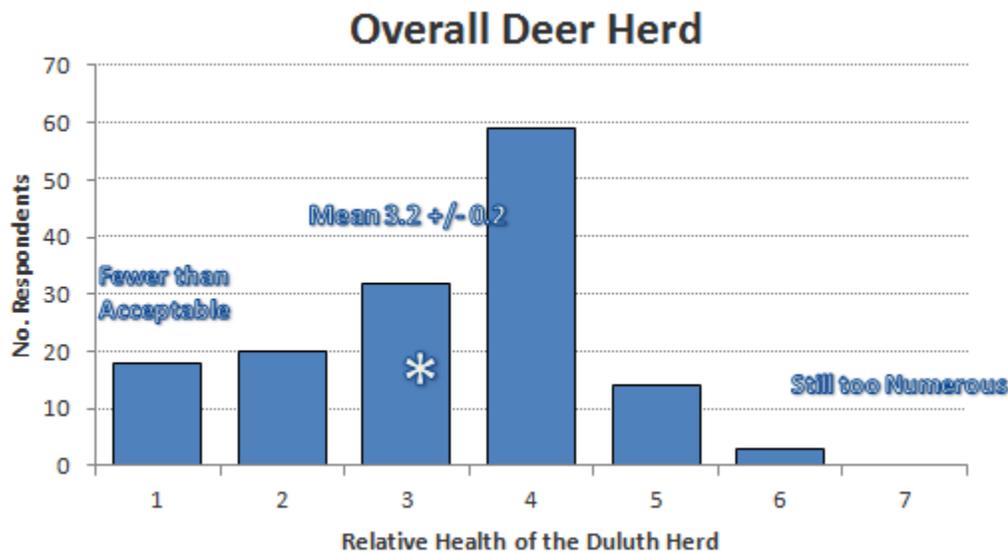


Figure 45. Results from the Year End survey asking respondents to rate the current 2017 white-tailed deer herd within the City of Duluth. Responses could have ranged from 1 (far fewer deer than acceptable) up to 7 (still too many deer on the landscape to be sustainable).

Comments from the Masses:

Hunters were all given the opportunity to comment on whatever they felt important. The question was worded:

“Do you have any ideas or suggestions for improving the Hunt in 2018?” (Appendix 1, page 47);

As expected, the responses were all over the place. Many comments were useful. All comments are included in Appendix 1. A brief summary of the key comments follows:

- 1) MN DNR sets seasons and bag limits. The ABA can express your concerns to the State, but neither the ABA nor the Duluth City Council can change State limits. Please feel free express your concerns directly to MN DNR, though they will be receiving a copy of all of your comments.
- 2) Too few deer left in the City. Yes, our hunters have done a fabulous job at decreasing the deer herd. But the ABA does not set limits. This is a MN DNR decision. And perhaps the City residents don’t share this opinion.
- 3) The ABA proposed elimination of the earn-a-buck requirement for the 2016 and 2017 Hunts. It was denied by the Duluth Hunt Review Panel. They did approve of the suspension of this requirement for late in the 2017 season, beginning on 1 December. This will be evaluated and discussed again. There were many comments in favor of allowing hunters to put venison into the freezer at any point during the season.
- 4) Limit the number of hunters. Many folks expressed that there are too many hunters. Survey respondents don’t generally agree. The ABA will discuss this with the Deer Review Committee, and may address DHA 16B. There’s no evidence of hunter densities being too high in other DHAs. If additional hunters believe this to be true, perhaps they’ll participate in the 2018 Year End Survey. This is where you make your vote count.
- 5) Baiting is illegal in MN, for a variety of reasons. Don’t understand why this suggestion continues to be made, but the ABA continues to reject this as a viable option for managing the Duluth City deer herd. Do your own



research on states that allow for baiting for deer. Largely the bowhunting community rejects this practice, as it very quickly devolves into a competition between landowners to keep the deer on their own properties and it serves as a vector for disease transmission within the local herd. The ABA will NEVER make this recommendation to the City or to the State of MN. Period.

6) Set up additional Hot Spots. The ABA does not, and never will, go on door-to-door knocking campaigns to try to find our hunters places to hunt. If landowners are interested, they need to contact the ABA. Board members will meet with the interested landowners, do a site evaluation, and make recommendations as to whether or not the property can be safely included in the Hot Spot program. If you know of locations and interested landowners, please pass those along.

The best comment received in the question about why a hunter may have hunted elsewhere: *“The only day I sat the Duluth city hunt I encountered the “trail maintenance crew” saw a crew member run off into the woods off the trail, which was towards my stand, proceeded to pull out marijuana and smoke it,(he was close enough to see and smell clearly what it was) then he went back to the trail and jumped in the bucket of an ASV and him and his crew member took off down the trail with him in the bucket. Outta curiosity, if this idiot gets injured or killed from an accident with the machinery while under the influence of drugs on public ground while working presumably for the city..... would the taxpayers of Duluth have to pay for clown’s medical bills or have to compensate this jokers family?”*

Board Members for 2017:

Phillip Lockett, President

Brian Johnson

Phillip Mannon, Chairman

Ronnie Lillo

James Dexter

Leif Birnbaum

Alan Vorderbruggen

Brian Borkholder, Secretary / Treasurer

Katrina Wood



Appendix 1. Suggestions received from hunter filling in the Year End Survey when asked, “Do you have any ideas or suggestions for improving the Hunt in 2018?” Hunter comments are in the left-hand column. Response from the Arrowhead Bowhunters Alliance is in the right-hand column.

Do you have any ideas or suggestions for improving the Hunt in 2018?	ABA Response
Just keep killing deer ! The whole point of this thing is to reduce the number of deer/vehicle collisions and other property damage caused by deer. We are just lucky enough to be people who’s hobby is only benefited by the current high density situation.	
Maybe next year I'll have some answers	
Make it a goal for most hunters to at least get one deer, create a group chat with in DHA and Allow hunters to share spots to ensure the best results for all hunters in DHA	The ABA's job is managing hunters and placing within City-approved DHAs. Once in a DHA, hunters are free to share spots and stand locations. Feel free to contact each other and be in communication. We don't allow for a free-for-all in any DHA.
Keep up the good work !!!! Thanks for all you ABA PeeP's do :-) GOD BLESS	Don't know what a PeeP is. But thank you nonetheless
Allow hunters to shoot a buck at any point in the season. And one doe. Numbers won't drop too much then.	This is a City decision. We've recommended it for the last three years. We will try again for 2018
Allow hunters to shoot a buck at any point in the season. And one doe. Numbers won't drop too much then.	This is a City decision. We've recommended it for the last three years. We will try again for 2018
You guys did great, thank you.	Thank you



<p>I had great success this year and enjoyed my first year participating. I would review the Earn a buck and potentially look to eliminate it. With a second low year eliminating the earn a buck should bring up hunter harvest rates. If Duluth keeps it's Metro designation increased harvest rates will be critical to keeping the heard in check, it should also draw in hunters that may not participate in the hunt because of this Earn a buck rule.</p>	<p>Not sure we need to be recruiting too many additional hunters. We've recommended elimination of the earn-a-buck rule in the past. Will try again for 2018.</p>
<p>I think some areas r not being hunted because of some hunters don't know how to get access to these area witch will allow more hunters in some dah</p>	
<p>Maybe drop the earn a buck in the middle of November? After the main rut, that way you hopefully avoid the big buck hunters, but maybe help us meat hunters to fill our freezers. I only saw 6 deer while on stand this year. None of which were confirmed bucks, and only 1 that was too far away to tell. If nothing else keep it the same as this year (2017). I highly doubt the city would allow a year without any earn a buck!</p>	<p>We'll be discussing this with the Deer Review Committee in February</p>
<p>Keep up the good work! A big Thank You to the ABA Board for all of your personal time that you put in to make the hunt available and success for all of the rest of us. P.S. Tell the City that if they want to build more trails, then we need to remove the setback requirement. They put in a switchback right around my tree stand this fall during the rut! They used the deer trail I had been hunting over for the last 12 years.</p>	<p>Gotta love the bike folks! Unfortunately, our City Council has lofty goals of even more bike trails. We will try again to address set-backs for 2018.</p>
<p>Remove earn a buck please.</p>	
<p>No</p>	
<p>It's double edge sword, we are doing what residents want, reducing the herd. But dang! It was sure nice to see more deer!!</p>	<p>Spot on!</p>



None	
Educate hunters that this isn't a competition for hunter supremacy. There's no first place ribbon for shooting the most deer. Save one or two for next year or for other hunters. If you can't eat the deer you shoot, you should stop. 5, 6, 7, or 8 deer is too many when half of the hunters can't find a single one. That's BS! Selfish pigs. Stop thinking about only yourselves.	While I'd love to say, "Spot on!", I'd risk offending a few folks.
Reduce hunter numbers to 250. Get rid of the metro designation.	City decision and MNDNR one.
Eliminate unlimited antlerless	MNDNR decision
Ask DNR to Make 182 outside city limits lottery or hunters choice.	We don't manage outside of 980, but I assume you meant "make 182" lottery
reduce house setbacks to 200 or 300 feet from 400	We've tried in the past. May consider again in the future
Go back to the five limit. Or less. Nobody needs 7 plus deer. I feel management goals are met for the city and now we can manage this as a fun hunt resource. Everyone should get a good chance at killing a doe. Five sits and no deer seen for two years in a row tells me we have put a hurt on them	MNDNR sets limits. But they will be seeing your comments
get rid of the earn a buck	City decision. Will recommend again for 2018
Be nice to Bork!	Preach it, brother!
Thanks for all of your work. I had a good time. Hope to get out more next year.	
Remove the bike trail set back	
I would like to see more hot spot availability.	Hot Spots sit empty for long periods of time. Call someone on the Board to get on the list. Landowners are responsible for asking us to enter their property. It's not the ABA's job to go around door-knocking to locate spots for the hunters.



<p>I heard a city cop caught a bow hunter trespassing on private land by Lester park golf course, and this hunter was let go because he was a friend of the ABA president, why do we have rules if this is going to happen, it's starting to sound like a good old boys club, and people were let in this area early, on November 1 and it didn't open until the 15 , when you set rules and regulations stick with them, maybe there needs to be a change</p>	<p>Maybe you should get the facts on this situation correct, instead of listening to the rumors. You are dead wrong on your interpretation of the events. And further, the ABA does not disclose or discuss discipline issues with the public.</p>
<p>Few, if any, areas of MN experience as much hunting pressure as we put on the Duluth deer herd. I know many spots outside the city that have deer populations that are equal or higher than in most areas of the city. DNR, you must consider this. Ideally, zones 182 and 183 would be 2-deer zones, and the Duluth hunt be a 3-deer zone.</p>	<p>We will be passing on this comment to the MNDNR</p>
<p>I do think the deer are adapting to the hunting pressure in Duluth. I see them moving into the neighborhoods from 4A west to 1(the area I'm most familiar with). It's a tricky problem. Most neighbors are all for getting them out yet the vocal minority scares off the ABA and the City. You know better than the average hunter who the "noisy" minority is. Are we too afraid to draw a line? Do you really think they could shut us down? Have we been scared too long and now it's the norm? I don't envy the task. I apologize for not having a solution for you.</p>	
<p>Keep up the good work</p>	
<p>Do away with the unlimited tags!! Get rid of the bike trails;);) Allow ground blinds in more zones like 4B.</p>	<p>Bike trails are here to stay. We need to live with them. Ground blinds can be allowed by any HC, if you make the request and give them the EXACT location of where you'd like permission to use one.</p>
<p>City of Duluth citizens should have first option to hunt the DHA they RESIDE in.</p>	<p>No Duluth resident has ever been turned away.</p>
<p>No, you guys do a great job</p>	



<p>Actually do random checks on does supposedly shot rumors on registering mystery does</p>	<p>Contact MNDNR or Duluth PD when you know of this supposedly occurring. We aren't law enforcement. We are only managing agents. We have no law-enforcement authority.</p>
<p>I think it is run very well, thanks for your effort and time</p>	<p>Thank you.</p>
<p>Reduce the number of hunters, manage the heard instead of killing everything one may see, limit the number of hunters allowed into some of the dha's, forget the earn a buck! Hunting is hunting. Let one shoot what he or she wants. The heard is in check, let's manage it instead of wipe it out.</p>	<p>Hunters are currently limited within all of the DHAs. Unfortunately, with the Metro Designation, the ABA has no authority to tell hunters that enough is enough, and to stop wiping out local populations. That's a personal decision.</p>
<p>Reduce hunter numbers</p>	
<p>reduce the number of hunters allowed to hunt and we need enforcement against rifle hunters in the city limits.</p>	<p>You need to contact MNDNR or Duluth PD when you encounter rifle hunters. Several calls were made in 2017. Not sure if any citations were issued.</p>
<p>Seeing fewer deer, having fewer opportunities. Young bucks are offering a few shots, yet not allowed to shoot before Dec. 1. I think the hunt works pretty well as is. Ended up hunting more than I usually do outside the city hunt where I shot 2 deer. No deer for me, for the first time, within the city hunt despite many outings. Lots of deer still in the neighborhoods which we will never be able to impact.</p>	<p>Neighborhoods are wonderful refuges that will continue to harbor a large portion of the Duluth herd. Not much we can do if the land isn't able to be safely hunted.</p>
<p>Make more liberal accommodations to attend the required Orientation night! Its ridiculous to require attendance in the best part of summer when you are vacationing away with your family and have to return to simply attend a meeting that you have attended 10 times before. People resent that and as a result resent the ABA. Not good. You have to quit being so hard butt about it and need a better idea!</p>	<p>The ABA knows and understands this more than anyone. We all hate going there twice, giving up two nights of our summer, while you give up one. And Bork's got to drone on and on twice as well. So? How to fix this? Allow everyone to come to Bork's house at their convenience, and have Bork personally hand out all of the Rules, Hunter ID's, Maps, and going over the Rule changes for the season? Make Bork do this 300 times? Yea, that'd be fair for Bork and certainly more convenient for you. You are more than welcome to blow off Orientation Night, and to hunt north of Duluth or in Hermantown.</p>



None. Good job guys	
None, good job guys	
Import some deer	
If ABA's goal is to harvest Deer in the City of Duluth and actually get the numbers down. I think a good way of doing that would be to have a Spring Hunt ... Before the Does give birth ...	Probably not necessary to drive down the population any further. And the MNDNR would NEVER approve of a spring deer hunt.
Allow for easier transfer between DHAs for struggling hunters	You are always welcome to contact HC's to make requests for changing DHAs. But keep in mind that while you may wish to leave your Dead Sea, others may not yet be willing to give up their spots. It's not easy to find deer any more. This is hunting, not killing. Hunter expectations need to be adjusted.
Keep up the good work ABA, thank you!	
none	
Keep up the good work ABA and thank you for all you do!	Thank you.
I like the hunt a lot and appreciate the work the board does. Thanks	
Have the Duluth police get more involved with all the thefts of deer stands and hunting equipment. We pay city of Duluth approximately \$7000/per year and what do we get for that? No support. Thanks	
Keep up the good work	



<p>This survey covered the most important topics except baiting. Anyone caught baiting should be thrown out FOREVER. I've heard the same complaints from Hermantown hunters. Raise the fines or just make it legal.</p>	<p>Can't make it legal. That's a State rule. You need to contact the City about this. While the ABA would absolutely LOVE to expel hunters permanently for baiting, to this date the City has not supported anything longer than a 3-year suspension. The ABA has tried to change this, but we are managers for the City Hunt. If the City wants criminals roaming in their woods, that's their decision. Feel free to voice your discontent to the City.</p>
<p>get rid of earn-a-buck</p>	<p>We will try again.</p>
<p>I think you guys work hard and do a great job, Thanks for making the Duluth city hunt a great and convenient hunting opportunity.</p>	
<p>Get rid of the earn a buck requirement.</p>	<p>We will try again.</p>
<p>Thanks ABA board for your continued work for the Duluth hunt. You all do a great job!</p>	
<p>Avoid additional rules...we have enough to worry about as it is.</p>	
<p>You guys do a great job.</p>	



<p>The earn-a-buck designation is now silly. There simply aren't the numbers of antlerless deer there were when the rule appeared to make sense. The city claims they want to reduce the deer, but disallows you the opportunity to harvest them. Hunters are still only going to harvest the number of deer that they want to anyway. The only thing that this rule does now is take away otherwise great opportunities that people would be grateful for.</p> <p>It just doesn't make sense. The deer in many areas are nearly eradicated. Let hunters harvest what they have an opportunity to. And get rid of this crazy unlimited antlerless designation. I think it's clear, we can start scaling back the intensity of antlerless harvest. Because after all, you have to actually see one, before you can try and harvest one.</p> <p>Also...these bike trails are ridiculous, they continually add trails that connect to trails that were already added to connect to the other trail. It's a compulsion at this point! It's like someone handed a sugared up kindergartner a crayon and a map of the city and then said "Hey, let's build THAT!" It's really too bad that the city is destroying what so many people that live here love about living here.</p>	<p>Not much that can be added to the points you make. City officials and MNDNR staff will see this comment</p>
<p>Would be nice to get preference points for certain zones. I have been trying to get back into 10C for 4 years.</p>	<p>We try to build a system that's as fair as possible. Perfect? Hardly, but it seems to work.</p>
<p>Remove earn a buck completely or allow a hunter to earn it the previous year. Find more hot spot areas</p>	<p>We'll suggest again for removal of the earn-a-buck requirement. The ABA doesn't actively seek out hot spot opportunities. Hunters and landowners can take on some of this responsibility.</p>
<p>Thanks for your volunteering efforts to keep the hunt moving forward. Keep up the good work ABA!</p>	
<p>Just trying for a year on eliminating the earn a buck, even though its a heard management hunt a lot of hunters are after a buck only and that thear would build up the doe population for the hunters that would like to see more does</p>	



<p>Please keep the unlimited tags, some of us including me live for the chance to take down as many as we can every year, thats what keeps me coming back, and if someone feels we should only get two then let them only kill two.</p>	<p>Your opinion, while valid, is probably in the minority. But ultimately, the City and the MNDNR makes this decision</p>
<p>Bring back the earn a buck requirement for the full season. No need to harvest more than 2 does and 1 buck. Thanks for your efforts ABA, this is a great privilege!</p>	
<p>No. ABA , especially Bork, do a great job. Continue to be critical of those that are unwilling or just don't care to follow the established rules and policies. The Duluth hunt is indeed a privilege and it just needs to be continually stated as such. Thanks!</p>	
<p>If earn a buck wasn't a rule I would have venison to eat this year.</p>	
<p>no suggestions</p>	
<p>Continue to ask hunters to report to hunt cordinators when they are finished so others can switch dha's if they would like.</p>	
<p>N/A</p>	
<p>I believe this is a good program and look forward to next year.</p>	
<p>Cut hunter numbers a little. Give us more elbow room</p>	
<p>Nope</p>	
<p>Train some deer to walk in front of my stand more often. Thanks</p>	
<p>Fewer hunters</p>	



Good job and thank you for the time and effort put forth by all members of the board as well as those who support the ABA. Only suggestion is to get rid of the requirement of having to harvest a doe before shooting a buck during the entire season, not only December.	
As above, keep earn a buck until Dec 1; return to intensive harvest limit of 3 deer	
Get rid of earn a buck, put a limit on how many deer an individual can harvest.	
Possibly less hunters. And of course what everyone else is going to gripe about: No more earn a buck. I know, I know. Its a DNR/city council issue but its still gay!	Probably really has nothing to do with sexual preferences, but we get your point.
Excellent job ABA, had no issues this year because of your hard work!	
Move up the earn a buck date to the day after firearms season ends.	
All is good! Keep up the good work	
Work with private land owners who may have nuisance deer (garden destroyers for example) they want gone. Also, is there some how to donate deer?	Landowners need to contact the ABA to have their property included in the Hot Spot Program. Donate your deer to your fellow hunters who have been unsuccessful, but who have jumped thru all of the hoops to participate
Letting people be eligible for two zones.	Not going to happen until hunter participation drops below 150
Less computer time	Computers make our lives infinitely easier, and far easier for the managing agent for this Hunt. Welcome to the 21st Century.
Less computer time	
Less computer time	
Baiting equals less wounded deer	Baiting is illegal.



Appendix 2. Comments concerning the MNDNR's Metro Designation. Support ranges from 1 (No support) to 10 (Full Support)

Did you support continued Metro Designation for Duluth for this 2017 season, making the Duluth Hunt an unlimited antlerless harvest zone?	Why did you or did you not support the Metro Designation for this past season?
1	"only a few hunters had actually harvested more than five (5) deer." so its impact on the deer herd was negligible. However, these few hunters kept their stands out in the woods, pre-empting prime hunting spots, making it impossible for other hunters to hunt those spots, and either keeping the deer on high alert, or driving them out of the area. How these few hunters don't feel an extreme amount of guilt for being game hogs is something I dont understand. NO ONE needs to shoot more than 3 deer! I heard a few of these hunters were making it a "contest" to see who could shoot the most. This behavior has no place in hunting and cheapens the sport for all of us, giving all hunters a bad name.
1	A lot too late!
1	Because it allows hunters to be greedy and shoot to many deer.
1	deer population to low to support this designation, look at the harvest numbers
1	I know it is a management hunt and the city council wants to eradicate every living critter in the city limits but at the risk of being selfish it would be nice to see a few more deer and have a few more opportunities on public lands to harvest deer. As an owner of many public lands, much like the State, the city should manage the herd to support hunting rather than allow hunting to fix a problem.
1	I like to hunt not slauter my game
1	I saw 4 doe total for the season this year



1	I think lots of people are greedy and take more deer than they need. Where I put lots of hours in for hopes of just getting one deer for my family
1	I would be nice to meat in the freezer every year, I love white tales and care about the heard as well as my belly!
1	It should not be unlimited 3 max
1	Its ridiculous
1	Low deer numbers
1	The heard can't sustain this pressure and it make absolutely no sense only fuels egotistical folks like █████ and █████ both jack asses in my opinion. 2 adult deer keeps my family bof 4 happily fed all year
1	There aren't nearly enough does for everyone to tag one
1	There is no need to wipe out the deer population in Duluth. We, as hunters, need some self control.
1	There isn't many doe left in the city. I sat over 15 times and only saw bucks but I cannot shoot them because I cannot get a doe first.
1	There's not enough deer to support this.
1	Unlimited is to many
1	Unlimited tags is not realistic.
1	When you put a unlimited number on it people loose the respect for the animals



2	Let the herd continue to recover. No one really needs more than 2-3 deer.
2	Shooting as many does as you want will make the deer herd numbers go way below what they should be. You should be allowed 1 buck that you can shoot at any time, and one doe.
2	Shooting as many does as you want will make the deer herd numbers go way below what they should be. You should be allowed 1 buck that you can shoot at any time, and one doe.
2	The deer numbers are way down
2	the herd is getting to a manageable level thanks to the city hunt and we don't need to take as many deer as before
2	Too few deer to justify this regulation.
3	I feel the deer heard is too low to support it.
3	I'm not a supporter because for the third season in a row I saw more bucks than does.
3	Manage them! Don't eliminate them!
3	Not enough does, takes too many hunts to harvest doe
3	Not enough does, takes too many hunts to harvest doe
3	Not enough does, takes too many hunts to harvest doe
3	Not necessary.
3	People are just killing to kill, why not kill a few and then let another hunter get a chance at a deer.
3	Unlimited antlerless harvest seems excessive. A 3 or 5 deer limit is plenty.



3	vehicle/Motor cycle collision reduction.
4	Decreased numbers
4	I do not want the herd numbers so far down that the hunt would be discontinued.
4	I feel it inappropriate for any one to harvest that many deer in a limited area. With Duluth area numbers down, especially true for the Duluth hunt.
4	I feel the deer herd is down and there should be a limit for deer in the city
4	Not enough deer for unlimited harvest
4	Shouldn't need it to be unlimited
4	Some people think making it legal to kill unlimited number of deer makes it right. No sense killing them all just because you can. Just my opinion. There are nowhere near as many deer as when concerns prompted creation of the Duluth hunt.
5	I don't care, I only want 3 deer.
5	Limit should be more than one but not unlimited
5	Neutral
5	no need for unlimited tags not enough deer to warrant it.
5	Natural on the subject
5	open
6	I thought it would lead to too many people trying to get into the hunt for the wrong reason crowding out the many dedicated returning hunters. I also thought many more hunters would shoot more than 5. I was proven wrong on both of my concerns.
6	So few deer to harvest hardly a factor
6	Would be nice to have the option to harvest multiple deer. Just need to see an increase in herd size. . . .



7	Allows more deer to be harvested by those that are interested in doing so resulting in a reduction of the deer herd.
7	Best way to reduce the population
7	Deer can be a danger on the busy roads within Duluth
7	N/A
7	We won't wipe out herd bowhunting...let us fill freezer and feed our families
8	Deer herd seems to be stable at acceptable level.
8	Freedon to continue to hunt after taking the first deer.
8	It really doesn't matter too much to me. It seems that I never shoot more than 3 deer anyway. I pass up small bucks and small fawns.
8	Like the meat
8	More tags since Hermantown was capped
8	My only concern is that people might be wasting venison. I don't believe in killing for sport. Bring the donation program back. Plenty of hungry people in town.
9	gives a hunter more time in the woods
9	I think it is great, I by no means took a plethora of deer this year. However I was able to fill my freezer and also my parents who haven't had venison for 3 years now. The metro designation allows for hunters in localized areas where deer numbers are still an issue to keep the heard in check. I believe it is important to keep and I would not change it.
9	It's a herd control hunt thus the designation fits.
9	The purpose of the hunt is to bring the deer herd numbers down
9	There are a lot of deer in Duluth and they should be harvested.



10	As shown it really has no impact but for the few
10	Deer don't belong in the city and most people don't shoot more than 2 anyway
10	Great opportunity to hunt locally, with good deer numbers in the woods, and helping to lower numbers of nuisance deer.
10	great tool to reduce problem deer
10	I did support it.
10	I support it basically because I wouldn't want to go back to one deer limit. I like to shoot multiple deer. I don't think the unlimited antlerless will have a great impact as compared to three deer limit. Most people shoot one or two deer. <i>ABA Response: Most folks shoot zero deer</i>
10	If the goal is to get the numbers down, don't set a limit
10	It doesn't make a difference because I don't believe many hunters if any got more than a hand full of deer so why waste the time in going back to how it was <i>ABA Response: So, you didn't read any of the weekly reports, obviously.</i>
10	Plenty of does walking around.
10	Reduce deer like they want.
10	This is a management hunt and if there hunters that are able to harvest more deer, they should be allowed to

