Kinzua Quality Deer Cooperative

Annual Report

January 2021 - December 2021

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January 2021 to December 2021

KQDC Coordinator – John Dzemyan

KQDC Partners – USFS, Allegheny National Forest; USFS, Northern Research Station; Allegheny National Forest Visitors Bureau; Kinzua Forests LLC/Conservation Forestry; Forecon; Bradford Municipal Water Authority; Generations Forestry Inc.; Kane Hardwood (a Collins Pine Company); RAM Forest Products; Sand County Foundation of Madison, WI.; Pennsylvania Hunters; AHUG: Allegheny Hardwoods Utilization Group. University of Pittsburgh, Bradford Pa. Campus. Penn State University, Dubois Campus.

Leadership Team – Ken Kane, Susan Stout, Collin Shephard, Alex Royo, Mary Hosmer, Mike Bleech, Emily Reams, David deCalesta, Linda Devlin, Brad Nelson, Kevin McAleese, Tom Kase, Barry Cunningham, Becky Carson, Amy Shields, John Dzemyan.

Check Stations for 2021 - Mary Hosmer, Emily Reams, Mike Bleech, Dave Yoder, John Dzemyan,

Pellet Group Transects for 2021 – Completed by Generations Forestry, Collins Pine, Kinzua Forest LLC/Conservation Forestry/Forecon, Allegheny National Forest, USFS Lab Irvine, and KQDC Coordinator and Volunteers.

Trail Cameras for 2021 – Mike Bleech, John Dzemyan

Hunter Vehicle Count Surveys for 2021: - USFS employees Zaakiyah Cua, Steven Campbell, Larry Wise and Lisa Barlow.

Executive Summary 2021

In 2000 a group of private landowners, public land managers, scientists, hunters, and others came together to form the 74,000 acre Kinzua Quality Deer Cooperative (KQDC) in McKean County, PA. Common goals included improving deer herd quality, forest ecosystem health, and the hunting experience.

Annually, a report is issued that includes a summary of all data collected that year and trends that may be evident. This year's report covers the progress of work beginning in January of 2021 to December 2021. The report includes an analysis of deer density and habitat conditions from transects that were accomplished, deer herd sex and age composition drawn deer harvest information obtained from the check station, hunter numbers from annual car counts during the first two days of the rifle season along with other endeavors of the KQDC for 2021.

Like year 2020, year 2021 was impacted by the global Covid-19 Pandemic. KQDC work was no exception. But in spite of work restrictions in the public and private work forces, all 26 square miles of vegetation surveys were completed in April of 2021. Thank you goes to all the people involved who made the effort to get them done.

Plans were made for the October 2021 KQDC Annual Deer Season Kick Off but once again were canceled when public gatherings were restricted at the University of Pittsburgh Bradford.

The deer check station plan for 2021 was to expand to two locations in 2021, but a last minute Covid surge brought on restrictions and numerous people who would have worked the check stations were unable to do so. Despite the challenges, one check station was still operated along State RT 59 in Marshburg.

A change in location was necessitated by the restrictions for the Marshburg location and longtime KQDC volunteer Scott Knapp got me in contact with John Perkins who owns a trucking garage with a large parking lot along RT 59 in Marshburg. Mr. Perkins was a very gracious host to the KQDC Deer Check Station. He allowed the use of his large parking, plowed snow for us on the opening day, and invited us back to use his parking lot next year if necessary. He did all this and refused any compensation from KQDC for doing so. I must mention here that John Perkins is a long time resident of Marshburg and his Dad was friend and hunting companion of Roy Eschrich, also of Marshburg. I mention this because Roy who was born in Marshburg in 1899 and in the 1980's attended Pa. Game Commission Deer Management tours and told accurate and informative hunting stories of what it was like to hunt in the Marshburg area back in the early 1900's up to the 1990's. Roy also donated numerous sets of antlers for KQDC educational use from bucks he harvested in Buck Lick Run near Marshburg on the ANF in the 1930's and 40's until the 1970's.

A sincere thanks to this year's check station staff and volunteers and to the car count staff and volunteers. 71 deer were brought into the check station which is the highest number of deer brought in by hunters since 2009. Emily Reams took over the main duties at the Marshburg Check Station assisted by Mary Hosmer, Two new people assisted at the Marshburg Check station. They were Mike Bleech and Dave Yoder. Mike is an outdoor writer from Warren, Pennsylvania who is also is a long time member of the KQDC team. Dave Yoder is a retired school teacher from Smethport, Pennsylvania who assisted the Pa. Game Commission with outdoor projects in the past. John Dzemyan rounded out the staff for the check station work.

We also thank the 71 deer hunters who took the extra time to bring their deer into the check station for KQDC research gathering. The data collected adds to the statistical base for properly managing forests and deer on the KQDC and throughout Pennsylvania's forested landscape.

Along with the deer check station, all the usual annual vehicle counts for 2021 were completed by Allegheny National Forest staff.

Other successful accomplishments for the KQDC in 2021 were:

The letters, testimony, reports and recommendations the KQDC provided for the last two years to the Pennsylvania Game Commission, along with other conservation/forestry/wildlife organizations have resulted in new regulations passed which increase hunters available days to harvest deer. The big news for 2021 is that for the regular two week rifle deer season concurrent antlered and antlerless seasons were approve statewide. That along with increases in DMAP allocations, high antlerless allocations for 2F, and the continuation of the Saturday and Sunday opener all point to more time available for deer hunters on the KQDC. The 71 deer brought to the 2021 KQDC check station is the highest since 2009 and more than double what was brought in in 2019.

This 2021 report include data that shows deer numbers and deer impacts have increased above the levels that the KQDC has set out to maintain. The results are that deer health and forest health are being negatively impacted.

Deer numbers on the whole KQDC have gone from 15.7psm in 2018 to 21.8 psm in 2021
(2018 = 15.7) (2019 = 19.8) (*2020 = 26.1) (2021 = 21.8)

(* 2020 information was from only 13 transects that were completed) If one uses the 2019 data with the other the other 13 transects that were not completed then the 2020 populations would show an increase to 21.5, not up to 26.7. I believe this would more accurately reflect the actual total number of deer per square mile for 2020)

The 2021 vegetation surveys showed that the impacts leveled off a bit in spring of 2021 from spring of 2020. (But once again data from 2020 was only from of half of the transects) When plotted with 2018 and 2019 then the year 2021 still shows deer browse impact levels that are not allowing quality plant diversity and abundance to occur.

In 2021 another important set of data was collected on the permanent vegetation monitoring plots within the broader KQDC area. This year's extra data was done May 17th through August 17th by the USFS lab under the direction of Alex Royo. Mariah Slaughter, a M.S. student at Wright State University, Ohio, led the work assisted by two undergraduate field assistants (Raquel Menella and Karen Klug) with additional botanical expertise contracted (Loree Speedy and Mark Bowers). In total, 90 survey plots that fall entirely within the KQDC area were surveyed. The 2021 survey represents the sixth time these plots have been measured with the last intensive look at the vegetation done in 2016.

On these permanent plots, across the 18-year period beginning in 2003, surveyors found overall species richness peaked by the 2016 survey, following over a decade of sustained deer herd reductions. However, by 2021 richness had declined, possibly due to the increases in deer density observed within the KQDC region beginning in 2017. Similarly, tree seedling heights of three hardwood species, black cherry, sugar maple, and birch, all peaked by 2016, indicating that sustained reductions in browse impact were permitting individuals to grow. However, all three species were, on average, shorter by 2021. Finally, the browse-sensitive indicator genus, Trillium spp. steadily increased in abundance in the KQDC area. However, the average Trillium height, a key metric to determine browse impact, declined over following 2017. In sum, our long-term intensive surveys strongly suggest that the increase in deer densities experiences within the KQDC project area beginning in 2017 are negatively affecting indicator herb species, tree regeneration, and overall plant species richness.

Along with the regular transect plots collected every year on the KQDC these permanent plots from 2016 until 2021 show impacts on vegetation higher than what the KQDC believes is necessary for long term forest health and deer health. Due to the deer population and vegetation information gathered since 2016 the KQDC has increased its DMAP allocation to allow an increased harvest of antlerless deer.

Increases of the total DMAP permits for all KQDC landowners combined are:
(Total KQDC by year (2018 =967) (2019=1117) (2020 =1517) (2021 = 1881)
In 2021 the breakdown was as follows
DMAP UNIT 135 Kinzua Forest LLC/Conservation Forestry/portion of ANF = 440 permits
DMAP UNIT 1996 Bradford Watershed/Collins Pine = 800 permits
DMAP UNIIT 1981 Allegheny National Forest = 641 permits

KQDC Data continues to show that from 2002 to 2016 impacts on vegetation trended downward. The result was land managers were able to reduce or eliminate the need to fence the forest for timber and habitat management. Another result was an increase in plant species

richness and diversity. However, since 2016 the overall impact of deer on the vegetation continues to increase or barely hold steady. Vegetation treatments on the 74,000 acres continue in the form of final timber removal sites, thinning's, and salvage harvests. The salvage of white ash logs killed or being killed by the emerald ash borer has increased on locations in the KQDC. During winters snow cover if one walks through ongoing timber operations one finds plentiful deer tracks in the snow with deer using the freshly cut over browse of the tree tops for food. Foresters on the ANF are again using fencing on timber management sites adjacent to the KQDC and indications are that fencing is needed again on some KQDC sites to protect forest regeneration from deer impacts

Check station data also shows us that from 2017 to 2020 deer weights for both males and females trended downward. The recent 2021 check station data showed a reversal in that trend with increased weights for both sexes. Results are similar for antler spread which, following four years of declines, this year showed a slight increase. Numerous reasons are possible for this; however, one year of increase is clearly insufficient to substantiate that trend. Factors like increased timber salvages, increased hunters car counts which means increased hunter pressure, increased deer numbers brought to check station, possible loss of some fawns/younger deer during last year's longer winter. Continued monitoring of the vegetation and the harvested deer are necessary to document the impacts that are occurring.

KQDC Hunters continue to bring more antlered bucks than antlerless deer to the check station. In 2021 out of the 71 deer brought to the check station, 51 of them were antlered. (In 2020, 41 out of the 57 deer brought in were antlered) The average weight of the antlered deer in 2021 was up a bit to (compared to 131 pounds in 2020) still below the 2016 average of 143 pounds. The average weight of the antlerless deer were also up a bit, 100 pounds, (compared to the 2020 average weight of 95 pounds) but still below the 2016 average of 123 pounds.

The 2021 annual report covers from January 1, 2021 to the end of December 2021.

During 2021 KQDC continued to use Facebook and its website to reach out to hunters and the public since meetings and tours were prevented by Covid-19. Contacts were maintained with University of Pittsburgh Bradford Campus and Penn State Dubois Campus to arrange for college students and campus facilities remain involved with KQDC.

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INTRODUCTION AND FRAMEWORK OF KQDC

In 2000 a group of private landowners, public land managers, scientists, hunters, and others with the support and guidance of the Sand County Foundation (SCF) came together to form the 74,000 acre Kinzua Quality Deer Cooperative (KQDC Figure 1). Common goals included improving deer herd quality, forest ecosystem health, and the hunting experience. An extensive monitoring program was established to track changes in deer density and habitat, deer harvest, hunter satisfaction, and deer condition (body weights, buck/doe ratios, and antler characteristics). The success of the program has been enhanced by deer management regulations enacted by the Pennsylvania Game Commission that include a three point antler restriction, presently a week of concurrent antlerless and antlered deer seasons, and the Deer Management Assistance Program (DMAP) which started in 2004, Saturday opener in 2019, and in 2020 a Saturday opener with the next day, Sunday, being open to deer hunting for the first time in Pennsylvania's modern hunting history. In 2021 concurrent antlered and antlerless season were again allowed for the first time since 2011.

Annually a report is issued that includes a summary of all data collected that year and trends that may be evident. Protocols have been described in detail in these past reports. In an effort to streamline the report and reduce the size, this year's report will not repeat the description of protocols and will primarily describe important trends and new findings. Protocols will be posted on the KQDC website for those interested.

This year's report includes an analysis of deer density and impact from transects that were completed, deer harvest data collected at the check station, and vehicle counts compared to prior years.

The 2021 hunting season marked the 20th year under the three-point antler restriction rule and the 18th year of DMAP. Cumulatively, these annual reports provide a record of changes in deer quality (age, weight, antler size), habitat quality (browse impact, tree regeneration), and deer density as DMAP, antler restrictions, and hunting regulations that have changed.

Presently the KQDC is made up of the following landowners as shown in Figure #1.

The KQDC initially participated in DMAP by creating north and south DMAP units as divided by State Route 59. In order to achieve a better distribution of hunters and ultimately a better distribution of deer harvest, the Bradford Water Authority and Collins Pine properties were designated as a separate DMAP unit from the Allegheny National Forest (ANF) in 2012. The result is that the KQDC is now divided into three DMAP Units each with a separate DMAP permits request (Figure 2).

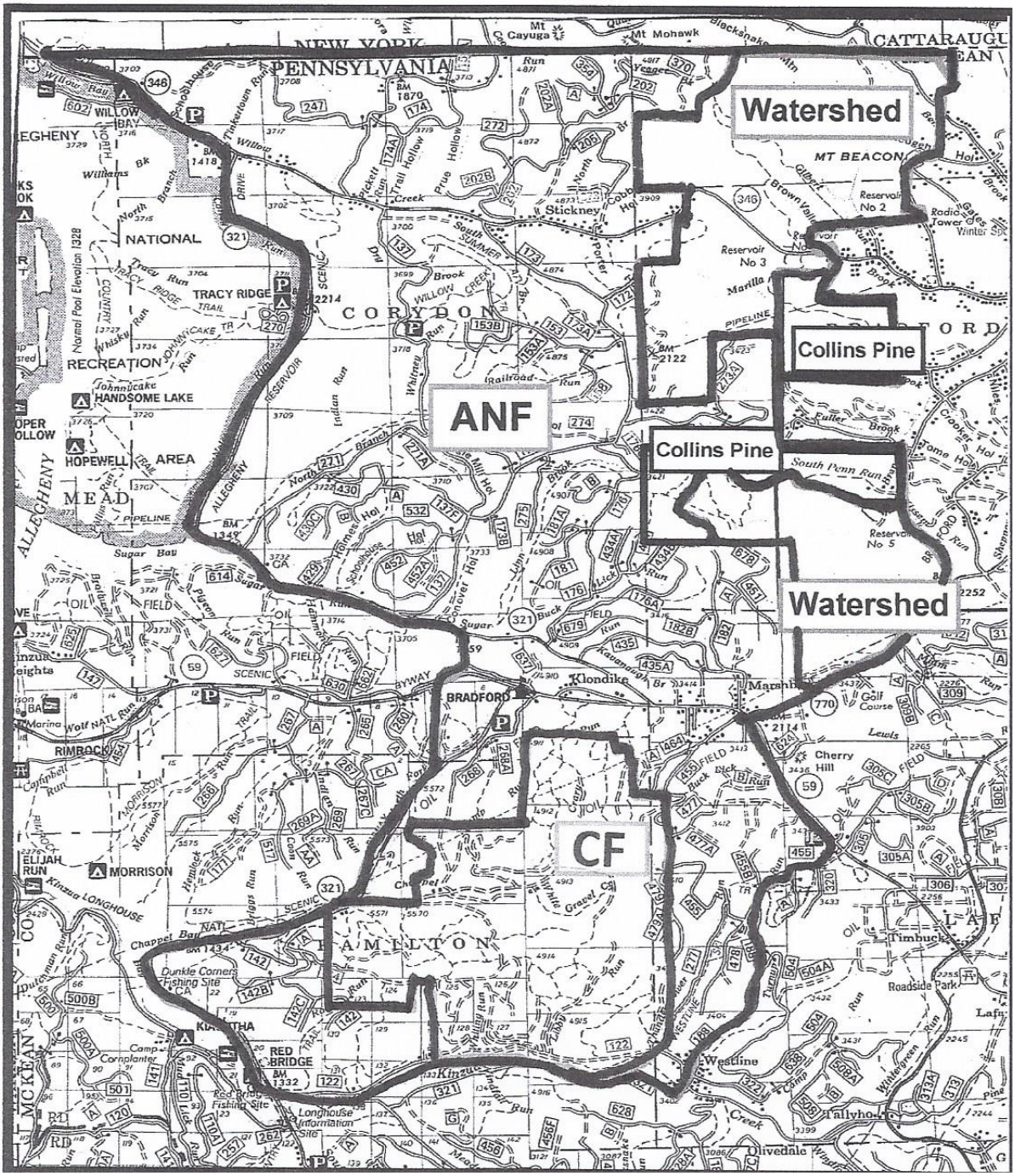


Figure 1. Landowners of the KQDC Project Area. ANF = Allegheny National Forest. CF = Kinzua Forest LLC / Conservation Forestry. Watershed = Bradford Watershed Authority. Collins Pine = Collins Pine

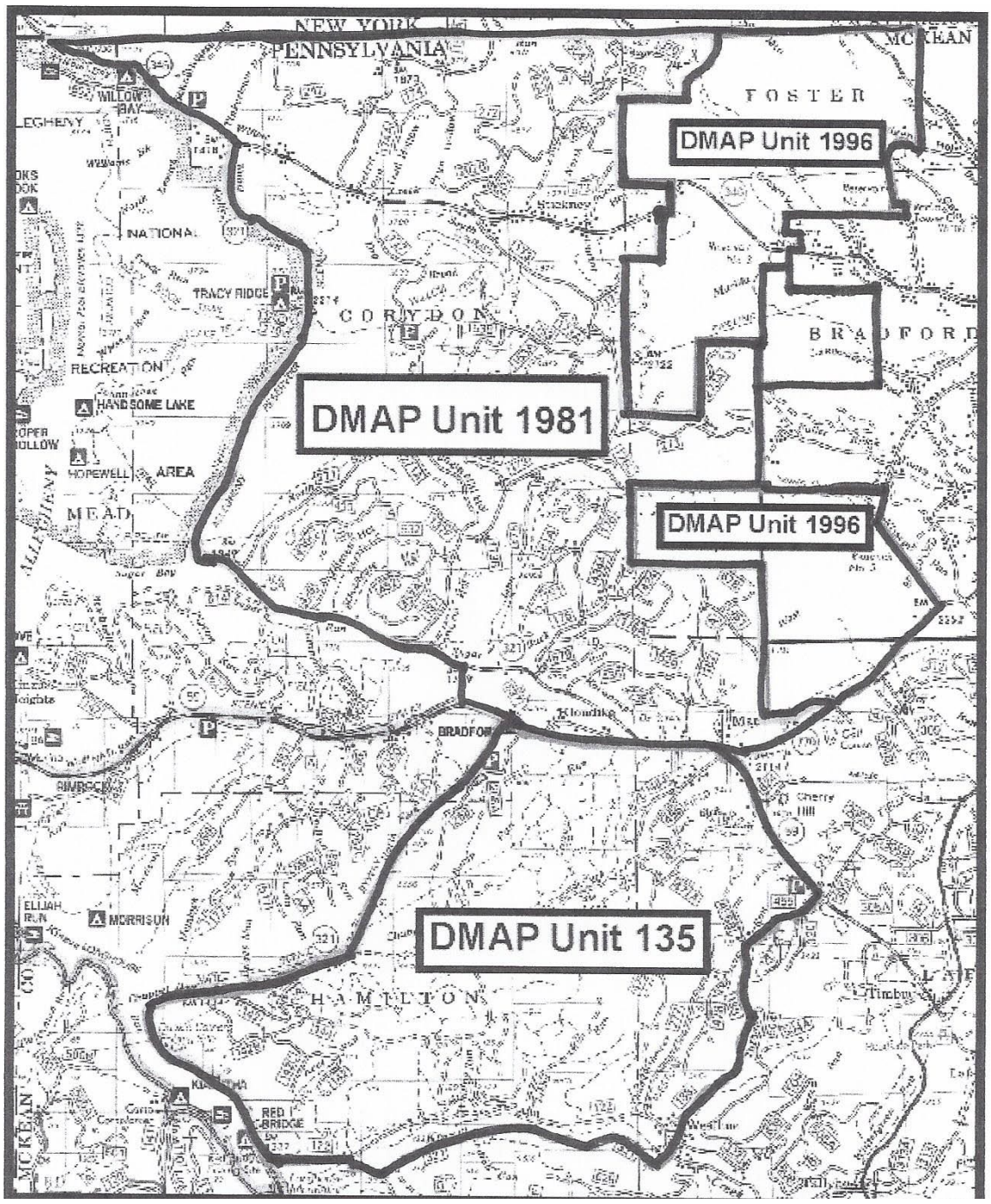


Figure 2. DMAP units within the KQDC: DMAP Unit 1981 (Allegheny National Forest- north), DMAP Unit 1996 (Bradford Water Authority and Collins Pine), and DMAP Unit 135 (Kinzua Forest LLC. / Conservation Forestry and Allegheny National Forest-south).

Deer Density and Habitat Conditions

In 2021 all 26 transects were completed to gather and document data about vegetation and deer population. The data indicates that the total KQDC deer population is still on the upswing since 2016. The vegetation data shows that information gathered spring of 2021 does not have as high and impact as 2020, however, impacts are still above what is good for forest regeneration and wildlife habitat regeneration and restoration. From 2016 to 2021 deer populations on the whole KQDC have gone from 11.4 per square mile to 21.8 per square mile.

The mast (acorns, cherries, beechnuts) crops from 2020 to 2021 were not abundant and when that occurs deer remain highly dependent on woody browse as a source of forage. During the summer of 2021 gypsy moth caterpillars had a big effect on the oaks resulting in little to no acorn production for the 2021 to 2022 time span. My observations were that cherry and beech seed were not abundant either, although a few scattered spots had some.

Deer living on the KQDC landscape are highly dependent on the plant quality and quantity for their survival and healthy. Deer populations and browse impacts need to be reduced to the 2016 levels for the forest and deer to thrive. To do so KQDC and managers must find a way to increase the antlerless harvest.

Forest management continues throughout the 74,000 acre with all four landowners. Along with the normal timber management treatments there has been an increase in salvage for white ash due to the emerald ash borer infecting and killing a high percentage of the ash trees. The increase in sunlight on the forest floor will help increase the ability of native plants, trees and shrubs to sprout and grow. Keeping deer numbers low enough to insure that the diversity, quality and quantity of these important plants is vital. To maintain quality forest regeneration to produce a quality forest with quality deer and also the proper plant structure for other species of wildlife.

Table #1 shows that from 2005 to 2016 (12 years) the average deer density was 13.6 deer psm on KQDC overall. From 2017 to 2021 (5 years) the average deer density overall KQDC rises to 19.2 deer psm. The years with the best deer health and the best forest regeneration occurred when deer populations were between 10 and 15 PSM (average 13.6) If one looks at the last three years alone one sees the last three years average is 22.7 (or 21.3 if one uses the reduced d/psm for Unit 135 in 2020 when only half the transects were completed.)

Table 1. Mean deer density (deer/square mile) by DMAP Unit 2002 to 2021

YEAR	DMAP Unit 1981	DMAP Unit 1996	Unit 135	Whole KQDC	95% C.I.	Antlerless tags WMU 2F	DMAP Tags
2002	20.8	33.7	32.0	27.3	+ - 3.3	By county	0
2003	27.0	35.6	25.3	28.7	+ - 3.0	44,000	0
2004	22.9	29.1	23.8	24.7	+ - 3.7	44,000	3000
2005	12.1	20.3	13.2	14.4	+ - 1.4	30,000	3000
2006	7.4	14.0	15.1	11.6	+ - 1.8	28,000	700
2007	9.8	17.0	11.9	12.2	+ - 1.2	28,000	150
2008	9.3	24.7	15.3	14.9	+ - 1.3	28,000	300
2009	10.0	22.2	17.3	15.4	+ - 1.3	28,000	550
2010	8.4	26.8	15.8	15.3	+ - 2.7	22,148	800
2011	16.3	25.2	15.6	17.2	+ - 3.5	34,000	800
2012	8.2	13.4	8.9	9.6	+ - 3.7	27,000	800
2013	12.2	22.7	10.7	13.7	+ - 3.2	29,000	905
2014	12.3	18.9	10.9	13.4	+ - 2.2	27,000	1067
2015	12.0	20.2	12.1	14.0	+ -3.1	22,000	1067
2016	10.3	15.2	10.7	11.4	+ - 2.7	22,000	1067
2017	7.7	20.6	12.4	12.2	+ - 3.0	24,000	1067
2018	17.9	18.4	11.2	15.7	+ - 2.5	23,000	967
2019	22.3	24.2	13.9	19.8	+ - 1.0	31,000	1117
2020	18.6	35.1	n/a	26.7	n/a	36,000	1517
2021	24.6	26.0	14.5	21.8	+ - 3.7	32,000	1881

(Table 1) shows the trend from 2016 to 2020 is an increasing deer population. In 2021 this trend may have been reduced. Even if one reduces the 2020 whole KQDC number of 26.7 to 22.5 using the 2019 figures for the undone transects for Unit 135 instead of n/a, the trend still shows the deer population on an increase from 2016 to 2021.

[Deer density was estimated using the pellet transect methodology described in previous annual reports and published in a peer reviewed journal (deCalesta 2013)]

TABLE 2. Over winter deer density for the past 12 years based on spring pellet group transects.

Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Site													
A	8.7	7.2	7.4	8.2	7.3		5.6	13.6	6.2	22.7	23.5	18.5	17.0
B	4.7	9.9	8.6	8.5	9.1	11.9	17.9	4.0	8.0	28.6	40.0		23.1
C	22.4	4.5	30.3	6.1	10.9	9	10.7	6.8	14.4	19.5	25.3	24.8	21.5
D	24.6	14.8	15.8	7.9	8.6	9.5	9.7	12.3	13.0	18.2	17.9	20.0	22.8
E	14.0	23.3	5.4	2.8	9.4	4.4	18.1	4.0	5.9	18.0	20.3		14.7
F	17.3	16.2	22.7	4.3	10.6	18.9	10.2	4.9	9.6	10.9	16.9	52.8	18.4
G	3.6	4.1	7.5	5.7	24.5	11.3	5.5	5.2	10.5	6.8	7.1	6.8	13.4
H	11.2	1.0	17.4	9.8	2.4	6.2	5.1	4.6	6.8	15.6	21.2	13.4	31.4
I	26.3	27.3	51.4	13.6	34.3	15.3	22.2	8.1	22.6	16.0	16.2	36.2	19.3
J	11.1	29.1		17.9	30.8	19.8	31.7	23.2	16.0	23.9	39.0	48.1	25.1
K	26.3	37.0		21.9	29.1	28.3	22.3	27.6	37.6	27.4	37.2	33.0	32.5
L	16.7	21.4	28.1	9.3	10.4	12.7	15.6	13.3	3.0	11.7	17.9	30.7	15.7
M	10.8	6.8	18.6	10.3	18.6	22.6	18.9	7.1	5.9	15.4	31.9		48.3
N	8.2	5.2	25.7	8.0	19.6	10.5	11.3	11.2	5.3	21.3	27.9	20.9	31.9
O	17.3	18.7	9.1	15.3	14.3	18.3	21.5	29.7	10.4	23.5	14.3		26.0
P	27.4	36.3	10.7	15.0		21.5	25.3	23.9	24.9	14.0	17.8	21.3	37.9
Q	2.7	8.7	11.2	3.9	9.6	9.7	11.1	8.7	7.7	11.5	17.1		30.5
R	4.3	5.1	8.9	5.5	7.8	10.5	9.1	8.9	6.3	20.0	19.5	20.8	32.3
S	4.1	6.0	10.9	7.9	6.4	7.6	2.1	8.8	5.0	19.8	8.3		17.3
T	8.7	4.9	8.7	4.8	6.8	12.7	3.3	8.3	7.4	7.4	12.3		21.7
U	20.2	26.6	17.2	12.2	9.2	9.3	7.3	9.4	6.6	8.5	15.9		11.5
V	24.6	20.4	15.6	11.7	10	10.2	10.8	7.8	17.9	6.8	15.4		7.83
W	22.2	10.5	12.2	8.0	5.8	13.1	17.0	11.7	14.0	10.7	10.0		17.8
X	25.6	17.8	28.2	13.7	16.2	17.3		10.2	18.3	9.9	14.6		13.3
Y	20.1	19.3	14.1	7.7	14.1	14.8	11.5	8.9	16.9	5.7	13.1		7.86
Z	16.2	13.8	27.7	11.5	18.8	8.8	26.3	13.7	19.2	13.8	15.0		23.7
mean	**15.3**	**15.3**	**17.2**	**9.6**	**13.7**	**13.4**	**14.0**	**11.4**	**12.2**	**15.7**	**19.8**	***26.5**	**21.8**
95% C.I.	**+ - 1.3**	**+ - 2.7**	**+ - 3.5**	**+ - 1.8**	**+ - 3.2**	**+ - 2.2**	**+ - 3.1**	**+ - 2.7**	**+- 3.0**	**+- 2.5**	**+ - 1.0**		**+**
Antlerless WMU 2F (x 1000)	**28**	**22.1**	**34**	**27**	**29**	**27**	**22**	**22**	**24**	**23**	**31**	**36**	**32**
DMAP	**550**	**800**	**800**	**800**	**905**	**1067**	**1067**	**1067**	**1067**	**967**	**1117**	**1517**	**1881**

(for *26.5 see remarks on page #4)

FIGURE 3. TRANSECT LOCATIONS 2001 to 2021

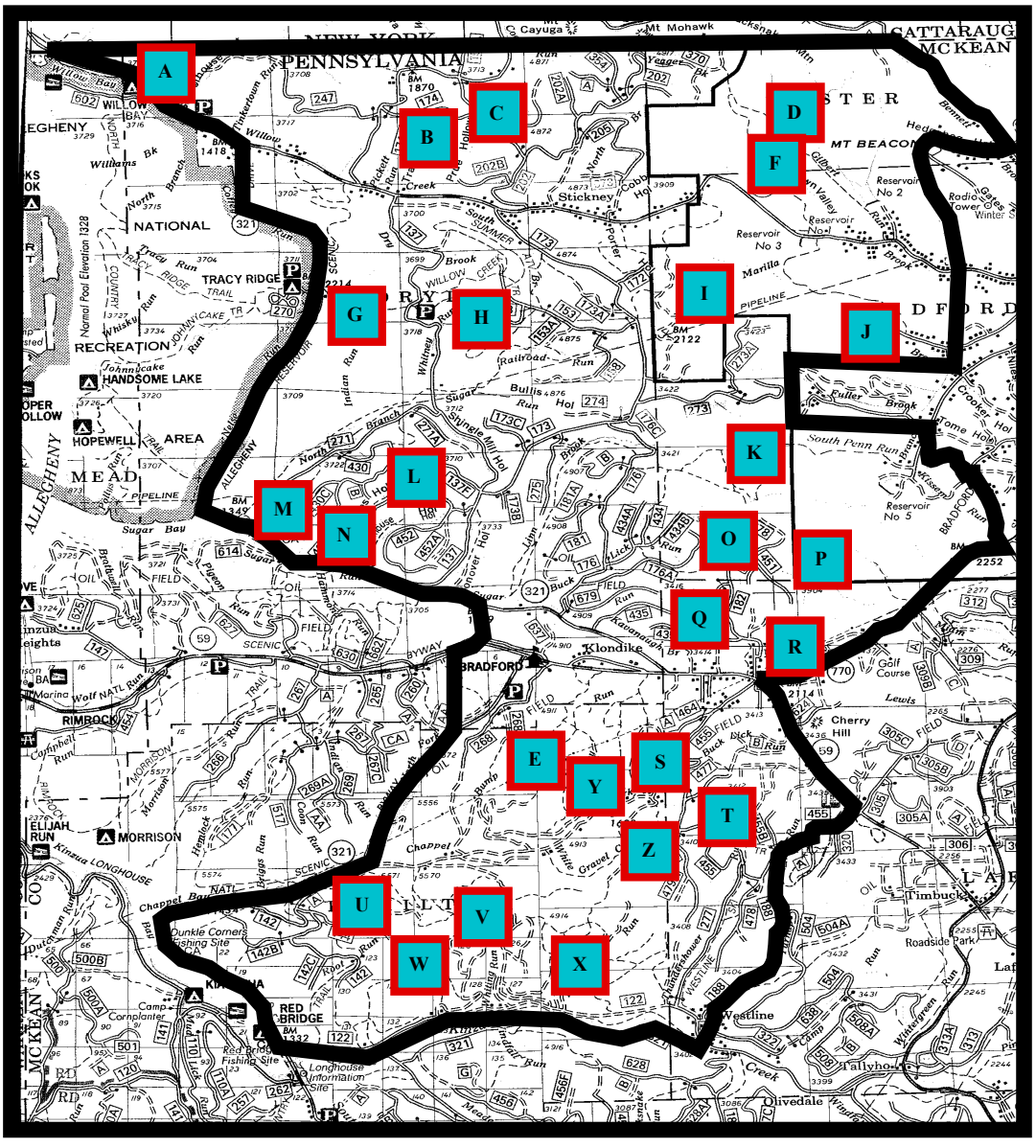


Figure 3. Location of 26 sites where deer density and impact estimates are collected.

All 26 transects sites were completed in 2021

The 2020 and 2021 spring deer densities are at their highest levels overall since 2004. Individual DMAP UNIT #1981 is at its highest since 2003, DMAP UNIT # 1996 at its highest since 2004, and DMAP UNIT #135 at its highest since 2011. For the 2021 hunting season DMAP numbers were increased on UNIT 1981 from 300 to 641. On Unit 1996 they stayed at 800 (since they were increased from the 2019 of 500.) And on UNIT 135 they increased from 417 to 440.

All KQDC DMAP permits sold out in 2021.

The Pennsylvania Game Commission Wildlife Management Unit 2F antlerless permits were as follows. 23,000 in 2018, 31,000 in 2019 and 36,000 in 2020. In 2021 they were reduced to 32,000 for 2F since the concurrent season was restored to the full two weeks of regular rifle deer season. All UNIT 2F antlerless licenses were sold.

HABITAT and FOREST CONDITIONS

Table 3. Vegetation Treatments on the KQDC over the past 9 years (acres)

	2013	2014	2015	2016	2017	2018	2019	2020	2021
Regeneration Harvest	161	381	528	640	279	175	307	222	918
Partial Harvest	675	807	1061	295	1214	1020	1239	1612	922
Herbicide	123	101	49	705	0	449	821	868	924
Fence Removal	100	0	0	219	0	0	52	0	9
Fence Construction	0	0	0	0	0	0	57	143	144
Total acres treated	1059	1289	1638	1859	1,493	1644	2476	2507	2917

All landowners on the KQDC continue to do forest treatments which are geared towards a sustainable harvest and a sustainable forest ecosystem.

Table 3 shows those treatments. It is the cumulative number of acres treated over the last 9 years. A total of 17,220 acres have been treated. Of which 12,516 acres had partial harvests or regeneration harvests.

As one can see from the chart of Total Acres treated, forest management continues and is increasing to improve forest conditions for forest diversity and wildlife habitat, two of the original and ongoing goals of the KQDC. In 2021 the largest acreage in regeneration harvests acres over the past nine years took place. When added to the partial harvest combined that opened more acres to sunlight than at any time over the past nine years. This provides more small trees, shrubs, forbs and other herbaceous growth that are beneficial for deer.

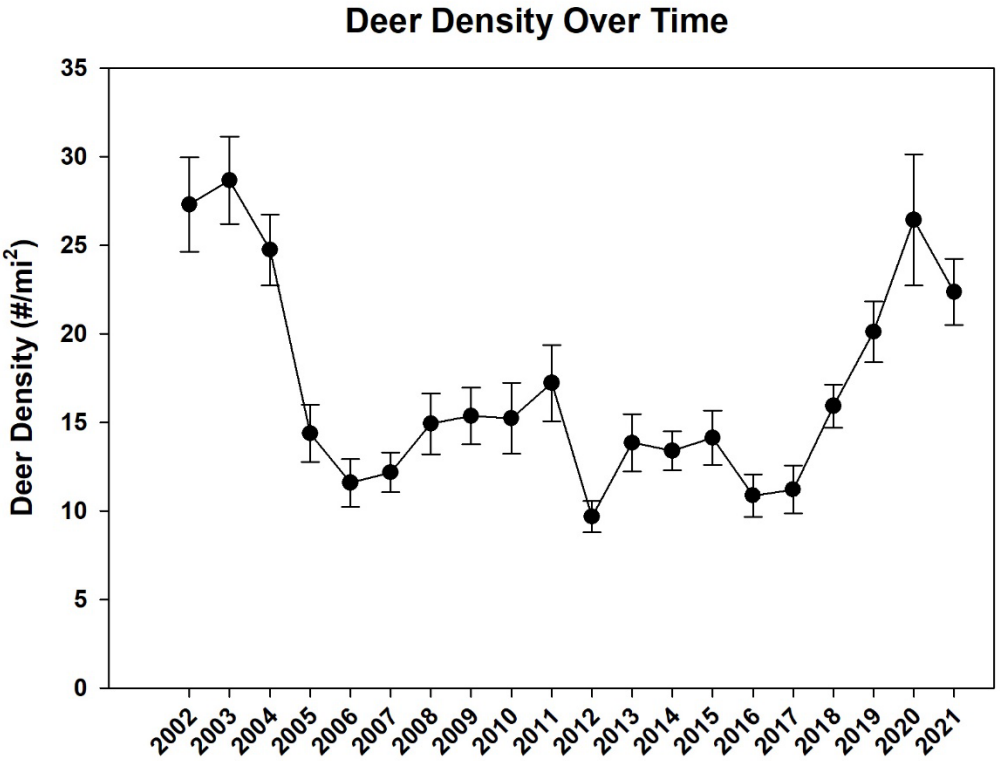
Table 4. Habitat variables on the KQDC by year.

2002 to 2021

Year	Percent plots without regeneration	Percent of plots with regeneration & no browsing impact	Percent of plots with a closed canopy
2002	59	15	N/A
2003	63	8	N/A
2004	60	15	N/A
2005	53	34	N/A
2006	52	38	N/A
2007	55	28	N/A
2008	53	26	78
2009	55	25	75
2010	55	24	79
2011	50	22	84
2012	41	35	79
2013	49	25	87
2014	43	29	86
2015	58	27	84
2016	53	33	87
2017	50	35	87
2018	50	35	86
2019	44	41	77
2020	52	16	81
2021	44	23	76

Data for several habitat variables and deer densities on those habitats have been collected over the years. (See Figures #1 through #4) **GRAPH 1**, Deer density over time. **GRAPH 2**, Percent of plots without regeneration **GRAPH 3**. Percent of plots without browse impact. **GRAPH 4**. Percent of plots with open canopy. (Graphs developed by Alejandro A. Royo, Ph.D. Research Ecologist, USA Forest Service Northern Research Station Forestry Sciences Lab.)

GRAPH # 1 Deer Density graph 2002 to 2021

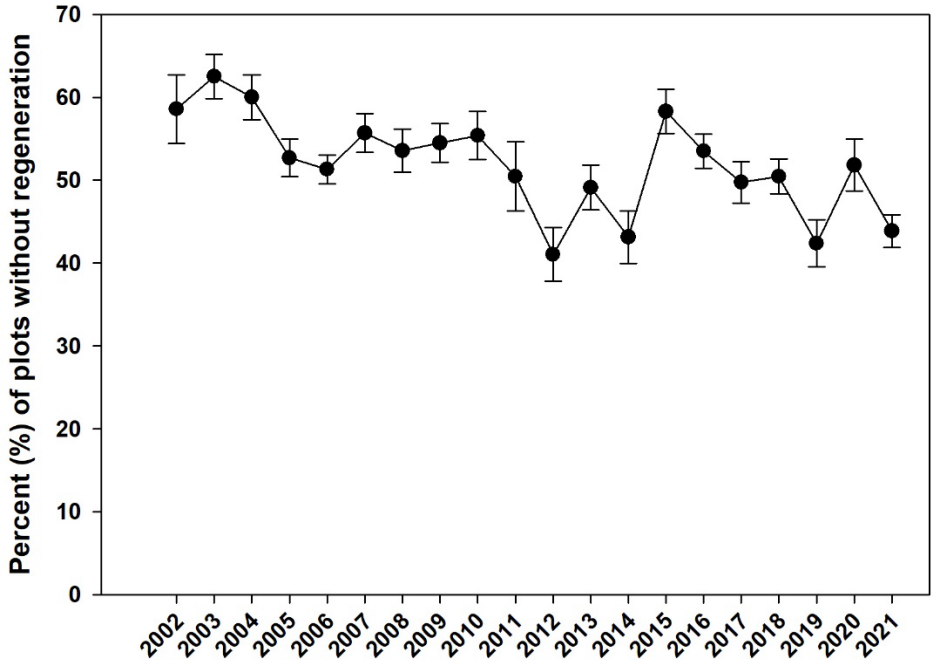


As one can see in GRAPH # 1 deer density from 2016 to 2021 is on an upward swing except for this past year. This past year all 26 transects were completed. From 2019 to 2020 there was a steep increase in deer density but only 13 transects were completed that year. If one looks at the graph from 2019 to 2021 there is still an increase in density when all 26 tracts were competed, just not as steep. This may reflect that the 13 transects not done in were transects with lower densities over the past ten years, and remain so in 2021. Overall, the rise in deer density is above what the KQDC data shows will allow good forest regeneration and good deer health. Also, deer density is still much higher than it was in 2016 and is nearing what it was in the 2002 to 2003 years when the KQDC started.

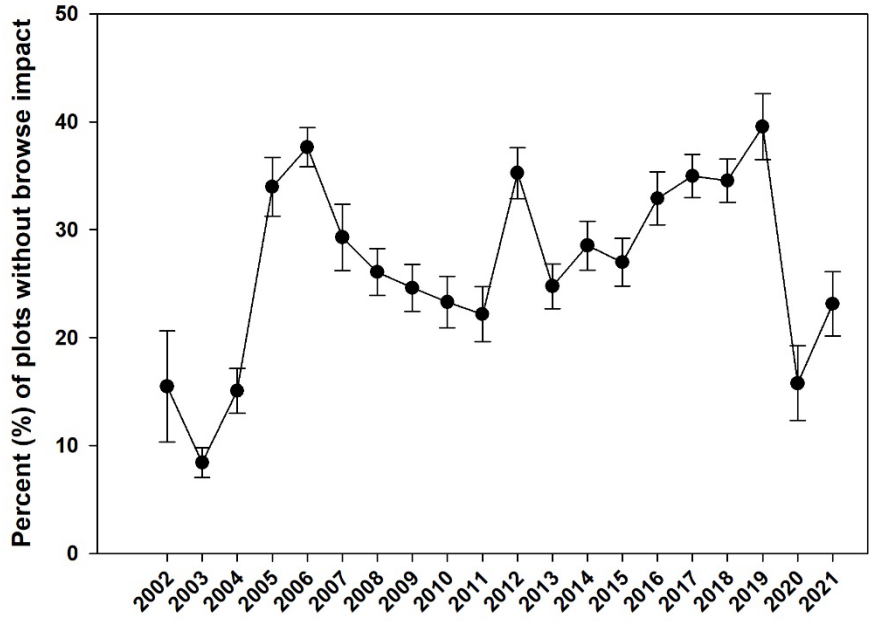
Graphs # 2 and # 3 show that in 2019 to 2020 there were increases in browse impacts and decreases in plots without impacts. Both were reversed after the 2021 transects were completed. This may also reflect that in 2021 all transects were completed instead of only half of them like in 2020. Overall, in 2022 this can be good indication if the trend continues. However, KQDC is still at a point where approximately 45% of the plots show no regeneration. Only approximately 23 % of the plots show no impacts from deer browsing.

Graph # 4 shows an increase in open canopy which reflects the increase openings due to white ash salvage cuts and normal timber removal operations.

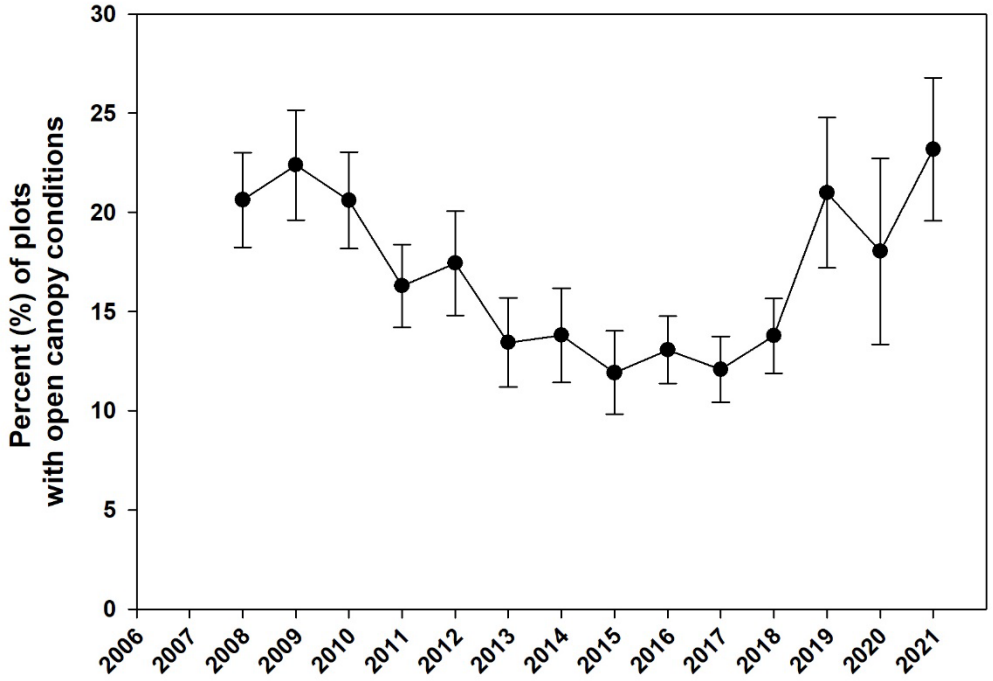
GRAPH #2 Percent of Plots without regeneration 2002 to 2021



GRAPH # 3 Percent pf plots without browse impact 2002 to 2021



Graph # 4 Percent of plots with open canopy 2002 to 2021

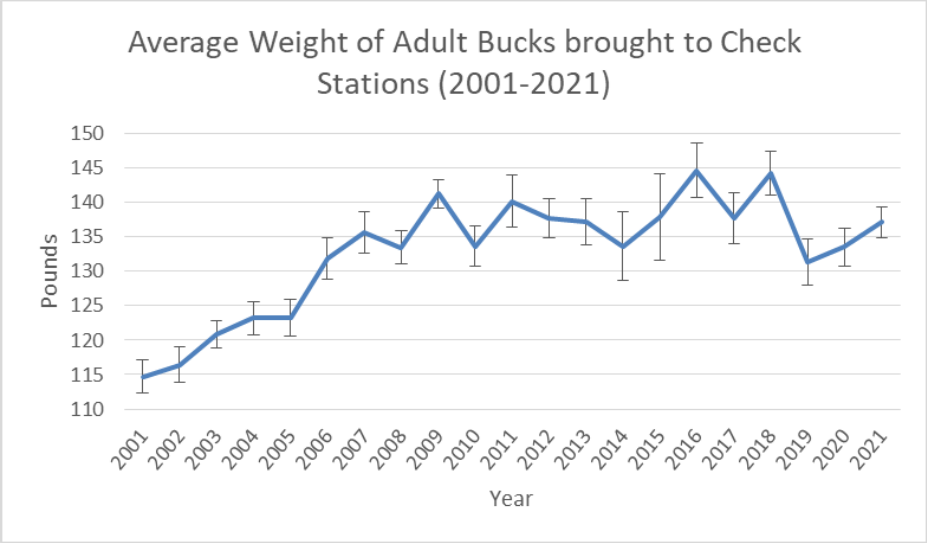


In 2002, 2003, 2004 the three year average across the KQDC was 27 d/psm. By 2005 deer populations were dramatically reduced down to 14.1 d/psm. From 2004 to 2016 the average was 13.6 deer per square mile across the KQDC. If the deer population remains above the average KQDC level from 2004 to 2016 of between 10 to 15 d/psm, or if it continues to increase, data shows that the forest regeneration and deer habitat will decline in quality and quantity. This will result in a decline in deer health (deer weights, antler spreads, and antler points) and a decline in the diversity of tree and other plant species for future timber management as well as for wildlife habitat quality. Over the long term this results in less deer to hunt and less hunter satisfaction. The improvements hunters saw in deer weights and antler points and spread since 2004 are a direct result of lowering the deer population from the levels found on the KQDC from 1999 to 2004. This resulted in more forest regeneration which provide more browse per deer as well as establishing a new higher quality forest. The increase in forest regeneration along with the decline in hunters harvesting deer, especially antlerless deer on the KQDC is allowing the deer population to grow out of balance with the forest regenerations food supply.

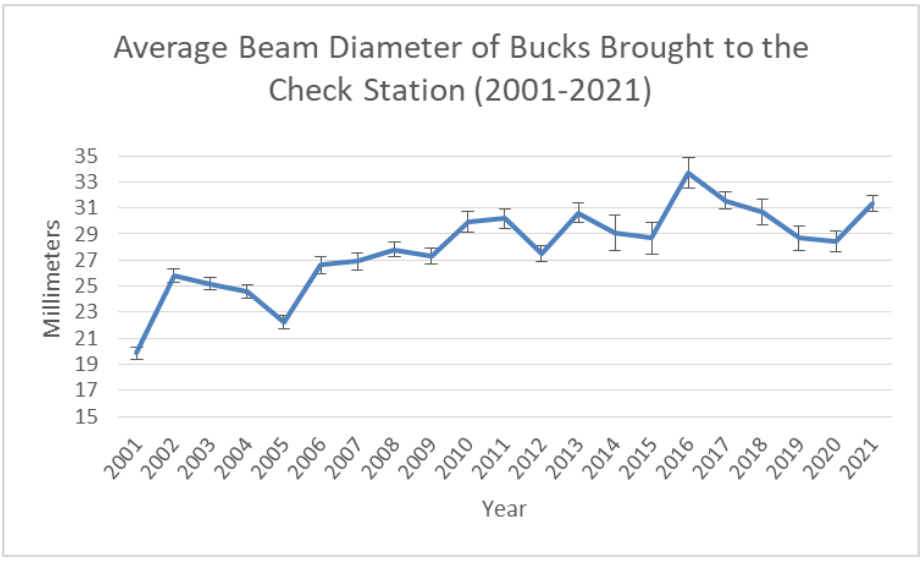
Hunters and land managers must once again work together to balance present day deer numbers with present day forest and habitat conditions.

GRAPHS #5 thru #8 show the changes in average weights of adult bucks, average spread of adult buck antlers, average beam diameters, and average weights of adult does for the past 21 years.

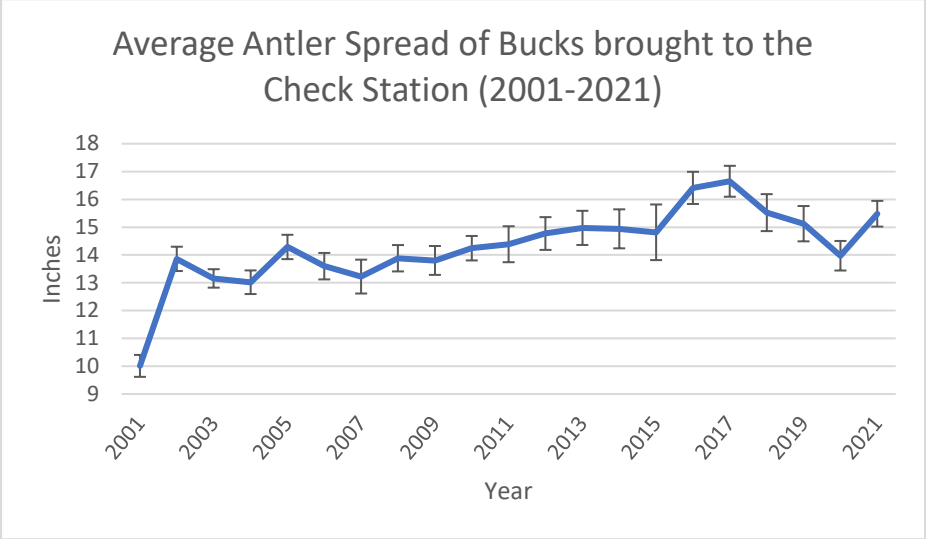
GRAPH 5. Average Weight of Adult Bucks Brought to the check stations (2001-2021). (Graph by Emily Reams, Graduate, University Pittsburgh Bradford Pa.)



GRAPH 6. Average beam diameter of all bucks brought to the check stations (2001-2021). (Graph by Emily Reams, Graduate, University Pittsburgh Bradford Pa.)



GRAPH 7. Average antler spread of all bucks brought to the check stations (2001-2021). (Graph supplied by Emily Reams, Graduate, University Pittsburgh Bradford Pa.)



GRAPH 8. Average weight of all does brought to the check stations (2001-2021). (Graph by Emily Reams, Graduate, University Pittsburgh Bradford Pa.)

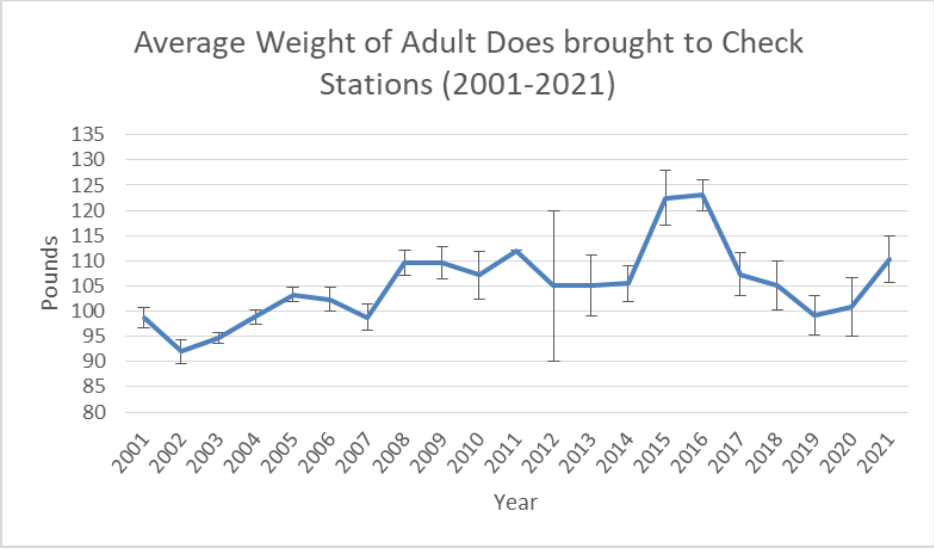


TABLE # 5 Marshburg RT 59 Deer Check Station Data (Perkins) YEAR 2021

DEER #	GENDER	POINTS RIGHT	POINTS LEFT	SPREAD inches	WEIGHT (gutted out)	AGE	Beam diameter right	Beam diameter left
1	Male	4	4	12	122	3.5	27	25
2	Male	4	4	19	152	3.5	38	34
3	Female				109	6.5		
4	Male	4	4	17	152	3.5	33	35
5	Male	4	3	16	119	2.5	27	26
6	Female				58	5 months		
7	Male	4	4	17.5	144	2.5	40	37
8	Male	4	4	18	141	2.5	32	33
9	Male	3	4	10	116	2.5	26	26
*10	Male	4	3	16		2.5	37	29
11	Male	4	4	17.5	122	2.5	33	31
12	Male	4	4	17.75	132	3.5	33	34
13	Male	4	4	18	152	3.5	37	37
14	Male	5	5	15.5	154	3.5	39	38
15	Female				111	3.5		
16	Male	5	5	18.5	141	4.5	36	38
17	Male	4	3	17.4	148	3.5	35	38
18	Male	5	5	18	130	3.5	38	36
19	Male	4	4	14	128	3.5	37	39
20	Male	4	4	18.875	140	2.5	37	39
21	Male	4	5	14.25	139	3.5	35	36
22	Male	4	4	16.25	140	2.5	36	34
23	Male	4	4	21.5	162	4.5	34	34
24	Male	3	3	12.875	122	3.5	28	25
25	Male	4	3	13.125	128	2.5	27	28
26,Day#2	Male	3	4	12	118	2.5	31	30
27	Male	4	4	16.5	124	2.5	27	29
28	Male	4	3	12	124	3.5	30	29
29	Male	4	5	18.75	160	3.5	40	40
30	Male	5	5	14.5	152	4.5	38	34

*(Deer #10, no weight, head brought in, no body)

DEER #	Gender	POINTS RIGHT	POINTS LEFT	SPREAD Inches	Weight (gutted out)	AGE	Beam diameter right	Beam diameter left
*31	Male	4	1			3.5	26	20
32	Female				81	3.5		
33	Male	2	3	8	102	1yr 5mo	21	21
34	Female				111	3.5		
35	Male	4	4	14	147	3.5	35	35
36	Female				89	2.5		
37	Male	4	4	18.5	145	3.5	32	32
38	Male	3	4	10.5	112	2.5	23	24
39	Male	5	4	16.875	176	3.5	35	38
40	Male	3	4	14.5	133	2.5	23	24
41	Male	4	4	16.5	160	4.5	39	41
42	Male	4	4	17.175	151	3.5	33	30
43	Male	4	4	16.175	133	3.5	31	29
44	Female				124	2.5		
45	Male	3	3	14.5	132	3.5	25	24
46	Male	4	4	12.875	116	3.5	27	27
47	Male	4	4	21.5	139	3.5	40	41
48	Male	1	1	6.875	110	1 yr. 5mo	18	18
49	Male				69	7 months		
50	Female				124	4.5		
51	Female				129	4.5		
52, Day#3	Female				80	3.5		
53	Male	4	4	13.25	116	2.5	29	27
54	Male	5	5	22	135	3.5	39	37
55	Male	4	4	16	128	3.5	35	39
56	Male	2	2	8.5	93	1 yr. 5 mo.	15	12
57	Female				64	7 months		
58	Male	3	3	15.25	127	3.5	22	22
59	Male	4	4	16.25	140	3.5	32	32
60	Female				62	7 months		

*(deer #31= hunter brought in head only, no weight, one antler broken off, no spread)

DEER #	Gender	POINTS RIGHT	POINTS LEFT	SPREAD Inches	Weight (gutted out)	AGE	Beam diameter right	Beam diameter left
61	Male	4	3	17.5	164	3.5	34	33
62	Female				147	3.5		
63	Male	4	4	14.175	132	2.5	26	26
*64 Day #4	Male	7	6	15		4.5	36	37
65	Female				110	2.5		
66	Female				49	5 months		
67	Female				101	2.5		
68	Female				123	2.5		
69	Male	4	4	15.75	128	2.5	27	27
70	Female				102	3.5		
71	Female				114	2.5		

* (deer #64 = no weight, Hunter only brought in head with antlers)

NOTES /COMMENTS– In 2021 the total number of deer brought to the check station was 71. That's the highest number since 2009. It's also three years in a row of increasing numbers of deer brought in. Numerous factors could be the reasons for the increases. Such as; Data shows deer numbers are up, data shows hunter vehicles counts are up. Concurrent season for antlered and antlerless deer started on the opening Saturday and was the whole two weeks. Weather was fair to good with snow cover all the days the check station was open. Opener was again on Saturday followed by an open day to hunt on Sunday. DMAP permits were slightly increased. Total number of antlerless permits were reduced for 2G from 36,000 to 32,000 this year to account for the concurrent seasons increased days to hunt antlerless deer.

In 2021 more deer were brought in which gives a better representation of what's out there.

Most hunters who brought in a deer had one or two other hunters with them. Estimate at least 200 hunters visited the check ststion and had lots of questions answered and received information.

KQDC hunters still keep to the Pennsylvania tradition of bringing in more bucks than does and numerous hunters expressed that they won't shot a doe until after they get a buck. Numerous comments were made by hunters that they don't want to shoot a doe until after they get a buck, and then if they get a buck, may not even hunt or shoot a doe. Or they won't hunt a doe until they have run out of time to get a buck. Some hunters said they won't shoot does on the KQDC as they don't think there are that many deer, but will shoot a doe back in their home area due to help out farmers that live around them. There were numerous other similar comments. For decades Pennsylvania Hunters prefer to harvest bucks and not harvest does.

Table 6. Number of antlered and antlerless (male & female) brought to the check stations Years (2001 through 2021).

Year	Antlered Deer	Antlerless Deer	Total	Female Antlerless	Male Antlerless	Unsexed
2001	104	48	152	39	9	
2002	71	62	133	48	11	3
2003	87	168	255	145	23	
2004	57	86	143	76	10	
2005	47	44	91	36	8	
2006	54	35	89	30	5	
2007	32	26	58	24	2	
2008	57	28	85	21	7	
2009	44	31	75	26	4	1
2010	40	13	53	10	3	
2011	22	5	27	5	0	
2012	37	4	41	3	1	
2013	31	10	41	8	2	
2014	15	4	19	3	1	
2015	19	7	26	4	3	
2016	21	4	25	3	1	
2017	26	10	36	10	0	
2018	24	15	39	10	5	
2019	21	11	32	8	3	
2020	38	19	57	16	3	
2021	51	20	71	19	1	

(Tables 5, 6, 7 developed by Emily Reams)

Note, from2001 to 2009 there were three check stations, The Warehouse, RT 59, The Willows, RT 346, and Bobs Trading Post, RT 321) From 2010 to 2015 there were two check stations, (The Warehouse (Harrisons) and the Willows, (in 2011 there was also a roving check station) (in 2012 Marshburg one was at USFS Bradford Ranger Station)

Since 2016, there has been one check station located at ANF's Timberdoodle Flats Trail Head Parking Lot on RT 59. In 2021 the RT 59 Marshburg Check Station was moved from the ANF Timberdoodle Parking Lot and held in John Perkins parking lot ¼ miles east of Timberdoodle

TABLE #7 Average weight of adult bucks, average antler spread of adult bucks, and average weight of adult does brought to the check stations

2001 through 2021

Year	Average Weight of Adult Bucks	Average Antler Spread	Average Weight of Adult Does
2001	105	10	96
2002	110	13.9	92
2003	118	13.2	92
2004	120	13	96
2005	121	14.3	100
2006	128	13.6	101
2007	131	13.2	99
2008	129	13.9	107
2009	137	13.8	107
2010	132	14.2	106
2011	131	14.4	98
2012	134	14.8	105
2013	133	15	102
2014	134	14.9	108
2015	109	14.8	121
2016	143	16.4	123
2017	137	16.7	106
2018	140	15.5	104
2019	130	15.1	97
2020	131	14	95
2021	137	15.9	110

Note: Out of the 71 deer brought to check station in 2021:

Valid weights documented on 45 adult bucks age 2.5 or older

Valid spreads documented on 47 adult bucks age 2.5 or older

Valid weights documented on 15 adult does age 2.5 or older

DMAP, KQDC and the Pennsylvania Game Commission

In addition to the data presented thus far in this report, more data for year 2021 season and harvest will be received in the coming months from the Pennsylvania Game Commission about all the DMAP permits, the reported harvest with them, and the reported rate of all DMAP permit holders. After reviewing the information members of KQDC will set the 2022 season DMAP permit numbers to obtain the needed harvest and population goals with the forest habitat and conditions.

CAR/VEHICLE COUNTS, HUNTER NUMBERS

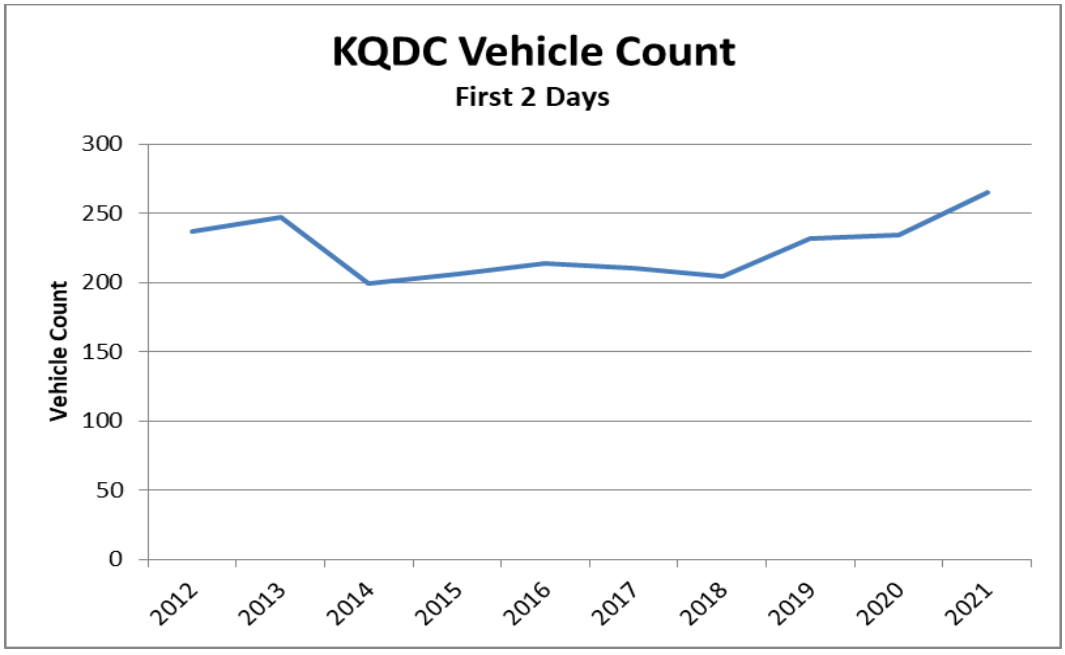
Vehicle counts have trended upwards since 2014 on the KQDC
Number of vehicles counted the last 10 years are as follows:

(2012 = 237) (2013 = 247) (2014 = 199) (2015 = 206) (2016 = 214)

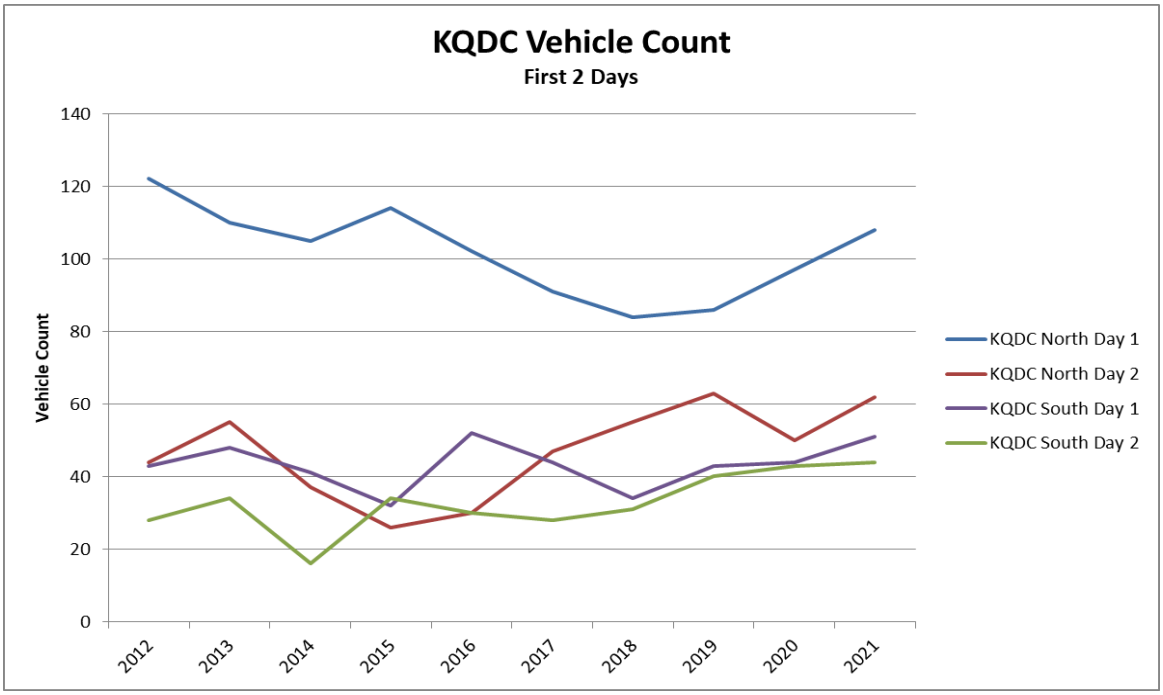
(2017 = 210) (2018 = 204) (2019 = 232) (2020 = 234) (2021=265)

Numerous factors may contribute to this. Such as, Saturday opener, restoring concurrent season, increased antlerless permits and DMAP permits, increased advertising with the new KQDC Brochure being distributed. Covid pandemic effects on hunting and recreation. Etc.

Graph #9 Total number of vehicles counted on the first two days of the firearms deer season 2012-2021



GRAPH 10 Vehicle Counts by separate routes and days. 2012 to 2021



2021 Car Count Data.

Saturday 11/27

Temperature: High 20's Fahrenheit
Sky Conditions: Overcast, Roads were snow and ice covered but passable.

KQDC North
Start Time: 0730
End Time: 1030
Car Count: 108

KQDC South
Start Time: 1045
End Time: 1330
Car Count: 51

Sunday 11/28

Temperature: Mid to high 30's Fahrenheit
Sky Conditions: Overcast and snowing, roads were snow and ice covered, more snow on roads than previous day but still passable.

KQDC North
Start Time: 0730
End Time: 1000
Car Count: 62

KQDC South
Start Time: 1015
End Time: 1215
Car Count: 44

While doing the car counts each person records all the vehicles parked along certain routes annually. They also stop at each vehicle and place the annual Check Station Flyer on the windshield. They also placed the updated KQDC Brochure on the vehicles. Normally two people ride together to do the car counts. Due to Covid restrictions routes were completed by one person alone. ANF employees completed the normal two days' worth of vehicle counts for 2021.

2021 Weather, Hunters, Hunting and Tradition.

Weather is a major factor during the opening days and Saturday of the regular rifle season. If the ground is snow covered and the weather mild and pleasant, hunters can remain comfortable and also see deer better due to snow cover, tracks, etc.

Inclement weather, especially rain and or fog, or heavy snows during hunting hours the opening week of rifle season can reduce the annual total deer harvest.

In 2021 the first two days had 2 to 6 inches of snow cover throughout the KQDC. This is about as good as the weather can be for the opening two days of rifle deer season. Opening day hunters brought 25 deer to the check station. (Last year was 23) The next day, Sunday, hunters brought 26 deer to the check station. (Last year was 10) On Monday, day three hunters brought in 12 (last year was 2 as it rained all Monday in 2020) And the first Saturday hunters brought in 8 deer (last year was 22, however, last year the first Saturday was the first day hunters could use their regular doe licenses, compared to this year when starting on opening day buck and doe was concurrent)

Between the better weather, snow cover, and Saturday opener being concurrent and followed by Sunday being open, there are numerous factors that may have affected numbers of deer brought this year and on in on each day. Overall, 71 deer were checked compared to last year's 57. This year's 71 were the most deer checked since 2009.

Detailed weather analysis for Bradford can be obtained from the National Weather Forecast Office in State College, PA. In general, the 2020/2021 winter conditions were not severe enough to cause any appreciable amount of deer mortality. In 2021 no dead deer were found during spring pellet transects.

Trail Camera Information 2021

In 2021 ten trail cameras were set out and maintained by KQDC Coordinator. They were in place as of August 1st and remained in place until December 24th 2021. Camera Cards were collected and data recorded once each month. All ten cameras functioned well this year and none were stolen. One was tampered with (camera was shut off on about November 29 and 26 days were not recorded.) A total of 146 days x 10 camera = 1460 trail camera days minus the 26 days missed on one camera equals 1434 trail camera days.

During that time period deer set off the cameras 1516 times. Second place for tripping the cameras were bear at 46 times. See Table # 8 for data by month by species.

Table 8. All Wildlife Photographed on Trail Cameras (2021)

Year 2021	AUG	SEPT	OCT	NOV	DEC	TOTAL
Antlerless Deer	273	214	103	111	98	**799**
Fawns	49	21	9	1	0	**80**
Bucks: 1 or 2 points to a side	27	25	28	21	7	**104**
Bucks: 3 or more points to a side	24	10	35	76	9	**154**
Unknown deer	107	101	81	65	25	**379**
Turkey	12	16	2	0	0	**30**
Grouse	1	0	0	0	0	**1**
Black bear	23	12	11	0	0	**46**
Bobcat	0	0	2	0	1	**3**
Fisher	0	0	0	0	1	**1**
Coyote	8	3	0	4	0	**15**
Gray Fox	0	0	2	0	0	**2**

A more scientific system to use the trail cameras would have to be implemented to use the photos obtained to figure percentages of bucks to does or fawns to adults. By October it's difficult to impossible to identify fawns from yearlings or other small antlerless deer that are not fawns. None the less, the photos give some insight as to what is out there. The photos are actual proof of deer and other wildlife that people can see. Counting the deer one sees while out in the woods or driving roads through the woods is always a difficult way to estimate populations. Today's visibility is reduced compared to years ago when there was a lot less brush along roads and throughout the woodlands. Trail cameras help people see what is out there way more than walking or driving. And the pictures are very useful to use on Facebook and with other outreach efforts by the KQDC.

TABLE # 9. A second set of trail cameras was run on the KQDC by long time KQDC member and contributor and Outdoor Writer Mike Bleech for a two month period. Mike submitted the following data chart for this year's report.
Data from four cameras from October 1st to November 30th 2021.

Fawn	doe	spike	Branched antler	Day buck	Unknown deer	coyote	bear	turkey	camera
13	49	4	32	10	14	2	2	0	FR173A
8	30	2	20	6	4	0	0	2	FR173B
13	17	5	19	11	10	0	0	0	FR430
1	2	0	1	1	1	1	1	0	FR247
35	98	11	62	28	29	3	3	2	totals
17%	48%	5%	30%						Percent's of deer

OUTREACH EFFORTS

DEER CHECK STATION

Hunters that brought deer to the check station were given a fluorescent orange KQDC hat and information on Chronic Wasting, KQDC maps, and KQDC Brochures, deer density maps, and contact information on a variety of subjects. Most hunters who brought in a deer had one or two other hunters with them. A few hunters stopped by without deer just to ask questions, get information, or see some deer being brought in. Estimate at least 200 hunters visited the check station and had lots of questions answered and received information.

ANNUAL DEER SEASON KICK OFF

KQDC Annual Deer Season Kickoff for 2021 was not held due to Covid restrictions.

Programs have been held in 2015, 2016, 2017, 2018, and 2019. At this point in time we are planning and working on having the KQDC Kickoff in October 2022.

KQDC FACEBOOK SITE AND KQDC WEBSITE

KQDC still gets a good following on its Facebook page. Hunters and other especially from September on through December check out the site for information and to see some pictures of deer and other wildlife on the KQDC area.

Site Managers are Collin Shephard and John Dzemyan. www.facebook.com > KQDC

The KQDC website is easily reached at kqdc.com on line. It still needs some attention from its administrators, but its total cost per year is less than $200 so the decision to maintain it was approved. It has the potential to post information in way that Facebook does not offer.

Both sites need people with more website skills and Facebook skills than this coordinator, but in the meantime, both sites do get information out to hunters and others.

Links to KQDC with other Facebook sites such as the Hunting 2F Facebook site and some Ruffed Grouse sites are being developed. This has helped to increase knowledge of the KQDC.

KQDC BROCHURE

We still have a good supply of new (2019) KQDC brochures for distribution. The ANF Visitors Bureau located in Bradford Pa. has a supply of them and takes them to tourist and trade shows throughout Pennsylvania and bordering states. One can view and print their own copy from the KQDC.com website.

Brochures are also on display and available in numerous public locations such as local State Parks and other public offices. Plus the ANF Visitors Bureau Website also has a link to the KQDC Facebook page and posts KQDC news releases. Thousands of people access the ANF site daily and can find links to the KQDC on the site.

KQDC NEWS RELEASES

Over the past six years and probably more Mary Hosmer has taken on the role of sending out news releases. She has developed a standard news release form which works well with local newspaper, radio stations and other media outlets. She has a standard list of over 80 some places that get the KQDC News Releases. Other KQDC leadership staff assist with the editing and content, and Mary gets it out there. At our January 2022 meeting discussion was held and approved on increasing KQDC news releases for 2022.

KQDC DEER CHECK STATION RAFFLE

Every deer check station season the KQDC holds a raffle whereby any hunters who bring their deer in form the KQDC to have it recorded for data receives a raffle ticket. Former years each antlered deer brought in would receive one raffle ticket and each antlerless deer brought in would receive two tickets for a chance to win a rifle. In 2020 the leadership team tried a new idea. Two prizes instead of one. Each hunter who brought in an antlerless deer got one chance to win $500 and each hunter who brought in an antlered deer got one chance to win $250. The idea was to get more hunters to use their DMAP permits early in the season when the check station is open. And the buck hunters would still have a chance to win a prize too. Not sure if it made much of difference but both more deer were brought in again this year, even though hunters continue to bring in two or three antlered deer for every antlerless deer they bring in.

Fluorescent Orange hats with the KQDC logo are also given to each hunter who has a deer checked. We found a vendor in Bradford Pa. who made us a supply of hats that should last two or three years at about half the price of last year's hats. Most of them are stored at the AHUG office in Kane Pa.

College Students Involvement, University of Pittsburgh and Penn State Dubois

Contacts in 2021 continued with both colleges to encourage students and staff to get involved with KQDC. Emily Reams from the University of Pittsburgh finished her capstone paper in 2021 and also was in charge of the work at the Marshburg deer check station this year. More contacts are planned in 2022 with professors at Bradford Pa. Last year we had a tentative tour scheduled in the late summer or early fall with students and teachers from UPB campus but due to Covid it was cancelled.

We continue to contact two professors at the Penn State Dubois Campus. Kelly Tolley Roen, Associate Professor of Wildlife Technology and Michael C. Eckley, CF Lecturer are working to find ways with Alex at the USFS Lab to get student involved in numerous aspects of KQDC work from data input and analyzation to field work with pellet counts and vegetation impact and inventory work. Covid -19 prevented much from happening during 2020 and again in 2021, but hopes are up that sometime in 2022 involvement will occur.

Testimony at the Pennsylvania Game Commission Meetings

KQDC Coordinators continue to give written and verbal testimony at the January Commission meeting annually. KQDC leadership team work together on input for the letter and testimony.

Deer Health and CWD (Chronic Wasting Disease)

Chronic Wasting Disease is a serious threat to deer all over North America including Pennsylvania. The KQDC has gone on record in letter form to support efforts to stop CWD from spreading to this area or other areas and to control and eradicate CWD. The best know way to slow the spread, to stop the spread, and to keep deer on the KQDC safe from CWD is to keep deer populations on the KQDC under control and in balance with the forest deer habitat. The best way to handle any new areas that are documented to have deer with CWD is to increase deer harvests in that locality. Educational Postings on Facebook and the Website will continue. As of December of 2021 no cases of CWD have been documented in KQDC. However, in the summer of 2021 one deer in Warren County about 20 miles west of the KQDC on a private deer farm did test positive. Another deer in Elk County near Brockway Pa. tested positive. Bothe these areas had additional regulations places on the handling and movement of deer for any reason including deer harvest by hunters. So far KQDC has not been directly affected by these two new areas regulations for CWD.

AHUG Allegheny Hardwood Utilization Group

AHUG provides bookkeeping and financial services to the KQDC. Based in Kane Pennsylvania they serve a 14 – county region bringing together the timber processing industries and other related industries and agencies, public and private, to further sustainable forests through wise management of the area's natural resources. Collin Shephard of the ANF office in Warren Pennsylvania coordinates the budget with Becky Carson and Amy Shields of AHUG.

Leadership Team Recommendations
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2022 Budget Discussion

On 01-10-2022 at the annual January end of the year/start of New Year meeting numerous ideas about the goals for 2022 were discussed. An important item was the budget situation and discussion.

The KQDC 2022 Budget is in good shape and sufficient to complete all the projects planned for 2022. They are as follows

- Complete all 26 transects and analyze the data in April and May 2022
- Sponsor Emily Reams to present a KQDC paper at this year's Central Hardwoods Conference in West Virginia..
- Make repairs to both the deer check station buildings to be used in 2022
- Hold the October 2022 KQDC Deer Season Kick Off at UPB
- Conduct Two KQDC Deer Check Stations in 2022 regular rifle deer season

Present funds should cover those five main functions and there should be funds to spare for other possible functions and/or KQDC activities.

It was noted that some of the present balance in the budget has a deadline to be spent by September of 2023 and if it is not spent will be lost from the KQDC Budget.

Ideas to effectively use those funds were entertained/discussed.

They were:

- Sponsor Tours for PGC Commissioners and state legislators. In the past KQDC rented buses to travel the 74,000 acres and provided lunches, dinner. Possible sponsor tours for other constituents (Hunters or hunting/conservation organizations, college students in related biology, botany, forestry, wildlife, studies)

- Conduct a mailed out survey and educational packets to all KQDC DMAP participants to gather information from the hunters and to provide them with historical and up to date information on Pennsylvania deer management and detailed information on KQDC and its participants, programs, etc.

- Continue to digitally scan and store all the KQDC records from the past 20+ years. Lots of the information is still stored in cardboard boxes and need to be physically scanned and recorded and stored in a retrievable and useable way. USFS lab has started to do some of that work on a shared online repository (Box). Possibly KQDC funds could be used to hire someone to finish that effort at the lab or elsewhere.

- Discussion was held about reducing annual cost to KQDC participants or giving them a one year reprieve. Also discussion on allowing participants to charge by invoices theirs cost of doing transects to reduce part of their costs to fund KQDC.

- About ten years ago plans were made to construct a fenced/unfenced deer impacts demonstration area on the KQDC. Possibly review and complete a similar project.

- About ten years ago plans for a KQDC Kiosk to be installed for ANF visitors to read and get year round information was also discussed.

- Renew KQDC outreach efforts via PowerPoint KQDC program to be given to targeted groups, interested groups, sportsman clubs, schools, etc. (Local or out of area)

- Increase new releases year round about KQDC work and what it offers to hunters, others.

- Produce a more complete 20 year KQDC history publication that include the 2021 results of the 20 year vegetation survey. Publication also include demonstration pictures of forest and deer habitat pictures and information about the private and public landowner's participation in the project.

Literature Cited

deCalesta, David. 2013. Reliability and precision of pellet-group counts for estimating landscape-level deer density. Human-Wildlife Interactions 7(1) 27-35pp.

Horsley, S.B., Stout, S.L., and deCalesta, D.S. 2003. White-tailed deer impact on the vegetation dynamics of a northern hardwood forest. Ecol. Appl. 13(1):98-118.

Pennsylvania Game News, Special Issue #1, September 1960.

THANK YOUS

Thank you goes to the major landowners, private and public, that have put efforts, time and money into this project since day one.

They are: Bradford Watershed Land/Generations Forestry and those who manage it, Kinzua Forest LLC. /Conservation Forestry Land/FORCON and those who manage it, Kane Hardwoods/Collins Pine Land and those who manage it, Ram Forest Products land and those who manage it, and Allegheny National Forest Land and those who manage it.

Thank you to all the people mentioned in this report and numerous others who though not mentioned continue to assist with the KQDC.

The challenges of managing forests and deer continues. The goal to maintain quality deer, quality forests and quality deer hunting remains.

Sincerely, Thank You.
John Dzemyan
KQDC Coordinator.