

2016-17 Deer Population Report



March 25, 2016

*Pennsylvania Game Commission
Bureau of Wildlife Management
Deer and Elk Section*

Summary of Recommended 2016-17 Antlerless Allocations

WMU	Population Trend	Population Objective	2015-16 Approved Allocation	2016-17 Recommended Allocation	Comments
1A	Increasing	Stable	46,000	57,000	Recommending more licenses to stop increase.
1B	Increasing	Stable	29,000	40,000	Recommending more licenses to stop increase.
2A	Stable	Stable	43,000	47,000	
2B	Stable	Stable	61,000	61,000	
2C	Stable	Stable	31,000	38,000	
2D	Increasing	Stable	55,000	68,000	Recommending more licenses to stop increase.
2E	Stable	Stable	21,000	22,000	
2F	Stable	Stable	22,000	26,000	
2G	Stable	Stable	22,000	25,000	
2H	Stable	Stable	6,500	6,000	
3A	Stable	Increase	19,000	15,000	Recommending fewer licenses to increase.
3B	Increasing	Stable	28,000	42,000	Recommending more licenses to stop increase.
3C	Stable	Reduce	36,000	41,000	Recommending more licenses to reduce.
3D	Stable	Stable	25,000	31,000	
4A	Stable	Stable	30,000	30,000	
4B	Stable	Reduce	26,000	32,000	Recommending more licenses to reduce.
4C	Stable	Stable	25,000	29,000	
4D	Stable	Stable	33,000	34,000	
4E	Increasing	Stable	25,000	30,000	Recommending more licenses to stop increase.
5A	Stable	Stable	19,000	19,000	
5B	Stable	Stable	50,000	50,000	
5C	Stable	Stable	70,000	90,000	
5D	Increasing	Stable	24,000	25,000	Recommending more licenses to stop increase.

Data presented in this report represent collaborative efforts between the U.S. Forest Service, Pennsylvania's Department of Conservation and Natural Resources, the Pennsylvania Cooperative Fish and Wildlife Research Unit at Penn State University, Responsive Management, and the Game Commission's bureaus of Information and Education, Wildlife Habitat Management, and Wildlife Management. *For more information on the deer management program and data and methods used to assess progress towards management goals, visit the Game Commission's website, www.pgc.state.pa.us, click on the "White-tailed deer" button, then click on the "2009-2018 White-tailed Deer Management Plan".*

Deer Management Goals

Deer management goals direct Game Commission staff in formulating deer management recommendations. Current management goals that directly affect antlerless allocations are to manage deer for healthy deer, healthy forest habitat, and acceptable levels of deer-human conflicts. These goals were identified by a group of public stakeholders in 2002 and continue to be supported by a vast majority of Pennsylvania citizens and hunters (Figure 1).

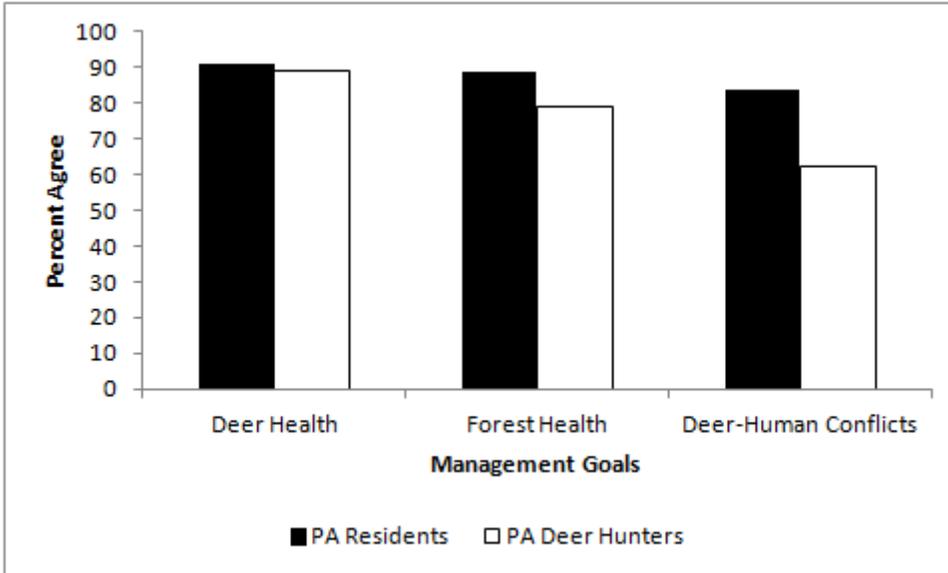


Figure 1. Percent of respondents that agree with deer management goals. The citizen survey was completed by Responsive Management in the fall of 2011, and the deer hunter survey was completed by the Deer and Elk Section and Bureau of Wildlife Management in the fall of 2014.

Step-by-Step Deer Management Recommendation Guide

The deer management program considers data for each goal to arrive at a deer population recommendation in a defined process (Figure 2). This process has been revised as new data are incorporated into the program, and will continue to evolve as more data and understanding are gained. Decision points (i.e., fawn to doe ratio declining?) are based on published protocols from the wildlife and forestry professions.

Do PA residents want fewer or more deer?

This question is answered using results of the survey conducted by Responsive Management of Pennsylvania residents. If a majority of surveyed residents in a WMU want less deer, the recommendation would be to reduce the deer population. If forest habitat is good and WMU residents want more deer, the recommendation would be to increase the deer population.

Is CWD present in wild deer?

This question is answered using results from the thousands of deer tested annually for chronic wasting disease (CWD). If CWD is present in wild deer, then management recommendations are to stabilize the WMU population. Additional antlerless deer should be removed within the defined Disease Management Area using Disease Management Area permits. Increasing the antlerless harvest serves 2 purposes that are important to efforts to contain CWD; (1) increased antlerless harvest allows the Game Commission to test more deer in our efforts to obtain the best information on the prevalence and location of the disease, and (2) increased antlerless harvest may help limit prevalence and spread of CWD.

Is fawn to doe ratio declining?

This question is answered using results from the age structure of the antlerless harvest. These data are collected each year by trained Game Commission deer agers from across the state. If the proportion of fawns in the antlerless harvest (hereafter referred to as fawn to doe ratio) is declining and the population is not achieving its objective (i.e., population is declining and objective is to maintain a stable deer population), then the antlerless allocation would be reduced to stop the population decline. The antlerless harvest will have the greatest

influence on the population because hunting accounts for the majority of deer mortalities in Pennsylvania. If the fawn to doe ratio is stable or if the population is meeting its objective (i.e., population is stable and objective is stable), no management action is taken.

Has deer population been stable or increasing for 6 years?

This question is answered using results from the Pennsylvania Sex-Age-Kill deer population model. The 6 year time period is necessary because of the 5-year time period necessary to collect the forest data. The sixth year is added because only 2nd year seedlings are counted in the forest data. As a result, a complete forest data set includes effects of deer from the previous 6 years.

If the deer population is decreasing the recommendation is to stabilize the population at the lower level to see if forest habitat improves given the lower deer population. If the deer population is stable or increasing, the process continues to the next step.

Is forest habitat good?

This question is answered using results from the Pennsylvania Regeneration Study. If 70% of forested plots have adequate regeneration, forest habitat is considered good. If less than 50% of forested plots have adequate regeneration, forest habitat is considered poor. If 50% to 70% of forested plots have adequate regeneration, forest habitat is considered fair.

Is plot to plot regeneration improving?

This question is answered using results from the Pennsylvania Regeneration Study. In this step, results from individual plots are compared in a paired analysis. For example, plot measurements from 2005 are compared to their remeasured results in 2010 to see if regeneration has improved on this plot. All plots with 2 measures are included in this analysis. If regeneration is improving, then the deer population trend can be stabilized. If regeneration is not improving, the process continues to the next step.

Is plot to plot deer impact improving?

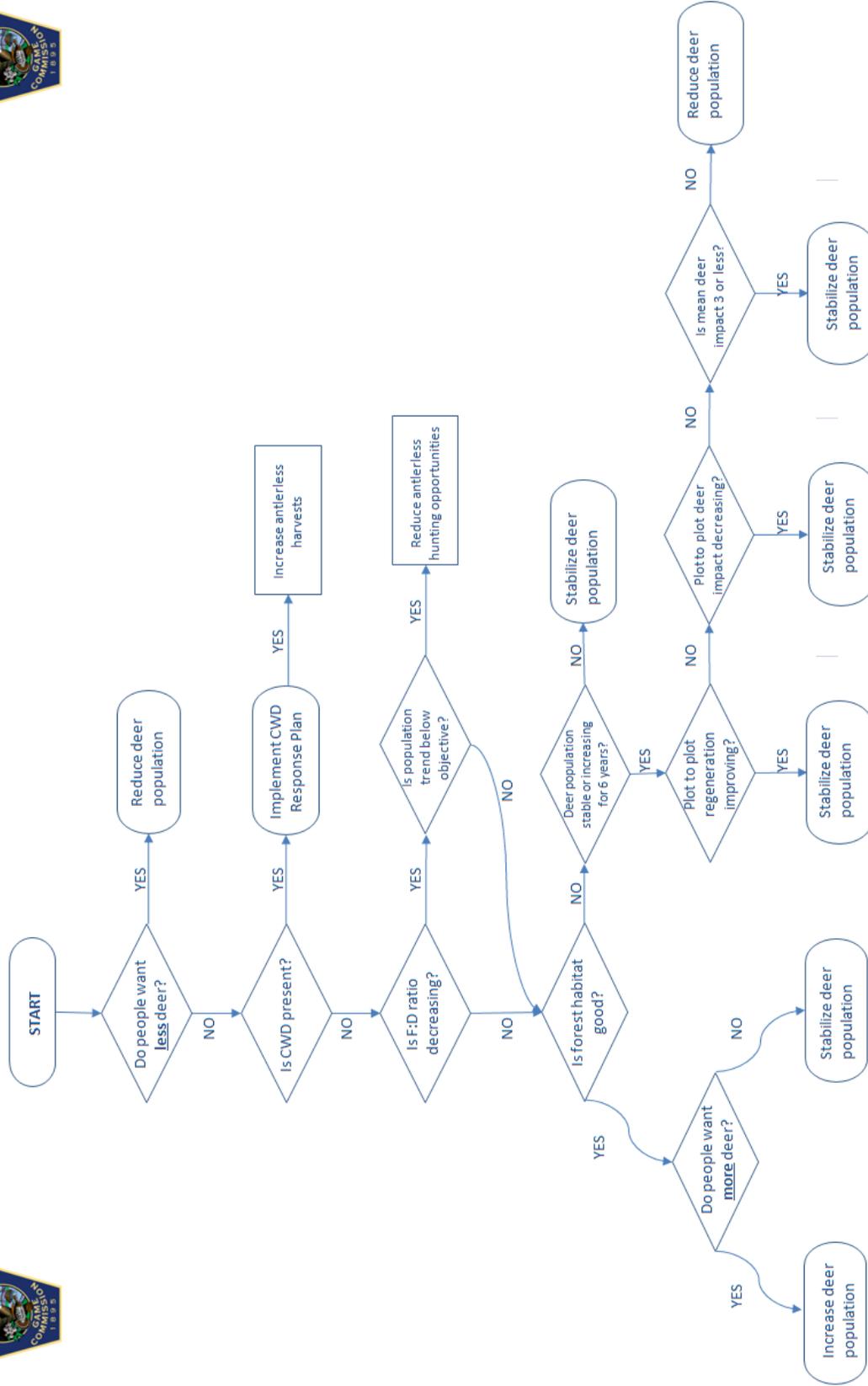
This question is answered using results from the Pennsylvania Regeneration Study. In this step, results from assessments of deer impact on a scale from 1 (very low) to 5 (very high) are compared in the same way as the plot to plot regeneration analysis. If deer impact is improving (i.e., going from a 4 [high] to 3 [moderate]) on enough plots, then the deer population trend can be stabilized. If deer impact is not improving, the process continues to the next step.

Is mean deer impact 3 or less?

This question is answered from the Pennsylvania Regeneration Study. In this step, the mean deer impact for all plots measured in the most recent 5-year period is statistically compared to an objective of 3 (i.e., moderate impact). If deer impact is significantly greater than 3 (moderate), then the deer impact is too high and the deer population should be reduced. If deer impact is less than or not different from 3 (moderate) then the deer population trend can be stabilized.

Figure 2. Guide used to develop deer population recommendations based on goals and objectives of 2008-2019 deer management plan.

Deer Management Recommendation Process



Step-by-Step Antlerless License Allocation Calculations

Antlerless allocations are calculated by referring back to results from previous seasons. For example, if a population has remained stable with an annual harvest of 3,000, the same level of harvest would be expected to maintain the stable population. Then, if it has taken 3 antlerless licenses to harvest 1 antlerless deer over the last 3 years, the allocation to stabilize this population would be $3,000 \times 3 = 9,000$ antlerless licenses.

Changes to antlerless hunting regulations increase uncertainty in establishing antlerless license allocations. For example, if the antlerless season is shortened, we know that it will take more antlerless licenses, on average, to harvest the same number of antlerless deer. In WMUs where the 12-day concurrent season was shortened to 7 days, it has taken an average of 15% more licenses to achieve the same antlerless harvest.

For the 2015-16 antlerless license allocations, WMU-specific data were used for potential effects of changes to season length (Table 1). When WMU-specific data were not available, statewide average was used. For example, WMU 1A has had a 12-day antlerless season since 2001. If WMU 1A was changed to a 7-day antlerless season, number of licenses needed to harvest an antlerless deer was increased by 15% (state average).

Table 1. Antlerless licenses needed to harvest one deer (Lic/deer) for 7-day and 12-day antlerless firearms seasons based on historic results for each WMU, March 2016.

WMU	Licenses needed to harvest 1 antlerless deer (Lic/deer) ¹							Lic/Deer for 2016-17	
	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	12-day Season ²	7-day Season ³
1A	4.0	3.5	4.3	3.5	3.5	4.4	5.0	3.8	4.4
1B	3.2	3.0	3.2	3.0	2.9	3.4	3.8	3.1	3.6
2A	4.0	4.1	4.4	4.5	3.7	4.8	4.1	3.6	4.3
2B	3.3	4.8	3.6	3.8	4.3	4.5	3.9	4.2	4.8
2C	4.5	4.6	4.5	4.6	3.9	4.5	4.3	4.0	4.4
2D	3.5	2.8	3.1	3.0	2.8	3.7	3.5	2.3	3.2
2E	4.0	3.5	3.5	3.8	2.8	3.8	4.0	3.5	3.4
2F	4.3	4.0	5.0	4.5	3.6	4.6	4.1	3.1	4.2
2G	6.2	4.3	4.2	5.1	4.1	4.7	5.4	3.7	4.7
2H					3.7	5.2	4.6	3.5	4.4
3A	4.4	3.9	3.9	3.9	4.2	4.2	4.8	4.1	4.7
3B	4.7	4.5	5.2	4.6	4.5	4.1	3.8	4.0	4.4
3C	3.9	3.2	2.9	3.3	2.8	3.1	3.4	2.1	3.1
3D	5.9	5.8	5.4	6.5	6.4	4.8	6.9	5.9	6.8
4A	3.9	4.3	4.3	4.5	4.7	5.6	4.7	4.5	5.2
4B	5.7	4.4	4.2	4.6	4.2	4.6	3.8	3.7	4.5
4C	4.9	4.2	4.7	4.5	3.9	5.1	5.1	4.4	5.0
4D	5.6	5.6	5.7	5.7	4.3	5.0	4.6	4.3	5.0
4E	4.8	4.6	4.8	4.6	3.4	3.6	3.6	3.7	3.9
5A	4.6	5.4	5.3	5.3	4.6	5.8	4.1	5.2	6.0
5B	4.5	4.1	3.9	4.1	3.9	4.0	4.4	4.0	4.6
5C	4.8	4.7	4.4	4.5	4.7	4.3	5.1	4.5	5.1
5D	5.2	5.1	4.7	4.7	4.0	4.7	4.6	4.4	5.1

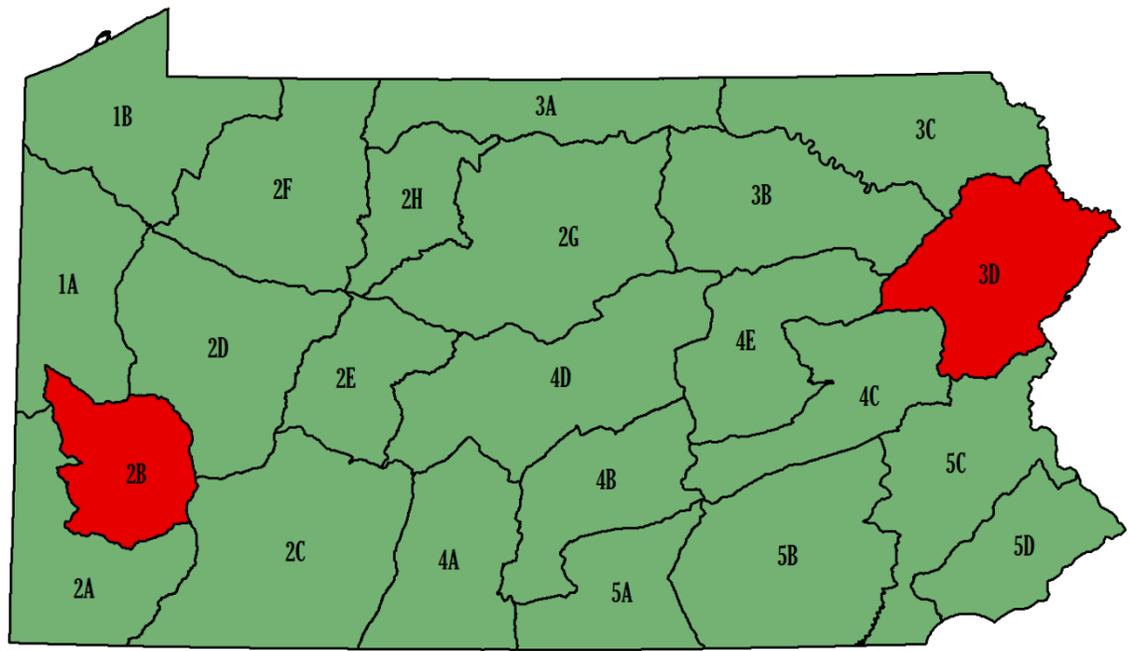
Notes

¹ - 7-day antlerless seasons are noted by shaded background.

² - The licenses needed to harvest 1 deer for a 12-day antlerless season are based on the most recent years with a 12-day antlerless season, except WMUs 2A, 2C, 2D, 2E, 2F, 2G, 2H, 3B, 3C, 4B, 4D, and 4E. For these WMUs, 12-day licenses needed to harvest a deer are based on the observed change when season changed from 12-day antlerless season to 7-day antlerless season. For example, in WMU 2D, 3.0 licenses/deer was

³ - For the 7 day antlerless season, the following rules were used to calculate licenses needed to harvest 1 deer: (1) for WMUs with 0 or 1 year of a 7 day antlerless season, licenses needed to harvest 1 deer from the last 3 years of a 12-day concurrent season were multiplied by the statewide average of 1.15 based on observed increase 1 and 2 years after a change from a 12-day to a 7-day season, and (2) for WMUs with 3 or more years of 7 day antlerless seasons, the licenses needed to harvest 1 deer during a 7 day antlerless season is the average of the previous 3 years with a 7-day antlerless season.

Trend in Fawn to Doe Ratios, 2009 to 2015



Legend

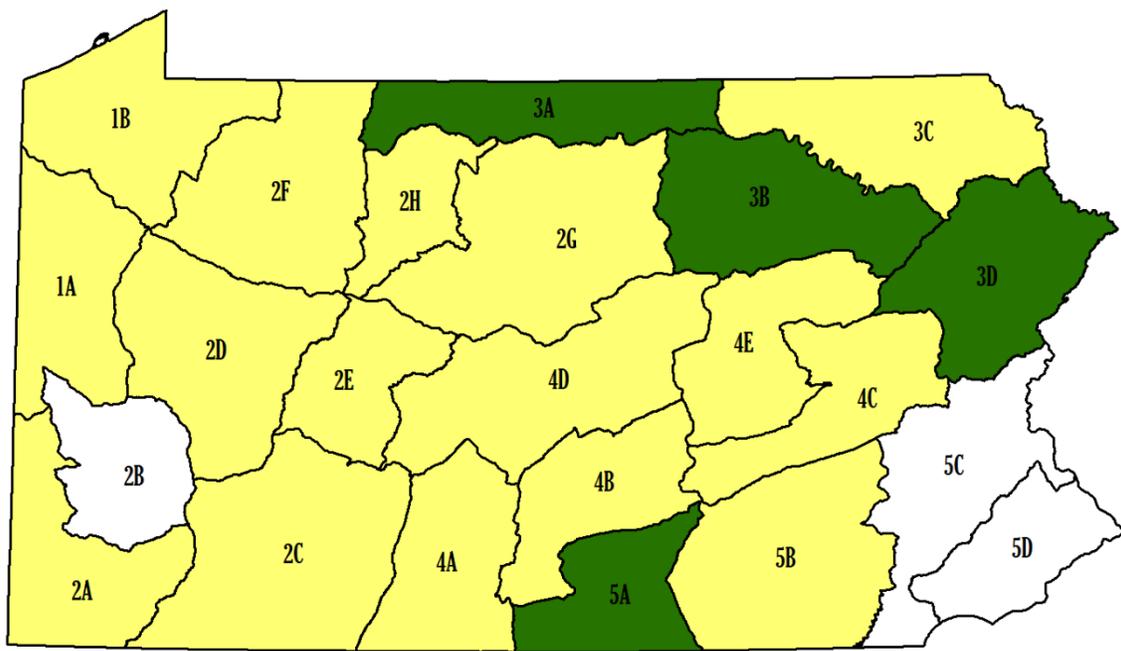
- Decreasing Fawn to Doe Ratio 
- Stable Fawn to Doe Ratio 
- Increasing Fawn to Doe Ratio 



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March 2016*



Forest Regeneration, 2010 to 2014



Legend

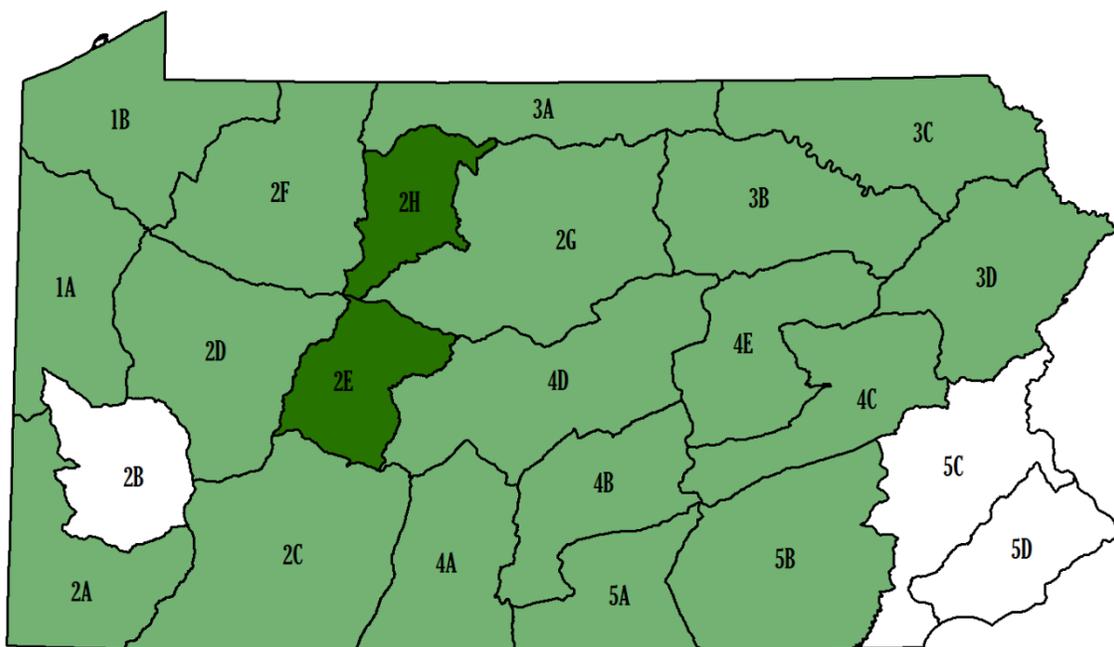
- Poor Forest Regeneration Levels
- Fair Forest Regeneration Levels
- Good Forest Regeneration Levels



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March 2016*



Plot to Plot Change in Regeneration, 5-year Change



Legend

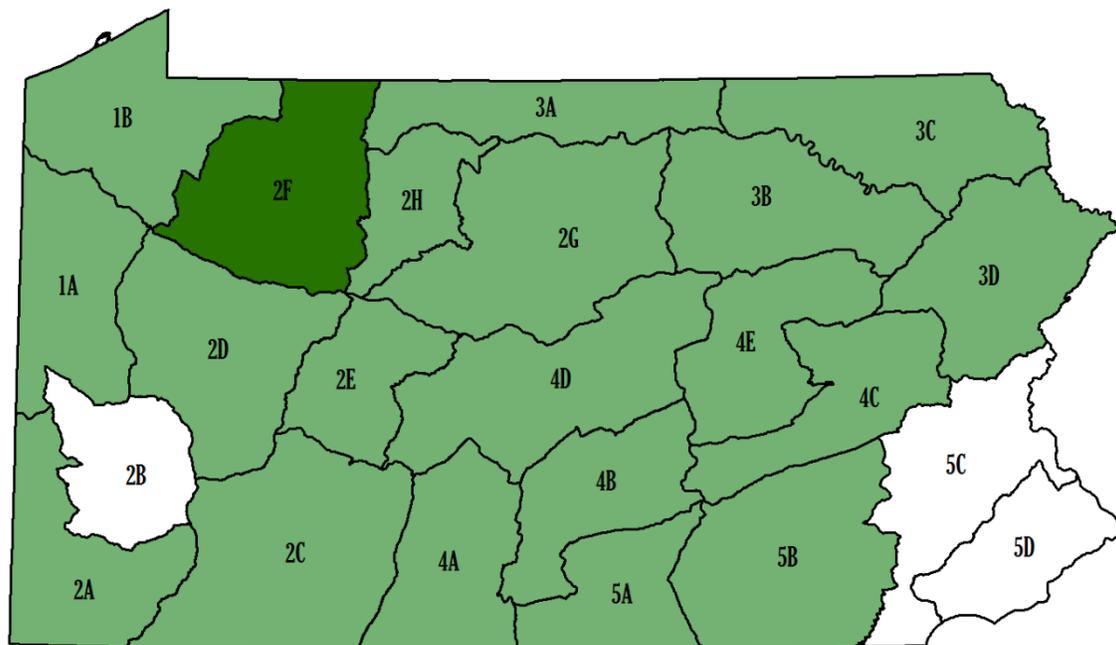
- Declining Regeneration
- No Change in Regeneration
- Improving Regeneration



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Plot to Plot Change in Deer Impact, 5-year Change



Legend

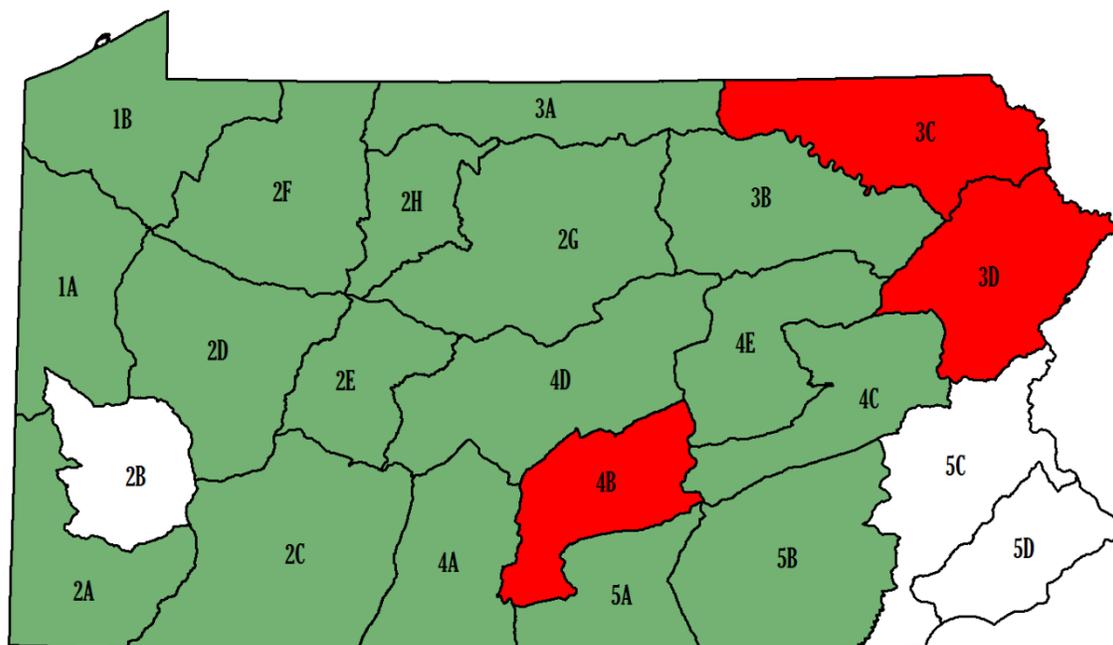
- Increasing Deer Impact
- No Change in Deer Impact
- Improving Deer Impact



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Deer Impact Level, 2010 to 2014



Legend

Deer Impact is Too High (> 3)

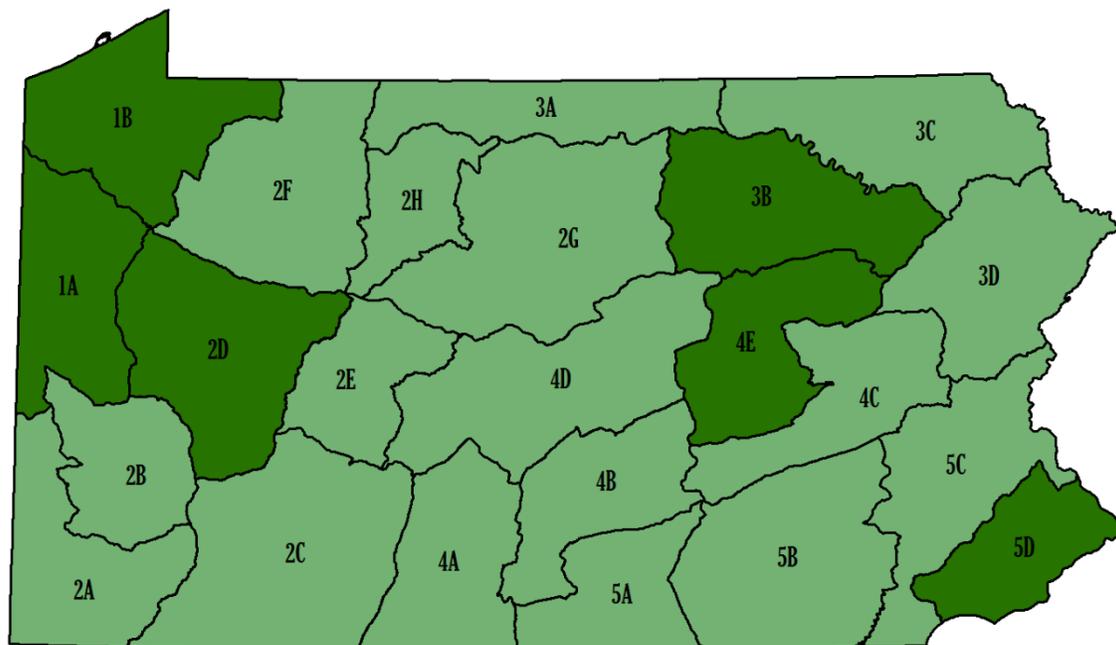
Deer Impact is Acceptable (3 or less)



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Post-Hunt Deer Population Trends, 2010 to 2016



Legend

Declining Deer Population

Stable Deer Population

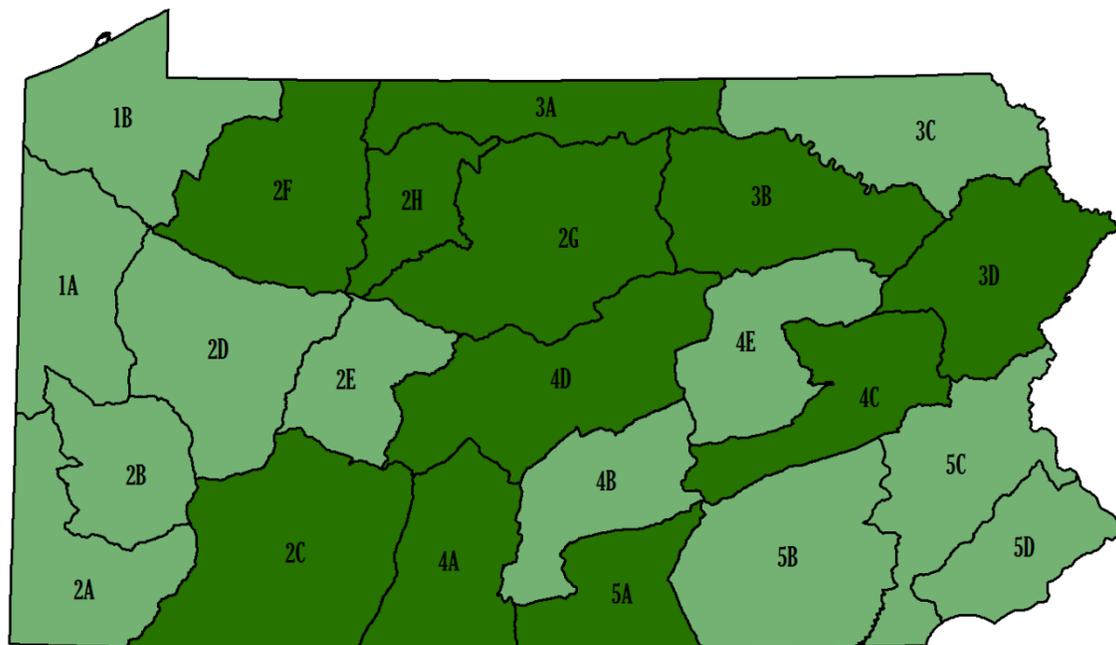
Increasing Deer Population



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Pennsylvania Hunter Opinions on Deer Populations, 2014



Legend

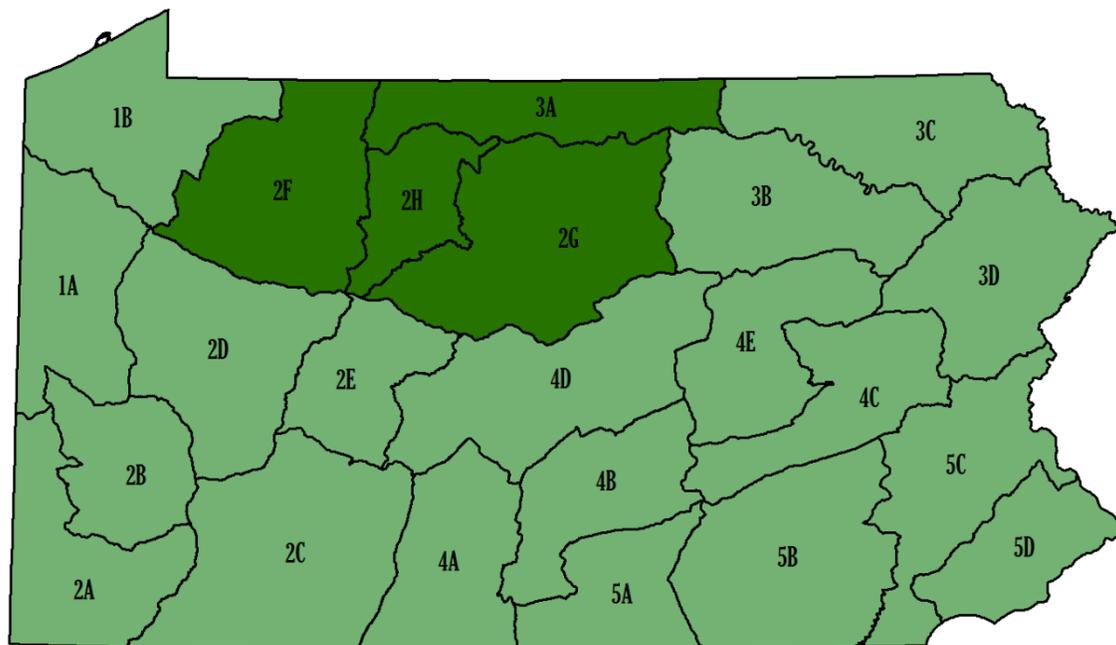
- Deer Population Too High
- Deer Population About Right
- Deer Population Too Low



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Pennsylvania Residents Opinions on Deer Populations, 2011



Legend

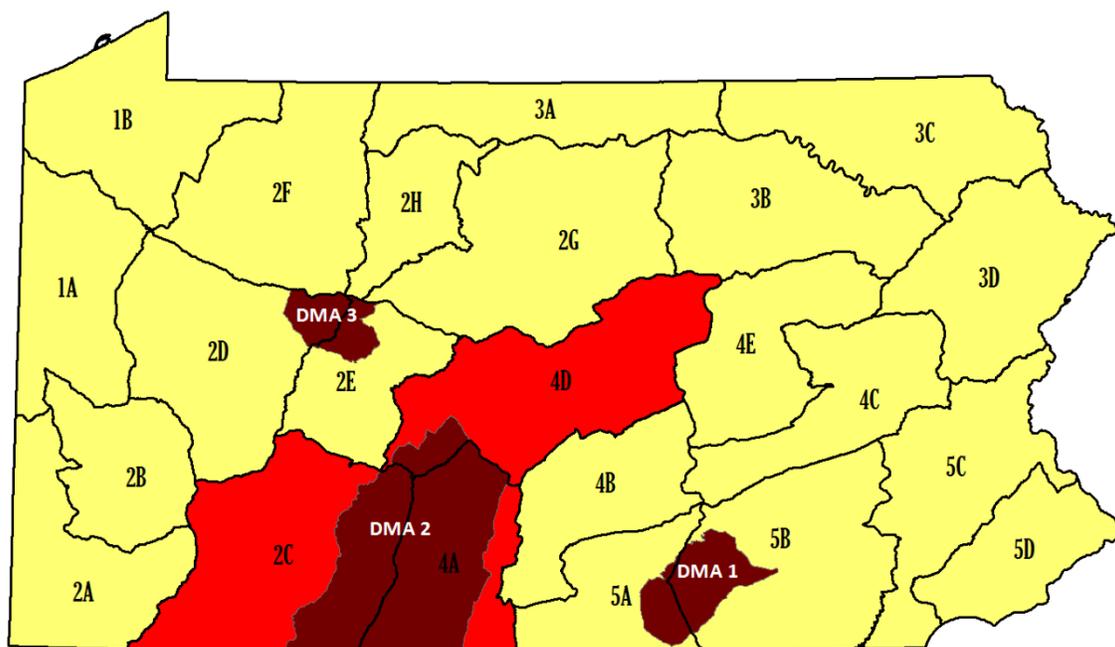
- Deer Population Too High
- Deer Population Just Right
- Deer Population Too Low



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Chronic Wasting Disease Management Areas, 2015



Legend

Chronic Wasting Disease Management Areas

WMUs with CWD Detected in Wild Deer

WMUs with no CWD Positive Wild Deer Detected

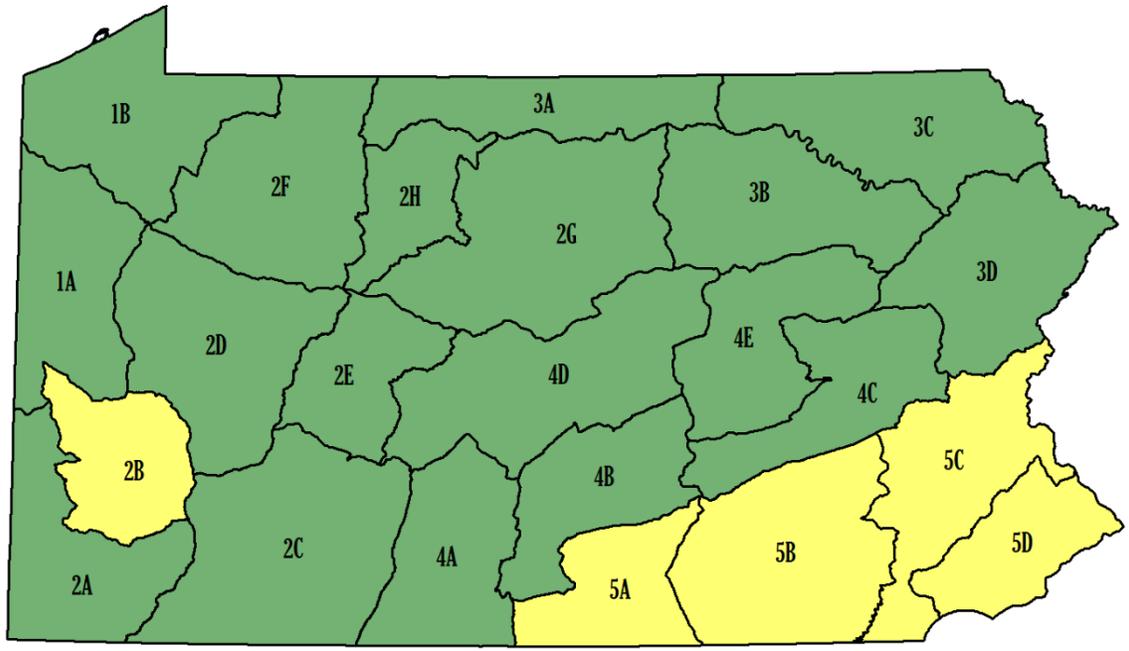


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2016-17 Regular Firearms Seasons

In 2001, a 12-day concurrent antlered and antlerless firearms season began. The objectives of this longer antlerless season were to give hunters more time to hunt antlerless deer and to create a more consistent harvest from year to year. Beginning in 2008, some WMUs were changed to a 5-day antlered only season followed by a 7-day concurrent antlered and antlerless season. In 2010, 2011, 2014, and 2015 additional WMUs were changed to the 5/7 season format.



Legend

5-day Antlered Only and 7-day Antlered and Antlerless Concurrent Firearms Season	
12-day Antlered and Antlerless Concurrent Firearms Season	



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Recommendation Guides and Deer Population Datasheets

These recommendation guides provide a step-by-step progression through the deer plan goals and measurable objectives to arrive at a deer population recommendation. WMUs with similar results are grouped into a common guide.

Supporting data for these guides are found in the individual WMU datasheets that follow.

WMU Antlerless Allocation Worksheets

Example

2015-16 Pennsylvania Game Commission Antlerless Allocation Worksheet

WMU 1A

WMU Characteristics

% Developed	% Forest	% Ag/Field	% Public	Area (sq mi)
9%	45%	36%	3%	1,846

Deer Harvest

Year	Antlered	Antlerless	Allocation	Lic/Deer ¹
2005	5,468	13,427	40,000	2.9
2006	5,791	13,214	42,000	3.1
2007	4,856	12,490	42,000	3.3
2008	5,392	12,611	42,000	3.3
2009	5,500	10,689	42,000	4.0
2010	5,918	11,940	41,700	3.5
2011	5,171	9,839	42,000	4.3
2012	6,078	11,859	42,000	3.5
2013	6,420	13,915	49,000	3.8
2014	5,131	10,792	47,000	4.4

Antlered Harvest

POST-HUNT Deer Population

Year	Total
2008	34,007
2009	36,152
2010	44,148
2011	41,549
2012	42,420
2013	48,472
2014	55,114
2015	49,169

Trend STABLE

DEER HEALTH: Fawn to Doe Ratio²

Year	Total
2003	0.44
2004	0.44
2005	0.48
2006	0.48
2007	0.48
2008	0.44
2009	0.45
2010	0.46
2011	0.44
2012	0.48
2013	0.41
2014	0.46

Trend STABLE

FOREST HEALTH

Year	% Adequate
2003-07	53%
2004-08	54%
2005-09	55%
2006-10	57%
2007-11	55%
2008-12	53%
2009-13	57%
2010-14	55%

Regeneration Assessment Fair

Plot - Plot Regeneration	No Change	Plot - Plot Deer Impact	No Change	Mean Deer Impact	3 or less
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Citizen Survey Results

Do a significant number of hunters want more deer?	Too High	16%	Just Right	54%	Too Low	23%
	NO					

Antlerless Allocation Options

Firearm Season	Decrease Deer Population	Keep Deer Population the Same	Increase Deer Population
	5 day antlered & 7 day concurrent	62,000	54,000

WMU

WMU Characteristics

Antlered Harvest

Deer Population

Fawn to Doe

Regeneration

Antlered and antlerless harvests point estimates will differ from those in news releases. Estimates in news releases are rounded to the nearest 100 or 1,000 based on precision of the estimate. Antlerless harvests only include deer taken with WMU licenses.

Red Year indicates CWD DMA existence. Red Lic/Deer indicates 7-day concurrent seasons.

For information on the proper use and interpretation of deer population estimates, please see the document, "Monitoring deer populations in Pennsylvania" on the white-tailed deer page of the Game Commission's website, www.pgc.state.pa.us.

Harvest fawn to doe ratio is calculated as percent of fawns in the antlerless harvest.

The number of antlerless licenses sold that it takes to harvest an antlerless deer. The number sold will differ from the allocation.

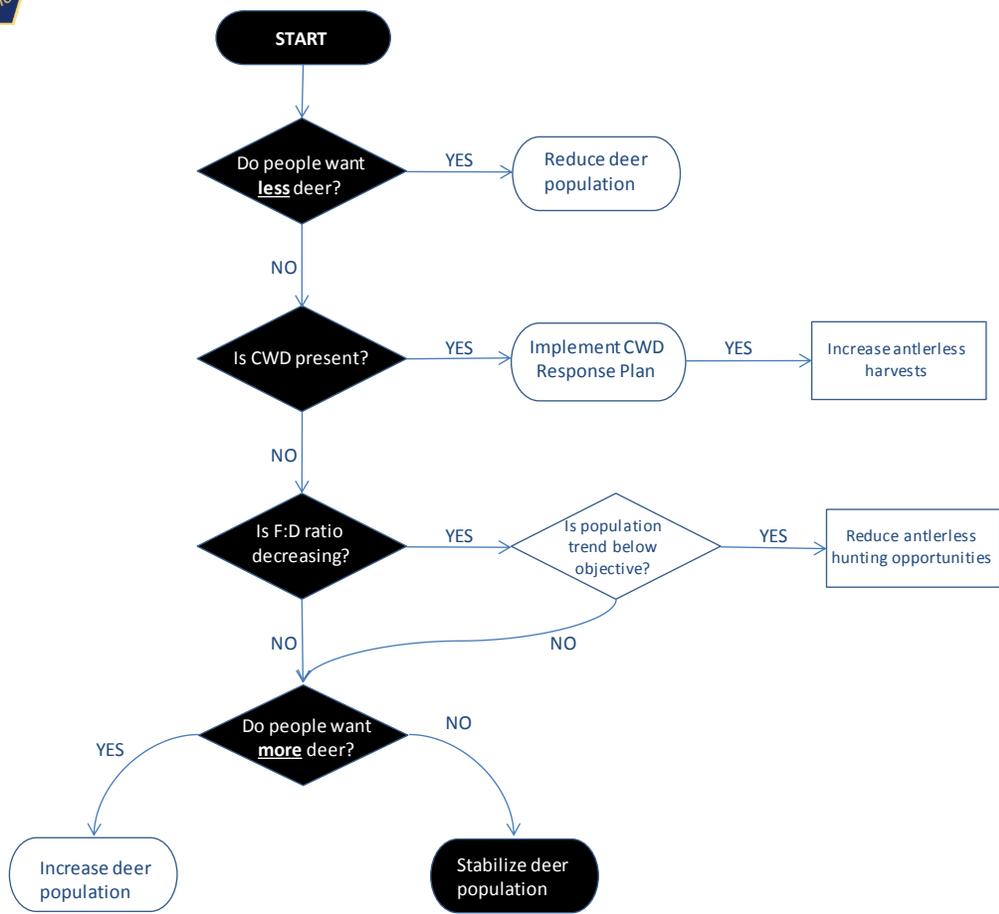
¹ - The number of antlerless licenses sold that it takes to harvest an antlerless deer. The number sold will differ from the allocation.
² - Harvest fawn to doe ratio is calculated as percent of fawns in the antlerless harvest.

Footnotes explain licenses per deer and fawn to doe ratio calculations. These footnotes are not included on individual WMU sheets to save space.



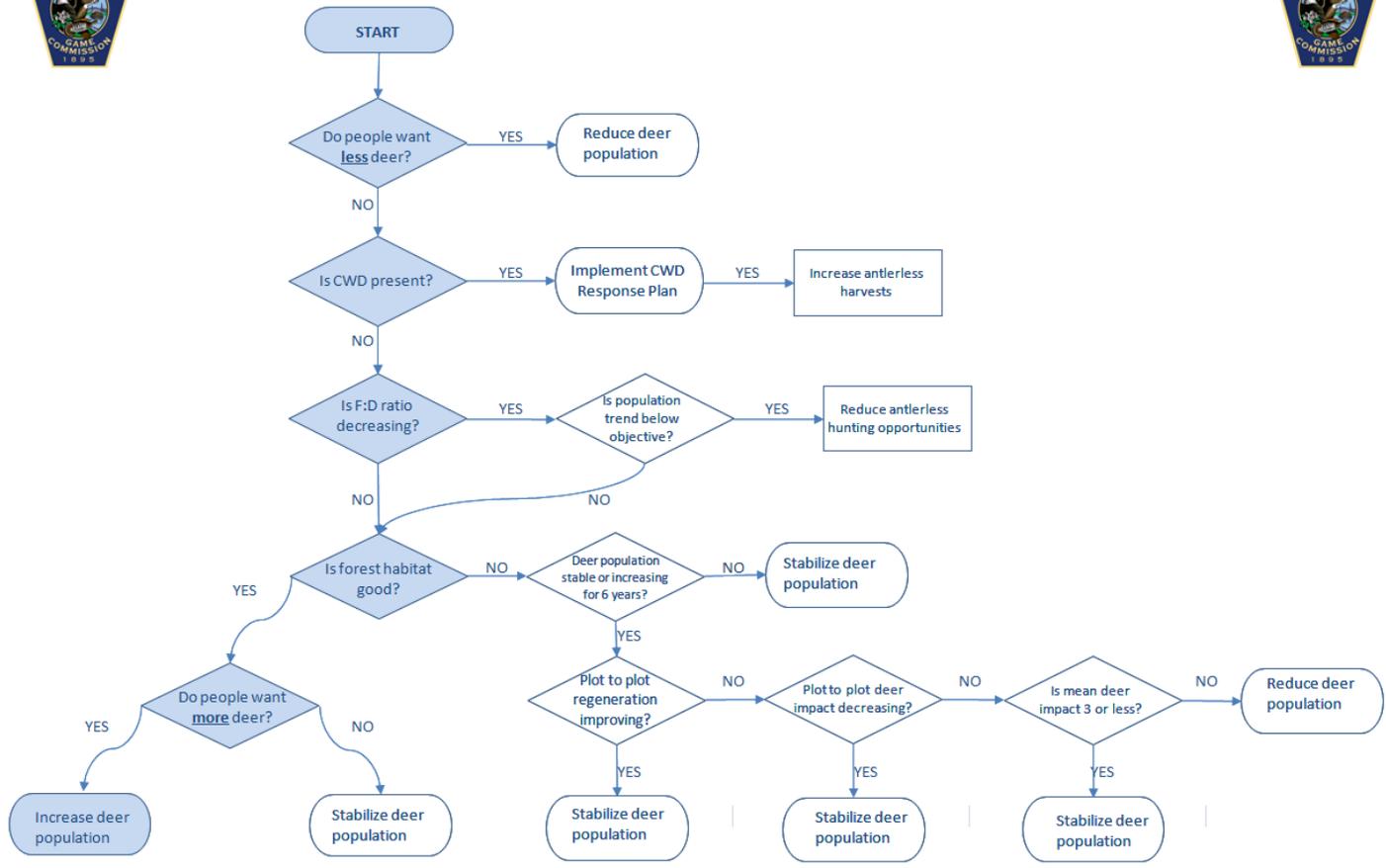
Deer Management Recommendation Guide

FOR WMUs 2B, 5C, and 5D



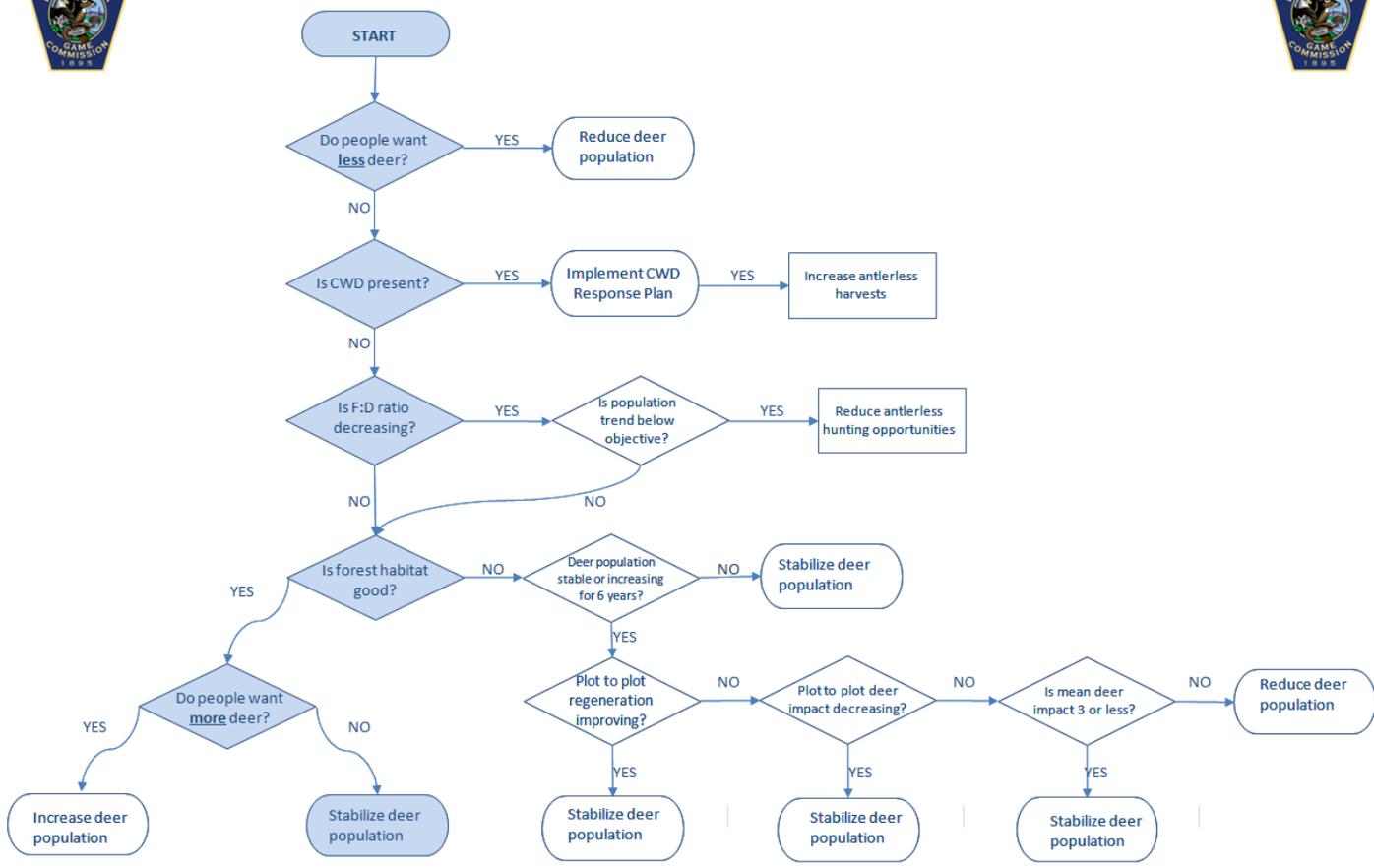


Deer Management Recommendation Guide for WMU 3A



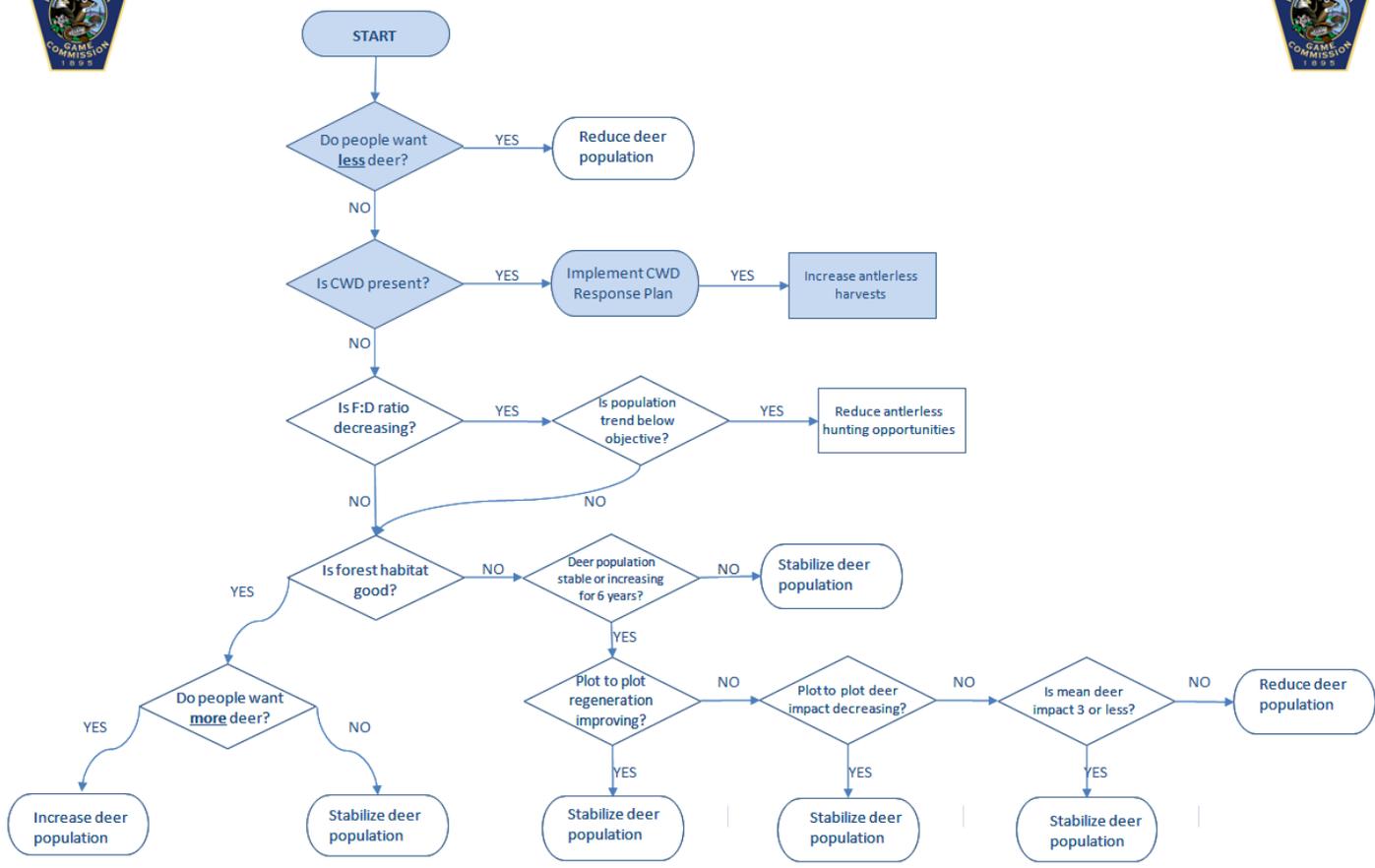


Deer Management Recommendation Guide for WMUs 3B, 3D, and 5A



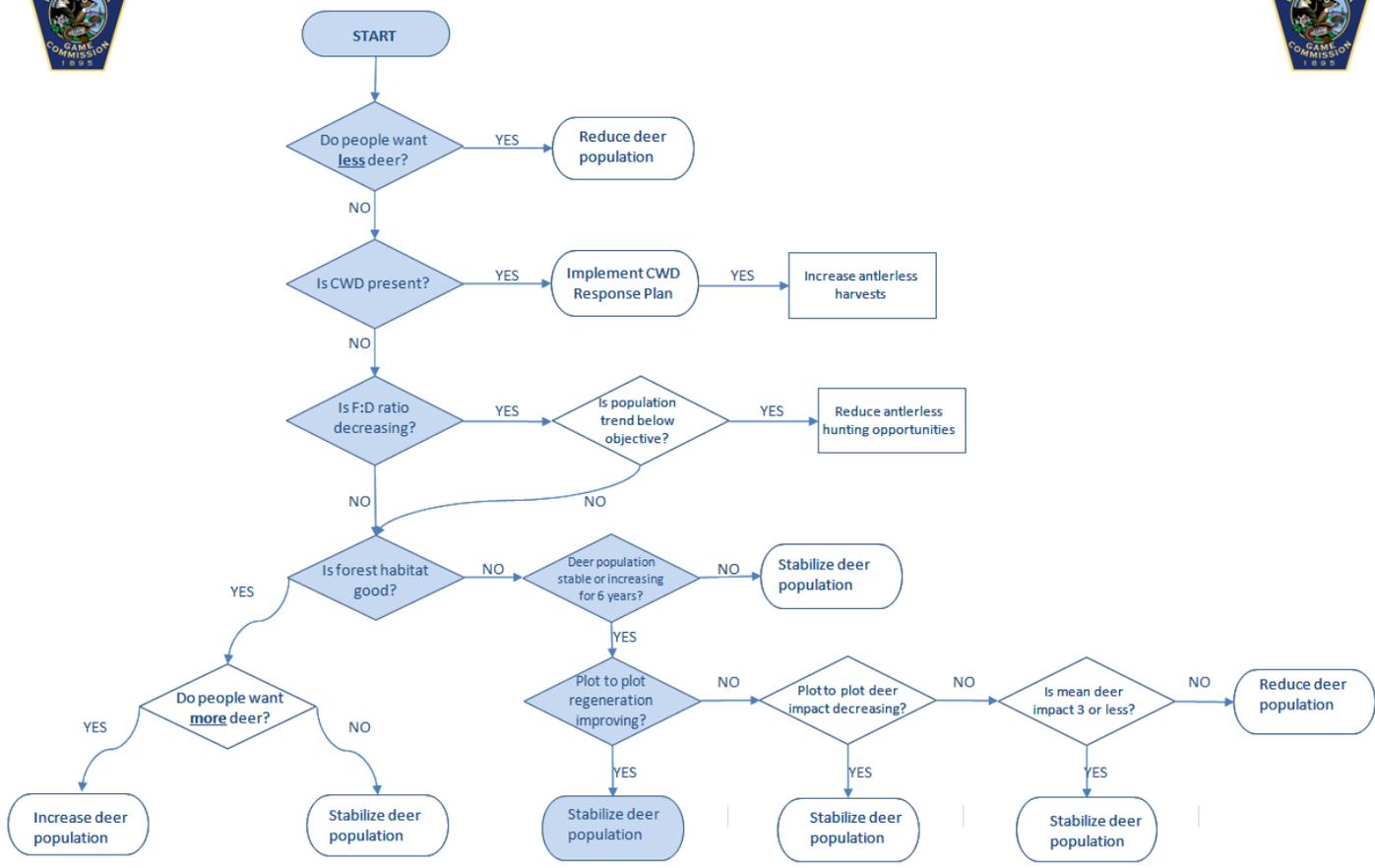


Deer Management Recommendation Guide for WMUs 2C, 4A, and 4D



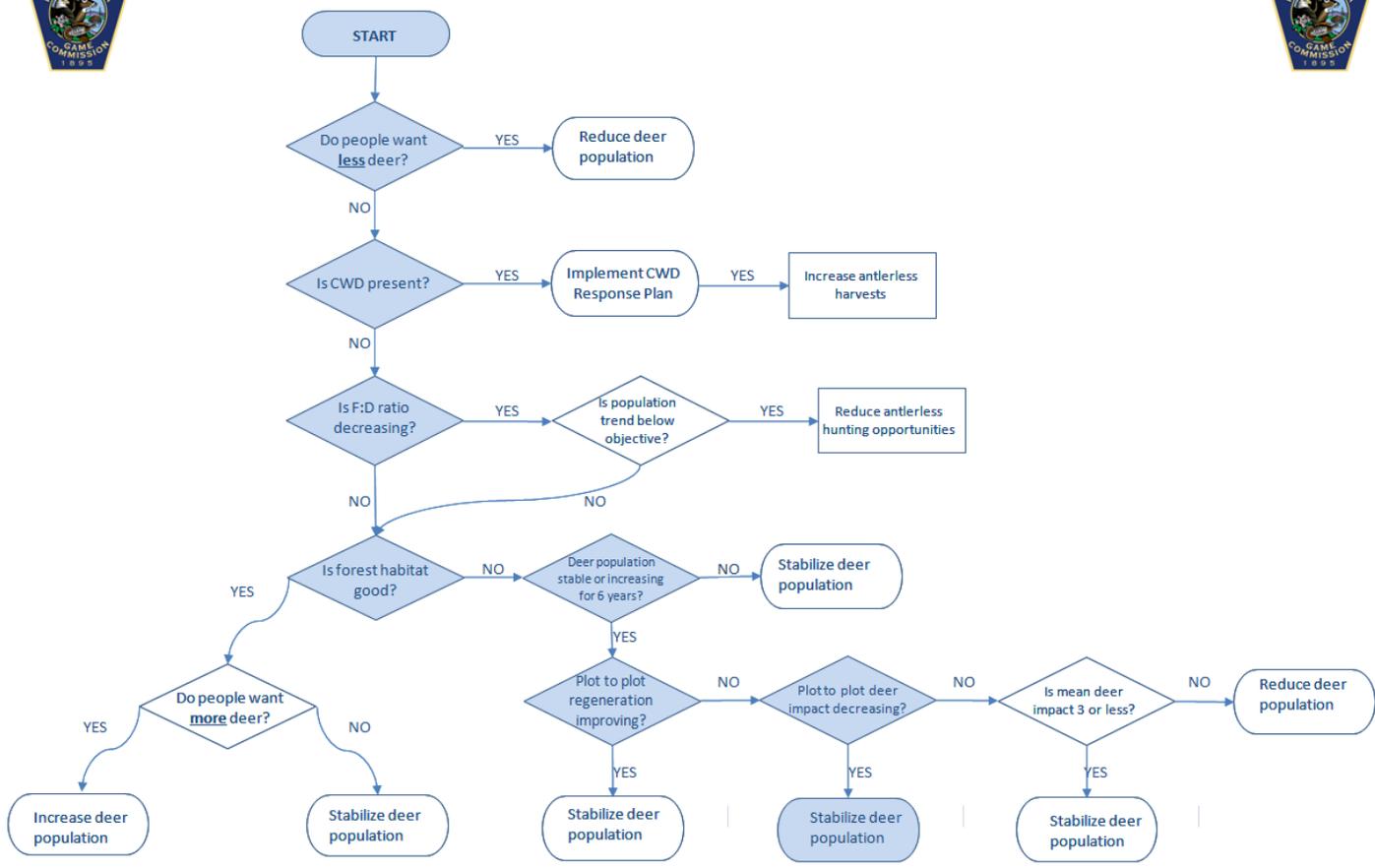


Deer Management Recommendation Guide for WMUs 2E and 2H



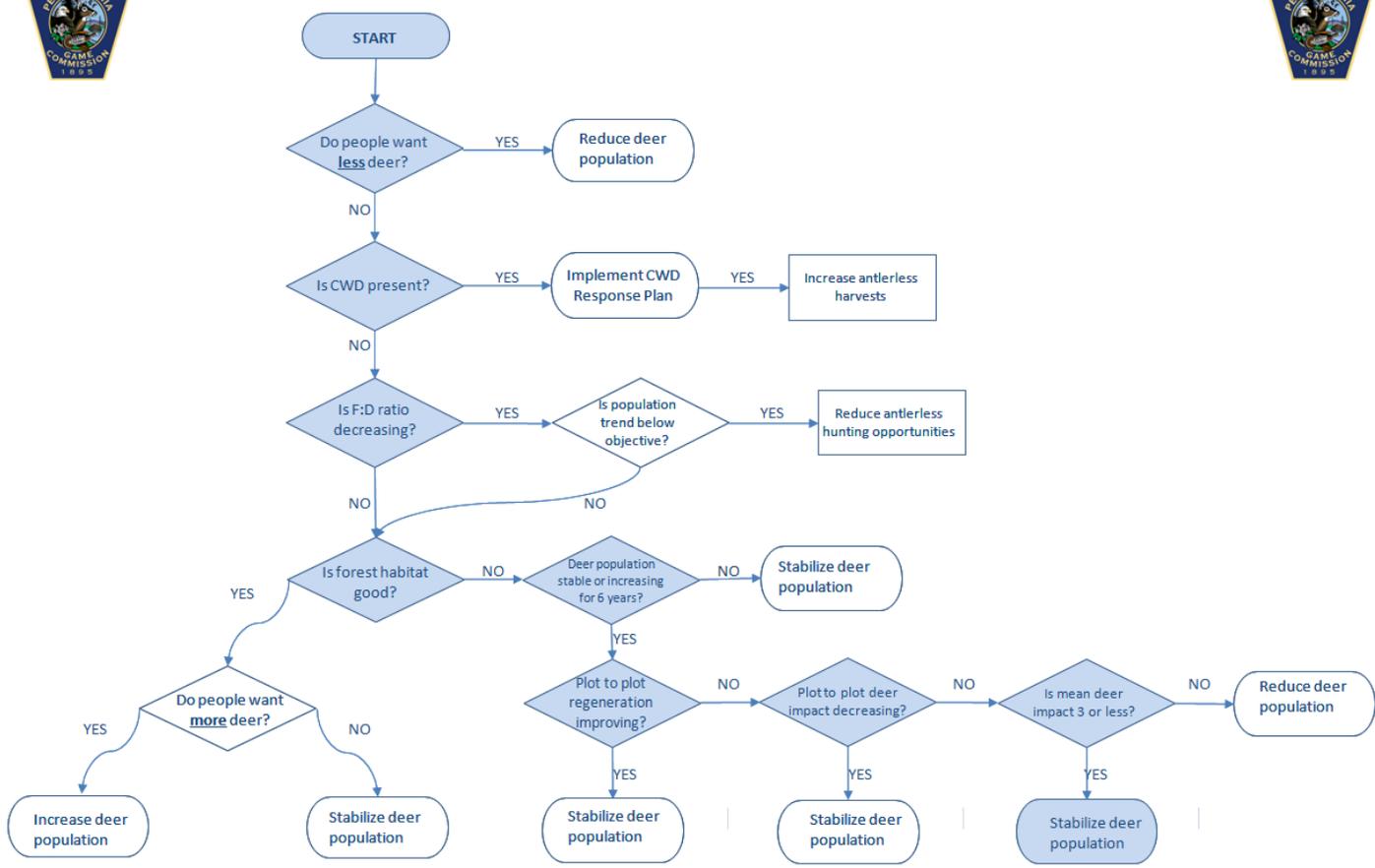


Deer Management Recommendation Guide for WMU 2F



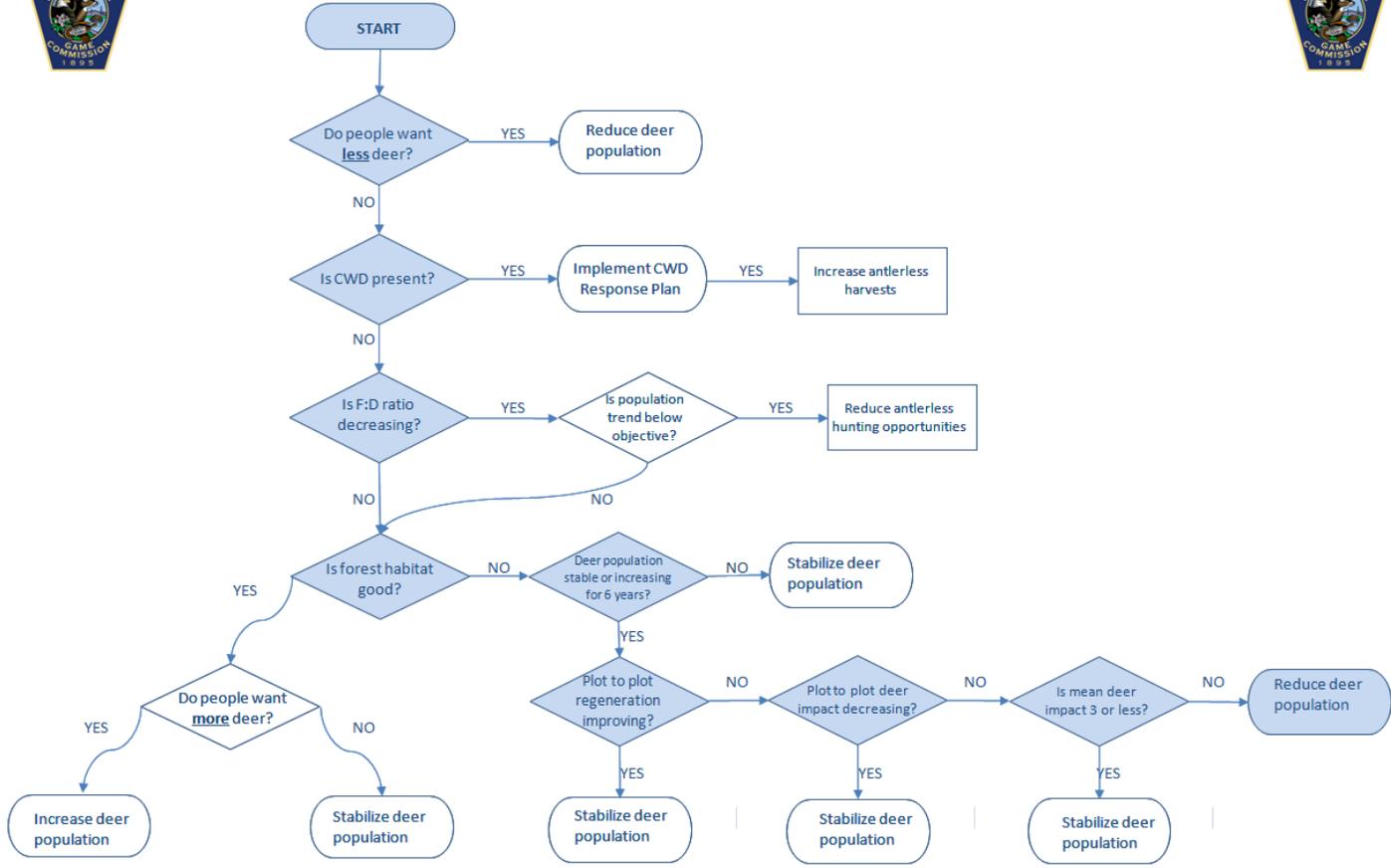


Deer Management Recommendation Guide for WMUs 1A, 1B, 2A, 2D, 2G, 4C, 4E, and 5B





Deer Management Recommendation Guide for WMUs 3C and 4B



2016-17 Pennsylvania Game Commission Antlerless Allocation Worksheet

WMU	1A	WMU Characteristics				
		% Developed	% Forest	%Ag/Field	%Public	Area (sq mi)
		9%	45%	36%	3%	1,846

Deer Harvest

Year	Antlered	Antlerless	Allocation	Lic/Deer ¹
2005	5,468	13,427	40,000	2.9
2006	5,791	13,214	42,000	3.1
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2011	5,171	9,839	42,000	4.3
2012	6,078	11,859	42,000	3.5
2013	6,420	13,915	49,000	3.8
2014	5,131	10,792	47,000	4.4
2015	6,031	9,122	46,000	5.0

Antlered Harvest

2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015

RED=7 day season

POST-HUNT Deer Population

Year	Total	Trend
2008	34,007	INCREASING
2009	36,152	
2010	44,148	
2011	41,549	
2012	42,420	
2013	48,472	
2014	55,114	
2015	49,169	
2016	62,237	

2008 2009 2010 2011 2012 2013 2014 2015 2016

DEER HEALTH: Fawn to Doe Ratio²

Year	Total	Trend
2008	0.44	STABLE
2009	0.45	
2010	0.46	
2011	0.43	
2012	0.48	
2013	0.41	
2014	0.46	
2015	0.42	

2008 2010 2012 2014

FOREST HEALTH	Regeneration Assessment			Fair
Plot - Plot Regeneration	No Change	Plot - Plot Deer Impact	No Change	Mean Deer Impact
				3 or less

Year	% Adequate
2003-07	53%
2004-08	54%
2005-09	55%
2006-10	57%
2007-11	55%
2008-12	53%
2009-13	57%
2010-14	55%

2003-07 2004-08 2005-09 2006-10 2007-11 2008-12 2009-13 2010-14

Citizen Survey Results	Too High	16%	Just Right	54%	Too Low	23%
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Antlerless Allocation Recommendation			
Firearm Season Option	Increase Harvest	Stable Harvest	Decrease Harvest
5 day antlered & 7 day concurrent	57,000	49,000	41,000

¹ - The number of antlerless licenses sold that it takes to harvest an antlerless deer. The number sold will differ from the allocation.

² - Harvest fawn to doe ratio is calculated as percent of fawns in the antlerless harvest.

2016-17 Pennsylvania Game Commission Antlerless Allocation Worksheet

WMU	1B	WMU Characteristics				
		% Developed	% Forest	%Ag/Field	%Public	Area (sq mi)
		7%	54%	32%	4%	2,115

Deer Harvest

Year	Antlered	Antlerless	Allocation	Lic/Deer ¹
2005	6,382	10,707	27,000	2.5
2006	6,773	11,974	30,000	2.5
2007	6,010	11,400	30,000	2.6
2008	7,507	13,390	30,000	2.2
2009	5,089	9,474	30,000	3.2
2010	5,470	9,233	27,844	3.0
2011	6,021	9,508	30,000	3.2
2012	6,978	11,086	33,000	3.0
2013	6,835	10,760	31,000	2.9
2014	5,766	8,788	30,000	3.4
2015	6,895	7,671	29,000	3.8

RED=7 day season

POST-HUNT Deer Population Trend INCREASING

Year	Total
2008	52,810
2009	58,926
2010	44,469
2011	46,503
2012	51,697
2013	55,713
2014	53,799
2015	47,438
2016	71,669

DEER HEALTH: Fawn to Doe Ratio² Trend STABLE

Year	Total
2008	0.41
2009	0.43
2010	0.44
2011	0.40
2012	0.37
2013	0.38
2014	0.39
2015	0.40

FOREST HEALTH Regeneration Assessment Fair

Year	% Adequate	Plot - Plot Regeneration			Plot - Plot Deer Impact			Mean Deer Impact		
		No Change	No Change	No Change	No Change	No Change	3 or less	3 or less	3 or less	
2003-07	41%									
2004-08	46%									
2005-09	48%									
2006-10	54%									
2007-11	57%									
2008-12	60%									
2009-13	55%									
2010-14	56%									

Citizen Survey Results Too High 11% Just Right 56% Too Low 26%

Antlerless Allocation Options			
Firearm Season Option	Increase Harvest	Stable Harvest	Decrease Harvest
5 day antlered & 7 day concurrent	40,000	32,000	25,000

¹ - The number of antlerless licenses sold that it takes to harvest an antlerless deer. The number sold will differ from the allocation.

² - Harvest fawn to doe ratio is calculated as percent of fawns in the antlerless harvest.

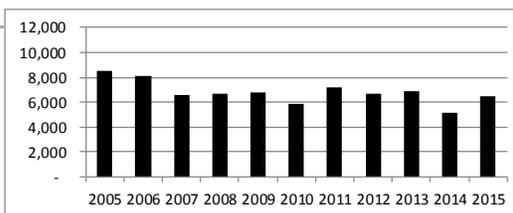
2016-17 Pennsylvania Game Commission Antlerless Allocation Worksheet

WMU	2A	WMU Characteristics				
		% Developed	% Forest	%Ag/Field	%Public	Area (sq mi)
		7%	61%	29%	3%	1,811

Deer Harvest

Year	Antlered	Antlerless	Allocation	Lic/Deer ¹
2005	8,510	19,649	55,000	2.7
2006	8,104	16,987	55,000	3.2
2007	6,560	14,322	60,000	3.9
2008	6,714	15,255	55,000	3.5
2009	6,829	13,920	55,000	4.0
2010	5,830	13,463	54,879	4.1
2011	7,142	12,677	65,000	4.4
2012	6,683	12,694	59,000	4.5
2013	6,836	13,241	49,000	3.7
2014	5,131	9,580	46,000	4.8
2015	6,511	10,507	43,000	4.1

Antlered Harvest

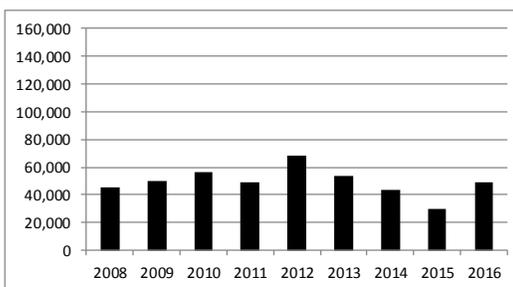


RED=7-day season

POST-HUNT Deer Population

Trend STABLE

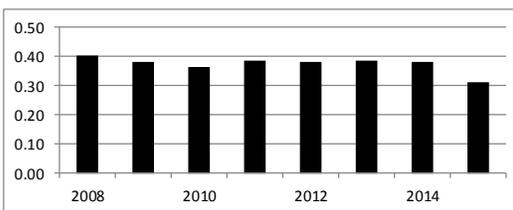
Year	Total
2008	45,462
2009	50,336
2010	56,286
2011	49,033
2012	68,080
2013	53,996
2014	43,379
2015	30,033
2016	48,723



DEER HEALTH: Fawn to Doe Ratio²

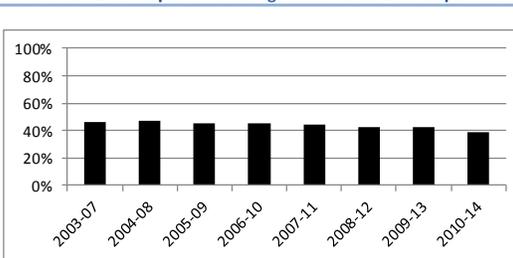
Trend STABLE

Year	Total
2008	0.40
2009	0.38
2010	0.36
2011	0.39
2012	0.38
2013	0.39
2014	0.38
2015	0.31



FOREST HEALTH	Regeneration Assessment			Fair	
	Plot - Plot Regeneration	No Change	Plot - Plot Deer Impact	No Change	Mean Deer Impact

Year	% Adequate
2003-07	46%
2004-08	47%
2005-09	46%
2006-10	45%
2007-11	44%
2008-12	42%
2009-13	43%
2010-14	39%



Citizen Survey Results	Too High	25%	Just Right	56%	Too Low	13%
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Antlerless Allocation Options			
Firearm Season Option	Increase Harvest	Stable Harvest	Decrease Harvest
5 day antlered & 7 day concurrent	54,000	47,000	39,000

¹ - The number of antlerless licenses sold that it takes to harvest an antlerless deer. The number sold will differ from the allocation.

² - Harvest fawn to doe ratio is calculated as percent of fawns in the antlerless harvest.

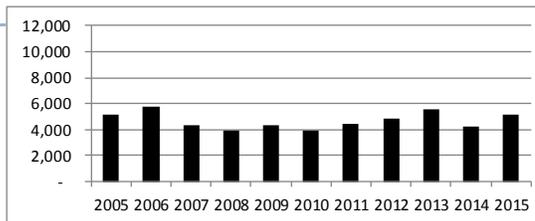
2016-17 Pennsylvania Game Commission Antlerless Allocation Worksheet

WMU	2B	WMU Characteristics				
		% Developed	% Forest	%Ag/Field	%Public	Area (sq mi)
		30%	44%	21%	0%	1,363

Deer Harvest

Year	Antlered	Antlerless	Allocation	Lic/Deer ¹
2005	5,182	14,459	68,000	4.4
2006	5,759	16,505	68,000	3.9
2007	4,372	15,332	68,000	3.9
2008	3,964	15,251	68,000	4.1
2009	4,297	19,866	68,000	3.3
2010	3,976	13,008	68,000	4.8
2011	4,472	16,550	71,000	3.6
2012	4,837	15,955	67,000	3.8
2013	5,610	14,389	62,000	4.3
2014	4,267	13,165	60,000	4.5
2015	5,191	15,379	61,000	3.9

Antlered Harvest



POST-HUNT Deer Population

Trend STABLE

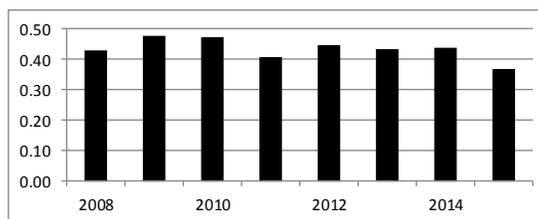
Year	Total
2008	
2009	
2010	
2011	
2012	
2013	
2014	

Harvest indices (i.e., antlered harvest, antlerless lic/deer), not PASAK model, used to monitor population trend

DEER HEALTH: Fawn to Doe Ratio²

Trend DECLINING

Year	Total
2008	0.43
2009	0.48
2010	0.47
2011	0.41
2012	0.45
2013	0.44
2014	0.44
2015	0.37



FOREST HEALTH

Regeneration Assessment

Year	% Adequate	Plot - Plot Regeneration	Plot - Plot Deer Impact	Mean Deer Impact
		2003-07		
2004-08				
2005-09		<i>Forest data not considered in this developed WMU</i>		
2006-10				
2007-11				
2008-12				
2009-13				

Citizen Survey Results Too High 32% Just Right 52% Too Low 9%

Antlerless Allocation Options

Firearm Season Option	Increase	Stable	Decrease
	Harvest	Harvest	Harvest
12 day concurrent	66,000	61,000	54,000

¹ - The number of antlerless licenses sold that it takes to harvest an antlerless deer. The number sold will differ from the allocation.

² - Harvest fawn to doe ratio is calculated as percent of fawns in the antlerless harvest.

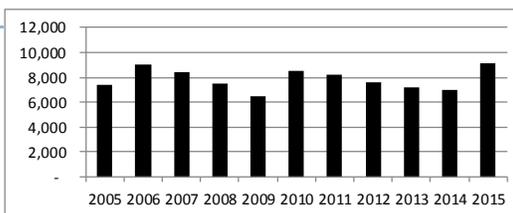
2016-17 Pennsylvania Game Commission Antlerless Allocation Worksheet

WMU	2C	WMU Characteristics				
		% Developed	% Forest	%Ag/Field	%Public	Area (sq mi)
		6%	68%	24%	10%	3,100

Deer Harvest

Year	Antlered	Antlerless	Allocation	Lic/Deer ¹
2005	7,413	13,683	53,000	3.8
2006	9,049	12,094	49,000	4.0
2007	8,441	11,619	49,000	4.1
2008	7,476	12,752	49,000	3.8
2009	6,508	10,870	49,000	4.5
2010	8,528	9,579	44,107	4.6
2011	8,249	12,793	58,000	4.5
2012	7,600	10,822	50,000	4.6
2013	7,219	10,957	43,000	3.9
2014	7,016	8,985	38,000	4.5
2015	9,134	7,269	31,000	4.3

Antlered Harvest

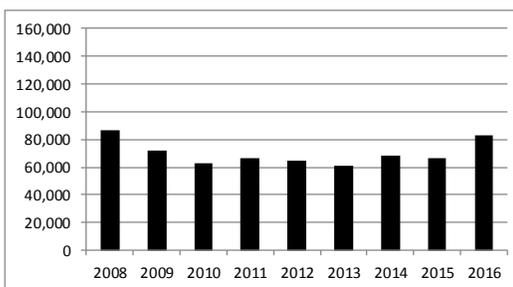


RED=7-day season

POST-HUNT Deer Population

Trend **STABLE**

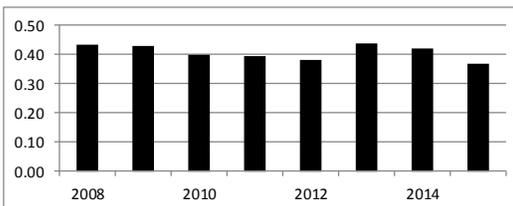
Year	Total
2008	87,046
2009	72,402
2010	62,340
2011	66,729
2012	64,888
2013	61,386
2014	68,683
2015	66,027
2016	83,350



DEER HEALTH: Fawn to Doe Ratio² Approximately 29% of WMU is a CWD DMA

Trend **STABLE**

Year	Total
2008	0.43
2009	0.43
2010	0.40
2011	0.40
2012	0.38
2013	0.44
2014	0.42
2015	0.37

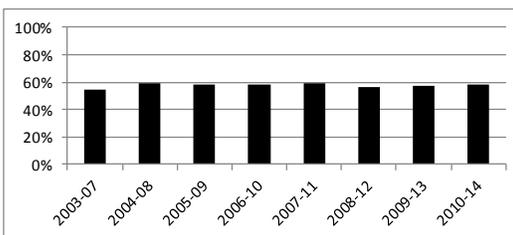


FOREST HEALTH

Regeneration Assessment **Fair**

Plot - Plot Regeneration No Change Plot - Plot Deer Impact No Change Mean Deer Impact **3 or less**

Year	% Adequate
2003-07	54%
2004-08	59%
2005-09	58%
2006-10	58%
2007-11	59%
2008-12	56%
2009-13	57%
2010-14	58%



Citizen Survey Results

Too High 13% Just Right 50% Too Low 26%

Antlerless Allocation Options

Firearm Season Option	Increase	Stable	Decrease
	Harvest	Harvest	Harvest
5 day antlered & 7 day concurrent	51,000	38,000	25,000

¹ - The number of antlerless licenses sold that it takes to harvest an antlerless deer. The number sold will differ from the allocation.

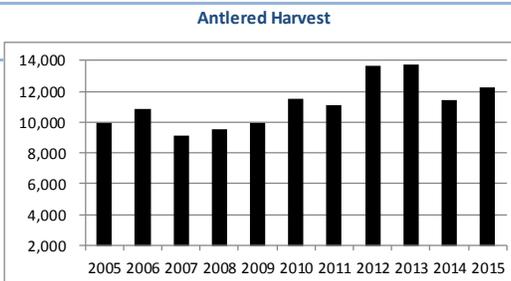
² - Harvest fawn to doe ratio is calculated as percent of fawns in the antlerless harvest.

2016-17 Pennsylvania Game Commission Antlerless Allocation Worksheet

WMU	2D	WMU Characteristics				
		% Developed	% Forest	%Ag/Field	%Public	Area (sq mi)
		5%	60%	31%	2%	2,486

Deer Harvest

Year	Antlered	Antlerless	Allocation	Lic/Deer ¹
2005	9,975	22,054	56,000	2.5
2006	10,896	20,437	56,000	2.7
2007	9,118	18,099	56,000	3.1
2008	9,508	15,591	56,000	3.5
2009	9,977	15,962	56,000	3.5
2010	11,540	18,046	50,123	2.8
2011	11,130	19,257	60,000	3.1
2012	13,660	20,839	62,000	3.0
2013	13,704	21,614	61,000	2.8
2014	11,417	16,441	61,000	3.7
2015	12,292	15,728	55,000	3.5

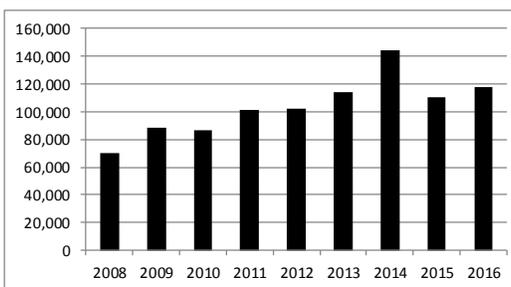


RED=7-day season

POST-HUNT Deer Population

Trend **INCREASING**

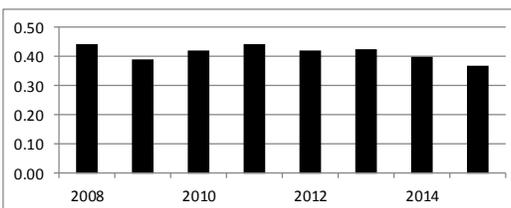
Year	Total
2008	69,732
2009	88,666
2010	86,493
2011	101,182
2012	102,440
2013	113,774
2014	144,084
2015	110,214
2016	117,823



DEER HEALTH: Fawn to Doe Ratio²

Trend **STABLE**

Year	Total
2008	0.44
2009	0.39
2010	0.42
2011	0.44
2012	0.42
2013	0.42
2014	0.40
2015	0.37

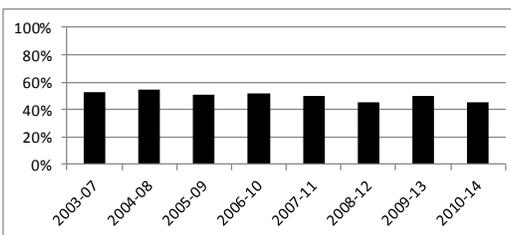


FOREST HEALTH

Regeneration Assessment **Fair**

Plot - Plot Regeneration No Change Plot - Plot Deer Impact No Change Mean Deer Impact **3 or less**

Year	% Adequate
2003-07	52%
2004-08	54%
2005-09	51%
2006-10	52%
2007-11	49%
2008-12	46%
2009-13	50%
2010-14	45%



Citizen Survey Results

Too High 23% Just Right 52% Too Low 19%

Antlerless Allocation Options

Firearm Season Option	Increase Harvest	Stable Harvest	Decrease Harvest
5 day antlered & 7 day concurrent	68,000	60,000	52,000

¹ - The number of antlerless licenses sold that it takes to harvest an antlerless deer. The number sold will differ from the allocation.

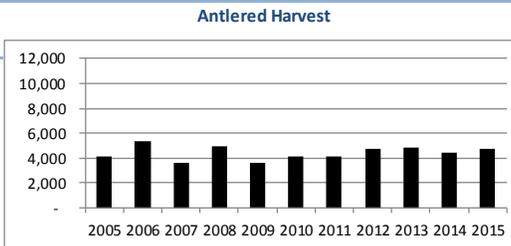
² - Harvest fawn to doe ratio is calculated as percent of fawns in the antlerless harvest.

2016-17 Pennsylvania Game Commission Antlerless Allocation Worksheet

WMU	2E	WMU Characteristics				
		% Developed	% Forest	%Ag/Field	%Public	Area (sq mi)
		5%	65%	26%	6%	1,261

Deer Harvest

Year	Antlered	Antlerless	Allocation	Lic/Deer ¹
2005	4,093	7,471	21,000	2.8
2006	5,358	7,360	21,000	2.8
2007	3,642	6,398	21,000	3.2
2008	4,984	6,179	21,000	3.3
2009	3,673	5,298	21,000	4.0
2010	4,178	5,952	20,407	3.5
2011	4,116	7,073	25,000	3.5
2012	4,785	5,561	21,000	3.8
2013	4,883	7,973	22,000	2.8
2014	4,440	5,593	21,000	3.8
2015	4,742	5,263	21,000	4.0

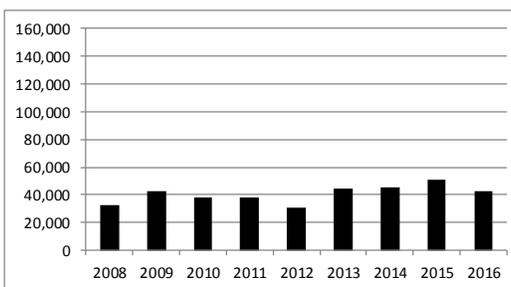


RED=7-day season

POST-HUNT Deer Population

Trend STABLE

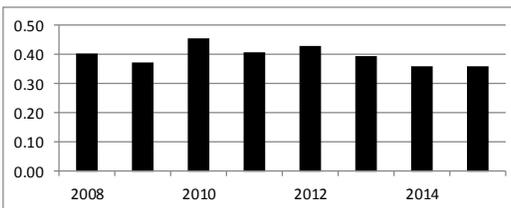
Year	Total
2008	32,623
2009	42,709
2010	38,317
2011	38,134
2012	30,384
2013	44,546
2014	45,529
2015	50,549
2016	43,081



DEER HEALTH: Fawn to Doe Ratio²

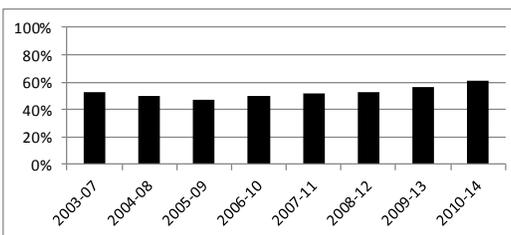
Trend STABLE

Year	Total
2008	0.40
2009	0.37
2010	0.46
2011	0.41
2012	0.43
2013	0.40
2014	0.36
2015	0.36



FOREST HEALTH	Regeneration Assessment			Fair	
	Plot - Plot Regeneration	Improving	Plot - Plot Deer Impact		No Change

Year	% Adequate
2003-07	53%
2004-08	50%
2005-09	47%
2006-10	50%
2007-11	52%
2008-12	52%
2009-13	56%
2010-14	61%



Citizen Survey Results	Too High	13%	Just Right	48%	Too Low	31%
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Antlerless Allocation Options			
Firearm Season Option	Increase Harvest	Stable Harvest	Decrease Harvest
5 day antlered & 7 day concurrent	26,000	22,000	18,000

¹ - The number of antlerless licenses sold that it takes to harvest an antlerless deer. The number sold will differ from the allocation.

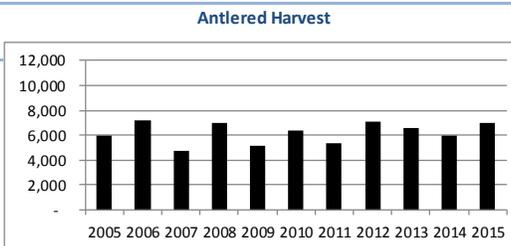
² - Harvest fawn to doe ratio is calculated as percent of fawns in the antlerless harvest.

2016-17 Pennsylvania Game Commission Antlerless Allocation Worksheet

WMU	2F	WMU Characteristics				
		% Developed	% Forest	%Ag/Field	%Public	Area (sq mi)
		2%	88%	7%	56%	2,409

Deer Harvest

Year	Antlered	Antlerless	Allocation	Lic/Deer ¹
2005	6,013	8,322	30,000	3.5
2006	7,153	8,030	28,000	3.5
2007	4,795	7,132	28,000	3.9
2008	6,990	9,117	28,000	3.0
2009	5,167	6,648	28,000	4.3
2010	6,403	5,657	22,148	4.0
2011	5,393	6,737	34,000	5.0
2012	7,139	6,067	27,000	4.5
2013	6,607	8,008	29,000	3.6
2014	5,979	5,915	27,000	4.6
2015	6,989	5,434	22,000	4.1

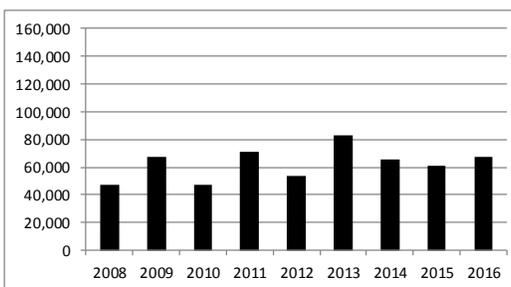


RED=7-day season

POST-HUNT Deer Population

Trend STABLE

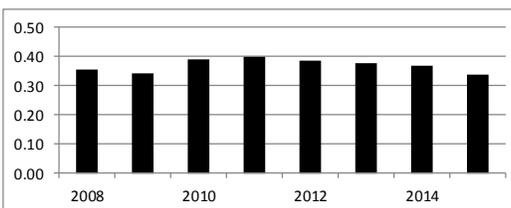
Year	Total
2008	47,288
2009	67,724
2010	46,887
2011	70,765
2012	53,210
2013	83,063
2014	65,614
2015	61,020
2016	67,152



DEER HEALTH: Fawn to Doe Ratio²

Trend STABLE

Year	Total
2008	0.35
2009	0.34
2010	0.39
2011	0.40
2012	0.39
2013	0.38
2014	0.37
2015	0.34

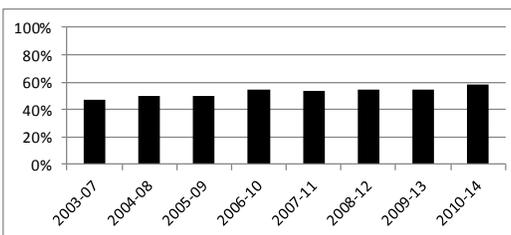


FOREST HEALTH

Regeneration Assessment Fair

Plot - Plot Regeneration No Change Plot - Plot Deer Impact Improving Mean Deer Impact 3 or less

Year	% Adequate
2003-07	47%
2004-08	50%
2005-09	50%
2006-10	54%
2007-11	54%
2008-12	54%
2009-13	54%
2010-14	58%



Citizen Survey Results

Too High 10% Just Right 39% Too Low 42%

Antlerless Allocation Options

Firearm Season Option	Increase Harvest	Stable Harvest	Decrease Harvest
5 day antlered & 7 day concurrent	36,000	26,000	17,000

¹ - The number of antlerless licenses sold that it takes to harvest an antlerless deer. The number sold will differ from the allocation.

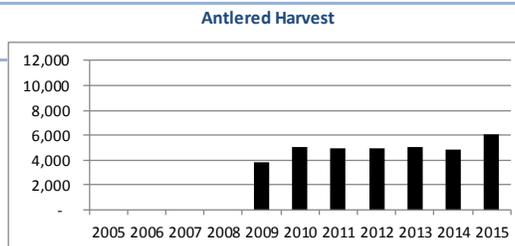
² - Harvest fawn to doe ratio is calculated as percent of fawns in the antlerless harvest.

2016-17 Pennsylvania Game Commission Antlerless Allocation Worksheet

WMU	2G	WMU Characteristics				
		% Developed	% Forest	%Ag/Field	%Public	Area (sq mi)
		4%	82%	7%	57%	3,117

Deer Harvest

Year	Antlered	Antlerless	Allocation	Lic/Deer ¹
2005				
2006				
2007				
2008				
2009	3,802	1,046		
2010	5,088	2,627		
2011	4,957	4,117		
2012	4,976	4,915		
2013	5,018	6,881	28,000	4.1
2014	4,839	4,671	22,000	4.7
2015	6,073	4,143	22,000	5.4

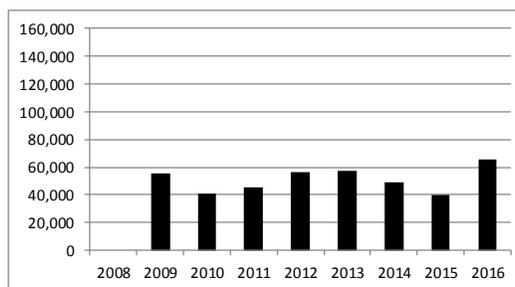


RED=7-day season

Deer Population

Trend **STABLE**

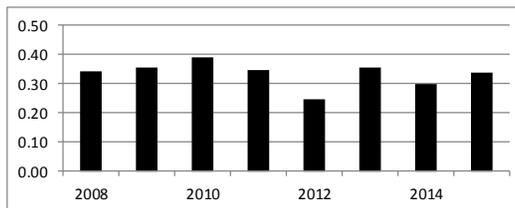
Year	Total
2008	
2009	55,234
2010	41,008
2011	45,743
2012	55,997
2013	57,014
2014	49,313
2015	40,343
2016	65,521



DEER HEALTH: Fawn to Doe Ratio²

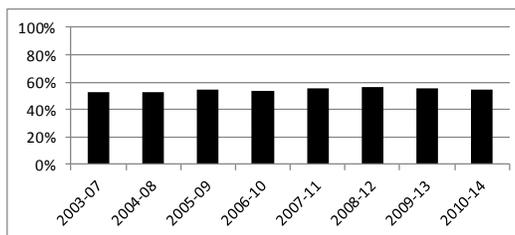
Trend **STABLE**

Year	Total
2008	0.34
2009	0.35
2010	0.39
2011	0.35
2012	0.25
2013	0.35
2014	0.30
2015	0.34



FOREST HEALTH	Regeneration Assessment			Fair	
	Plot - Plot Regeneration	No Change	Plot - Plot Deer Impact		No Change

Year	% Adequate
2003-07	53%
2004-08	53%
2005-09	54%
2006-10	54%
2007-11	55%
2008-12	56%
2009-13	55%
2010-14	54%



Citizen Survey Results	Too High	3%	Just Right	39%	Too Low	55%
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Antlerless Allocation Options			
Firearm Season Option	Increase Harvest	Stable Harvest	Decrease Harvest
5 day antlered & 7 day concurrent	40,000	25,000	10,000

¹ - The number of antlerless licenses sold that it takes to harvest an antlerless deer. The number sold will differ from the allocation.

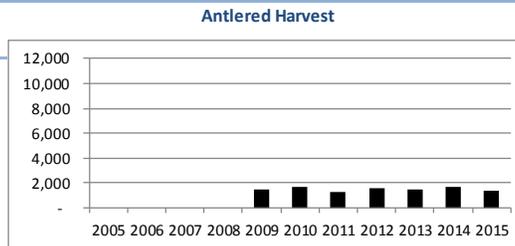
² - Harvest fawn to doe ratio is calculated as percent of fawns in the antlerless harvest.

2016-17 Pennsylvania Game Commission Antlerless Allocation Worksheet

WMU	2H	WMU Characteristics				
		% Developed	% Forest	%Ag/Field	%Public	Area (sq mi)
		4%	86%	6%	27%	1,001

Deer Harvest

Year	Antlered	Antlerless	Allocation	Lic/Deer ¹
2005				
2006				
2007				
2008				
2009	1,471	1,046		
2010	1,670	990		
2011	1,323	1,321		
2012	1,565	1,459		
2013	1,475	1,657	6,000	3.7
2014	1,670	1,064	5,500	5.2
2015	1,426	1,419	6,500	4.6

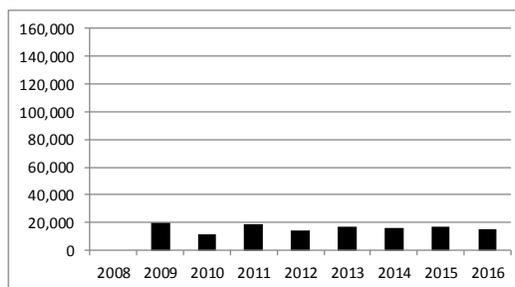


RED=7-day season

Deer Population

Trend **STABLE**

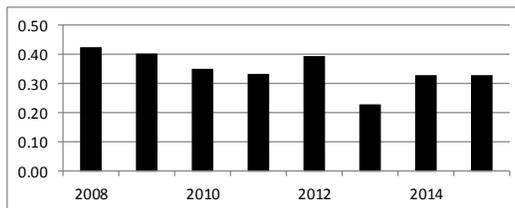
Year	Total
2008	
2009	19,730
2010	11,565
2011	18,952
2012	13,917
2013	16,895
2014	16,537
2015	16,872
2016	15,430



DEER HEALTH: Fawn to Doe Ratio²

Trend **STABLE**

Year	Total
2008	0.43
2009	0.40
2010	0.35
2011	0.33
2012	0.39
2013	0.23
2014	0.33
2015	0.33

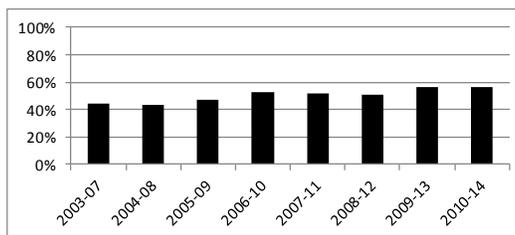


FOREST HEALTH

Regeneration Assessment **Fair**

Plot - Plot Regeneration Improving Plot - Plot Deer Impact No Change Mean Deer Impact 3 or less

Year	% Adequate
2003-07	44%
2004-08	43%
2005-09	47%
2006-10	52%
2007-11	51%
2008-12	51%
2009-13	57%
2010-14	56%



Citizen Survey Results

Too High 3% Just Right 39% Too Low 55%

Antlerless Allocation Options

Firearm Season Option	Increase Harvest	Stable Harvest	Decrease Harvest
5 day antlered & 7 day concurrent	11,000	6,000	2,000

¹ - The number of antlerless licenses sold that it takes to harvest an antlerless deer. The number sold will differ from the allocation.

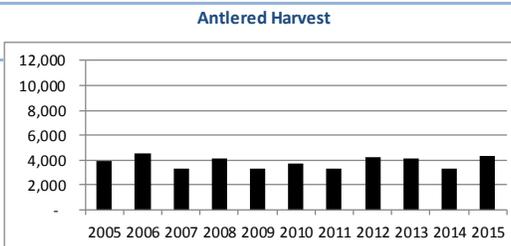
² - Harvest fawn to doe ratio is calculated as percent of fawns in the antlerless harvest.

2016-17 Pennsylvania Game Commission Antlerless Allocation Worksheet

WMU	3A	WMU Characteristics				
		% Developed	% Forest	%Ag/Field	%Public	Area (sq mi)
		2%	78%	17%	10%	1,506

Deer Harvest

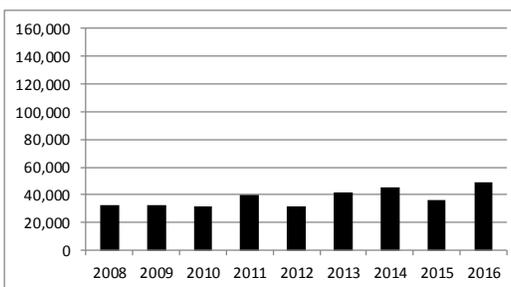
Year	Antlered	Antlerless	Allocation	Lic/Deer ¹
2005	3,981	8,657	27,000	3.1
2006	4,527	8,818	29,000	3.2
2007	3,359	7,803	29,000	3.6
2008	4,132	7,478	26,000	3.4
2009	3,310	5,998	26,000	4.4
2010	3,751	6,469	25,247	3.9
2011	3,345	6,672	26,000	3.9
2012	4,278	6,673	26,000	3.9
2013	4,177	5,430	23,000	4.2
2014	3,308	4,253	18,000	4.2
2015	4,314	4,005	19,000	4.8



RED=7-day season

POST-HUNT Deer Population

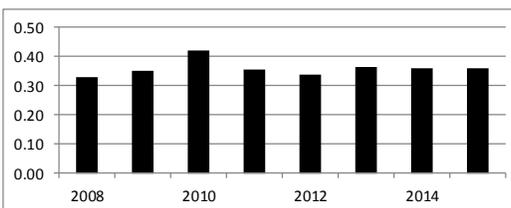
Year	Total
2008	32,425
2009	32,513
2010	31,412
2011	39,532
2012	31,224
2013	41,358
2014	45,317
2015	36,181
2016	49,307



Trend STABLE

DEER HEALTH: Fawn to Doe Ratio²

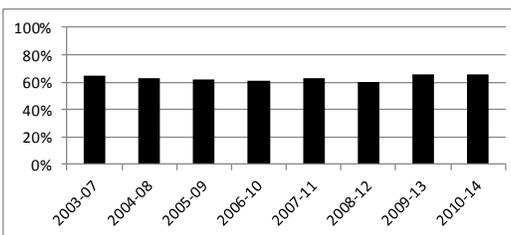
Year	Total
2008	0.33
2009	0.35
2010	0.42
2011	0.36
2012	0.34
2013	0.36
2014	0.36
2015	0.36



Trend STABLE

FOREST HEALTH	Regeneration Assessment			Good	
	Plot - Plot Regeneration	No Change	Plot - Plot Deer Impact	No Change	Mean Deer Impact

Year	% Adequate
2003-07	65%
2004-08	63%
2005-09	62%
2006-10	61%
2007-11	63%
2008-12	60%
2009-13	66%
2010-14	66%



Citizen Survey Results Too High 3% Just Right 32% Too Low 59%

Antlerless Allocation Options

Firearm Season Option	Increase Harvest	Stable Harvest	Decrease Harvest
5 day antlered & 7 day concurrent	29,000	22,000	15,000

¹ - The number of antlerless licenses sold that it takes to harvest an antlerless deer. The number sold will differ from the allocation.

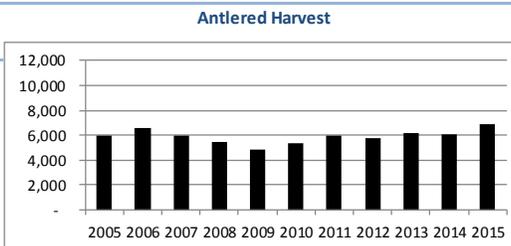
² - Harvest fawn to doe ratio is calculated as percent of fawns in the antlerless harvest.

2016-17 Pennsylvania Game Commission Antlerless Allocation Worksheet

WMU	3B	WMU Characteristics				
		% Developed	% Forest	%Ag/Field	%Public	Area (sq mi)
		6%	79%	11%	21%	2,218

Deer Harvest

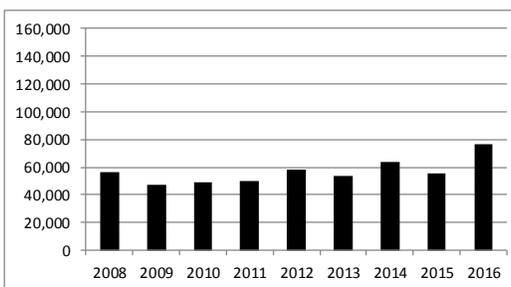
Year	Antlered	Antlerless	Allocation	Lic/Deer ¹
2005	5,980	10,871	41,000	3.7
2006	6,530	10,563	43,000	4.0
2007	5,933	10,177	43,000	4.2
2008	5,469	9,857	43,000	4.3
2009	4,865	9,112	43,000	4.7
2010	5,369	7,585	33,761	4.5
2011	5,935	7,707	40,000	5.2
2012	5,752	8,701	40,000	4.6
2013	6,153	8,718	39,000	4.5
2014	6,039	8,055	33,000	4.1
2015	6,840	7,359	28,000	3.8



RED=7-day season

Deer Population

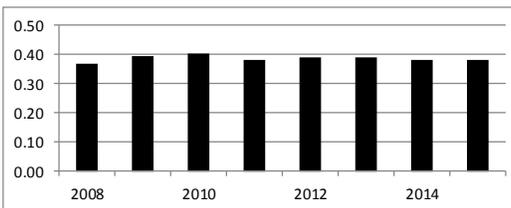
Year	Total
2008	56,162
2009	46,869
2010	48,895
2011	49,768
2012	58,481
2013	53,709
2014	63,803
2015	55,249
2016	76,808



Trend INCREASING

DEER HEALTH: Fawn to Doe Ratio²

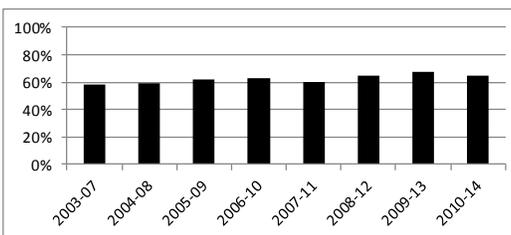
Year	Total
2008	0.37
2009	0.40
2010	0.40
2011	0.38
2012	0.39
2013	0.39
2014	0.38
2015	0.38



Trend STABLE

FOREST HEALTH	Regeneration Assessment			Good	
	Plot - Plot Regeneration	No Change	Plot - Plot Deer Impact	No Change	Mean Deer Impact

Year	% Adequate
2003-07	58%
2004-08	59%
2005-09	62%
2006-10	62%
2007-11	60%
2008-12	65%
2009-13	67%
2010-14	65%



Citizen Survey Results Too High 7% Just Right 59% Too Low 24%

Antlerless Allocation Options			
Firearm Season Option	Increase Harvest	Stable Harvest	Decrease Harvest
5 day antlered & 7 day concurrent	42,000	33,000	24,000

¹ - The number of antlerless licenses sold that it takes to harvest an antlerless deer. The number sold will differ from the allocation.

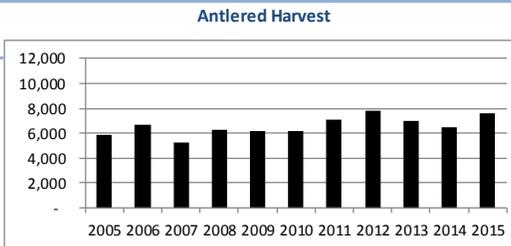
² - Harvest fawn to doe ratio is calculated as percent of fawns in the antlerless harvest.

2016-17 Pennsylvania Game Commission Antlerless Allocation Worksheet

WMU	3C	WMU Characteristics				
		% Developed	% Forest	%Ag/Field	%Public	Area (sq mi)
		4%	75%	16%	3%	2,187

Deer Harvest

Year	Antlered	Antlerless	Allocation	Lic/Deer ¹
2005	5,821	11,198	32,000	2.8
2006	6,673	9,248	27,000	2.9
2007	5,278	9,586	27,000	2.8
2008	6,288	7,258	27,000	3.7
2009	6,196	7,084	27,000	3.9
2010	6,211	8,309	26,358	3.2
2011	7,103	9,943	29,000	2.9
2012	7,854	10,508	35,000	3.3
2013	7,004	12,683	35,000	2.8
2014	6,526	10,302	32,000	3.1
2015	7,614	10,460	36,000	3.4

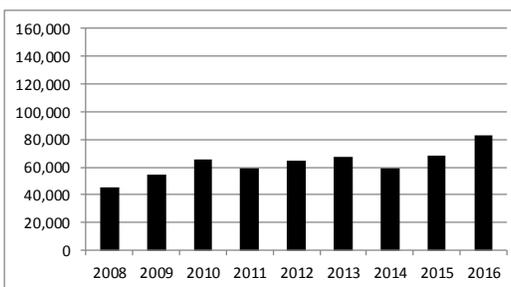


RED=7-day season

POST-HUNT Deer Population

Trend STABLE

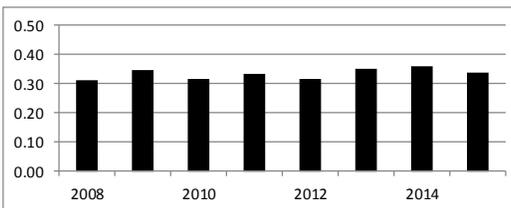
Year	Total
2008	45,511
2009	54,141
2010	65,624
2011	59,245
2012	64,359
2013	67,720
2014	58,925
2015	67,997
2016	83,206



DEER HEALTH: Fawn to Doe Ratio²

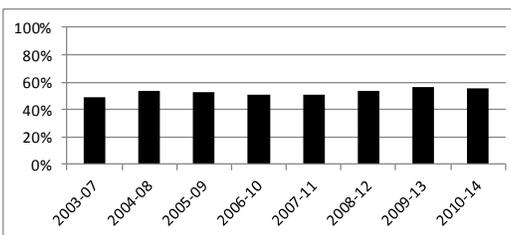
Trend STABLE

Year	Total
2008	0.31
2009	0.35
2010	0.32
2011	0.34
2012	0.32
2013	0.35
2014	0.36
2015	0.34



FOREST HEALTH	Regeneration Assessment			Fair >3
	Plot - Plot Regeneration	No Change	Plot - Plot Deer Impact	

Year	% Adequate
2003-07	49%
2004-08	53%
2005-09	53%
2006-10	51%
2007-11	51%
2008-12	54%
2009-13	56%
2010-14	55%



Citizen Survey Results	Too High	10%	Just Right	61%	Too Low	20%
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Antlerless Allocation Options			
Firearm Season Option	Increase Harvest	Stable Harvest	Decrease Harvest
5 day antlered & 7 day concurrent	41,000	35,000	28,000

¹ - The number of antlerless licenses sold that it takes to harvest an antlerless deer. The number sold will differ from the allocation.

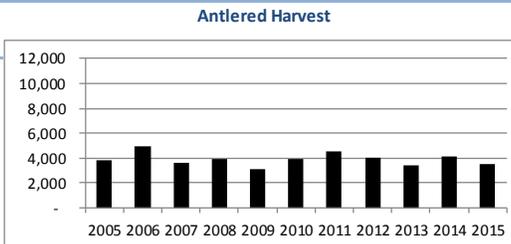
² - Harvest fawn to doe ratio is calculated as percent of fawns in the antlerless harvest.

2016-17 Pennsylvania Game Commission Antlerless Allocation Worksheet

WMU	3D	WMU Characteristics				
		% Developed	% Forest	%Ag/Field	%Public	Area (sq mi)
		11%	74%	6%	16%	2,101

Deer Harvest

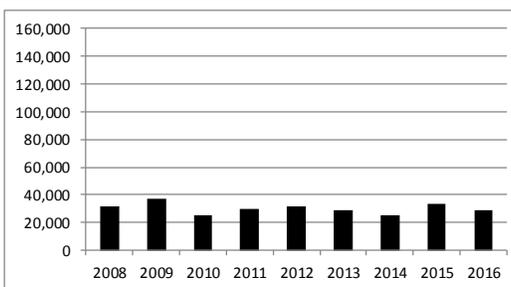
Year	Antlered	Antlerless	Allocation	Lic/Deer ¹
2005	3,865	7,254	38,000	5.1
2006	4,969	7,445	38,000	5.0
2007	3,647	7,017	38,000	5.3
2008	3,899	6,925	37,000	5.3
2009	3,096	6,265	37,000	5.9
2010	3,884	5,509	31,622	5.8
2011	4,509	7,163	39,000	5.4
2012	4,039	6,010	39,000	6.5
2013	3,446	4,986	32,000	6.4
2014	4,155	5,203	25,000	4.8
2015	3,500	3,655	25,000	6.9



RED=7-day season

POST-HUNT Deer Population

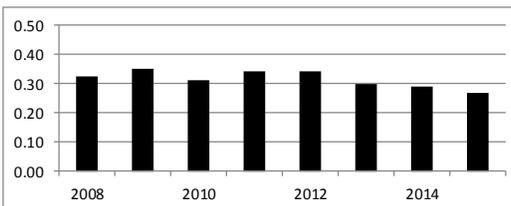
Year	Total
2008	31,623
2009	37,563
2010	25,378
2011	30,250
2012	31,299
2013	29,225
2014	25,127
2015	33,778
2016	28,957



Trend STABLE

DEER HEALTH: Fawn to Doe Ratio²

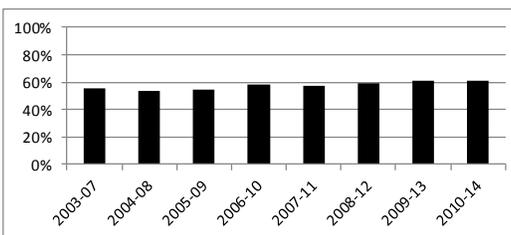
Year	Total
2008	0.32
2009	0.35
2010	0.31
2011	0.34
2012	0.34
2013	0.30
2014	0.29
2015	0.27



Trend DECLINING

FOREST HEALTH	Regeneration Assessment			Good	
	Plot - Plot Regeneration	No Change	Plot - Plot Deer Impact	No Change	Mean Deer Impact

Year	% Adequate
2003-07	56%
2004-08	54%
2005-09	55%
2006-10	58%
2007-11	57%
2008-12	59%
2009-13	61%
2010-14	61%



Citizen Survey Results Too High 13% Just Right 57% Too Low 24%

Antlerless Allocation Options

Firearm Season Option	Increase Harvest	Stable Harvest	Decrease Harvest
5 day antlered & 7 day concurrent	46,000	31,000	17,000

¹ - The number of antlerless licenses sold that it takes to harvest an antlerless deer. The number sold will differ from the allocation.

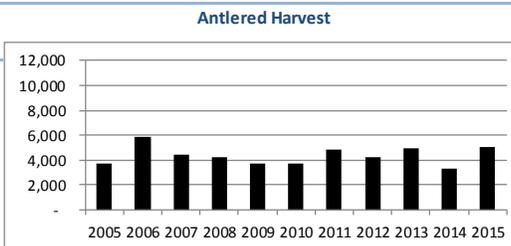
² - Harvest fawn to doe ratio is calculated as percent of fawns in the antlerless harvest.

2016-17 Pennsylvania Game Commission Antlerless Allocation Worksheet

WMU	4A	WMU Characteristics				
		% Developed	% Forest	%Ag/Field	%Public	Area (sq mi)
		4%	70%	24%	15%	1,736

Deer Harvest

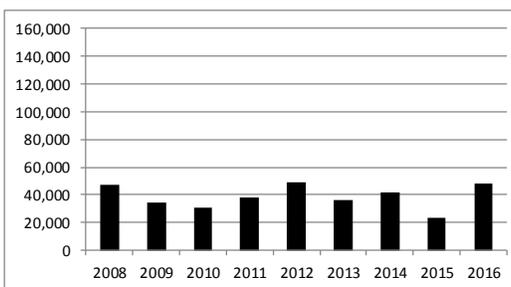
Year	Antlered	Antlerless	Allocation	Lic/Deer ¹
2005	3,714	7,578	35,000	4.5
2006	5,871	7,827	29,000	3.6
2007	4,477	6,735	29,000	4.2
2008	4,187	6,874	29,000	4.2
2009	3,733	7,414	29,000	3.9
2010	3,761	6,401	27,521	4.3
2011	4,849	6,527	28,000	4.3
2012	4,245	6,463	29,000	4.5
2013	4,961	5,981	28,000	4.7
2014	3,317	6,802	28,000	5.6
2015	5,095	6,360	30,000	4.7



RED=7-day season

POST-HUNT Deer Population

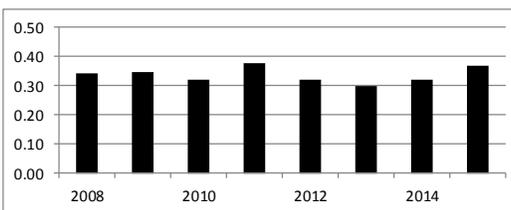
Year	Total
2008	47,414
2009	34,628
2010	30,789
2011	38,125
2012	49,191
2013	36,579
2014	42,196
2015	23,772
2016	48,538



Trend STABLE

DEER HEALTH: Fawn to Doe Ratio² Approximately 78% of WMU is a CWD DMA

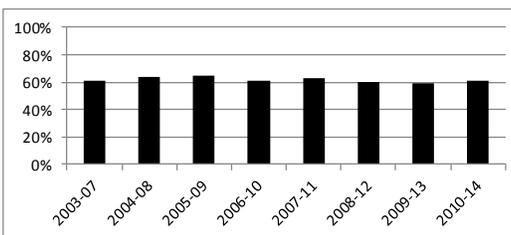
Year	Total
2008	0.34
2009	0.34
2010	0.32
2011	0.38
2012	0.32
2013	0.30
2014	0.32
2015	0.37



Trend STABLE

FOREST HEALTH

Year	% Adequate	Regeneration Assessment			Fair 3 or less
		Plot - Plot Regeneration	No Change	Plot - Plot Deer Impact	
2003-07	60%				
2004-08	64%				
2005-09	64%				
2006-10	61%				
2007-11	63%				
2008-12	60%				
2009-13	59%				
2010-14	61%				



Citizen Survey Results Too High 4% Just Right 45% Too Low 42%

Antlerless Allocation Options

Firearm Season Option	Increase Harvest	Stable Harvest	Decrease Harvest
5 day antlered & 7 day concurrent	39,000	30,000	21,000

¹ - The number of antlerless licenses sold that it takes to harvest an antlerless deer. The number sold will differ from the allocation.

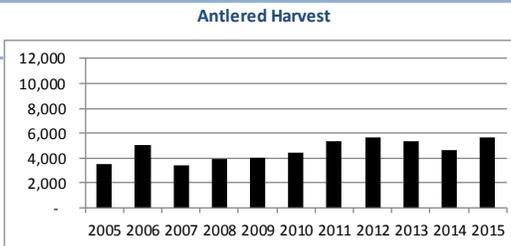
² - Harvest fawn to doe ratio is calculated as percent of fawns in the antlerless harvest.

2016-17 Pennsylvania Game Commission Antlerless Allocation Worksheet

WMU	4B	WMU Characteristics				
		% Developed	% Forest	%Ag/Field	%Public	Area (sq mi)
		6%	65%	27%	15%	1,591

Deer Harvest

Year	Antlered	Antlerless	Allocation	Lic/Deer ¹
2005	3,571	6,644	35,000	5.2
2006	5,026	6,626	31,000	4.6
2007	3,472	4,509	23,000	5.0
2008	3,917	3,846	23,000	5.9
2009	4,011	4,061	23,000	5.7
2010	4,458	5,113	22,148	4.4
2011	5,341	5,498	23,000	4.2
2012	5,622	5,636	26,000	4.6
2013	5,312	5,769	24,000	4.2
2014	4,611	5,630	26,000	4.6
2015	5,701	6,961	26,000	3.8

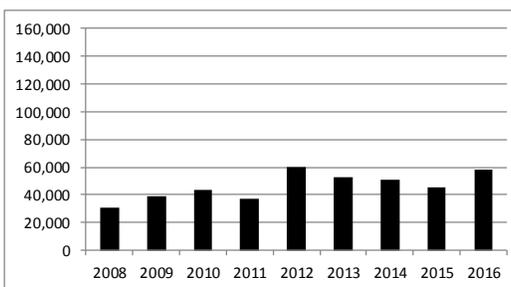


RED=7-day season

POST-HUNT Deer Population

Trend STABLE

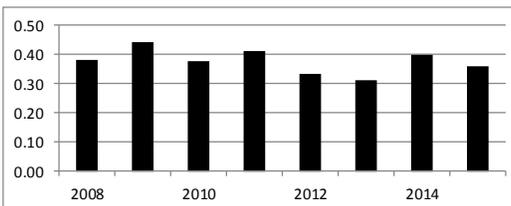
Year	Total
2008	30,479
2009	39,044
2010	43,550
2011	37,273
2012	60,340
2013	52,903
2014	50,517
2015	45,362
2016	57,846



DEER HEALTH: Fawn to Doe Ratio²

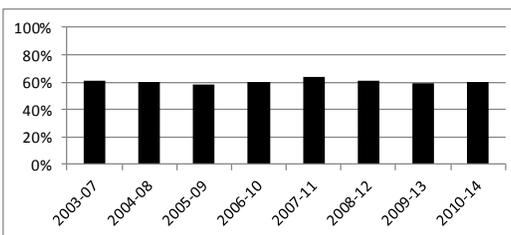
Trend STABLE

Year	Total
2008	0.38
2009	0.44
2010	0.38
2011	0.41
2012	0.33
2013	0.31
2014	0.40
2015	0.36



FOREST HEALTH	Regeneration Assessment			Fair	
	Plot - Plot Regeneration	No Change	Plot - Plot Deer Impact		No Change

Year	% Adequate
2003-07	61%
2004-08	60%
2005-09	58%
2006-10	60%
2007-11	64%
2008-12	61%
2009-13	59%
2010-14	60%



Citizen Survey Results	Too High	6%	Just Right	53%	Too Low	33%
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Antlerless Allocation Options			
Firearm Season Option	Increase Harvest	Stable Harvest	Decrease Harvest
5 day antlered & 7 day concurrent	32,000	26,000	19,000

¹ - The number of antlerless licenses sold that it takes to harvest an antlerless deer. The number sold will differ from the allocation.

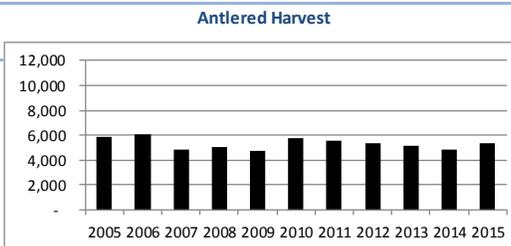
² - Harvest fawn to doe ratio is calculated as percent of fawns in the antlerless harvest.

2016-17 Pennsylvania Game Commission Antlerless Allocation Worksheet

WMU	4C	WMU Characteristics				
		% Developed	% Forest	%Ag/Field	%Public	Area (sq mi)
		8%	71%	17%	15%	1,717

Deer Harvest

Year	Antlered	Antlerless	Allocation	Lic/Deer ¹
2005	5,891	9,805	39,000	3.9
2006	6,115	8,883	39,000	4.2
2007	4,828	9,375	39,000	4.1
2008	5,015	8,027	35,000	4.3
2009	4,745	7,163	35,000	4.9
2010	5,724	8,357	34,351	4.2
2011	5,525	7,392	35,000	4.7
2012	5,335	7,823	35,000	4.5
2013	5,180	6,922	27,000	3.9
2014	4,830	4,996	25,000	5.1
2015	5,381	4,976	25,000	5.1

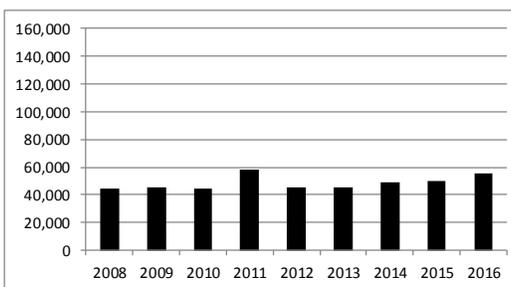


RED=7-day season

POST-HUNT Deer Population

Trend STABLE

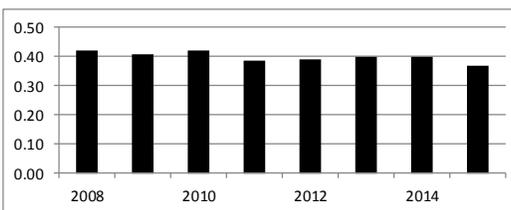
Year	Total
2008	44,569
2009	45,224
2010	44,256
2011	58,091
2012	45,093
2013	45,586
2014	49,072
2015	50,265
2016	55,068



DEER HEALTH: Fawn to Doe Ratio²

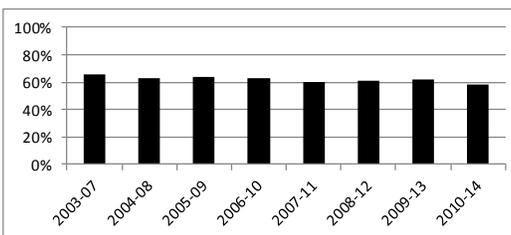
Trend STABLE

Year	Total
2008	0.42
2009	0.41
2010	0.42
2011	0.38
2012	0.39
2013	0.40
2014	0.40
2015	0.37



FOREST HEALTH	Regeneration Assessment			Fair	
	Plot - Plot Regeneration	No Change	Plot - Plot Deer Impact	No Change	Mean Deer Impact

Year	% Adequate
2003-07	66%
2004-08	63%
2005-09	63%
2006-10	63%
2007-11	60%
2008-12	61%
2009-13	62%
2010-14	58%



Citizen Survey Results	Too High	7%	Just Right	56%	Too Low	26%
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Antlerless Allocation Options			
Firearm Season Option	Increase Harvest	Stable Harvest	Decrease Harvest
5 day antlered & 7 day concurrent	37,000	29,000	20,000

¹ - The number of antlerless licenses sold that it takes to harvest an antlerless deer. The number sold will differ from the allocation.

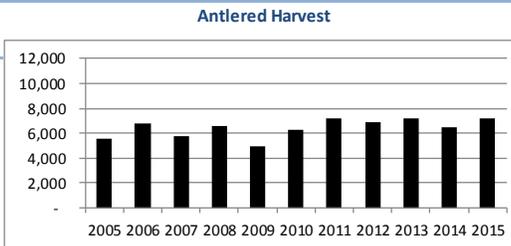
² - Harvest fawn to doe ratio is calculated as percent of fawns in the antlerless harvest.

2016-17 Pennsylvania Game Commission Antlerless Allocation Worksheet

WMU	4D	WMU Characteristics				
		% Developed	% Forest	%Ag/Field	%Public	Area (sq mi)
		6%	70%	22%	28%	2,743

Deer Harvest

Year	Antlered	Antlerless	Allocation	Lic/Deer ¹
2005	5,591	8,354	40,000	4.7
2006	6,776	9,878	40,000	4.0
2007	5,765	8,073	40,000	4.9
2008	6,593	9,310	40,000	4.2
2009	4,971	7,192	40,000	5.6
2010	6,321	5,472	30,052	5.6
2011	7,144	6,561	37,000	5.7
2012	6,922	6,325	36,000	5.7
2013	7,165	8,225	35,000	4.3
2014	6,461	6,832	33,000	5.0
2015	7,240	7,197	33,000	4.6

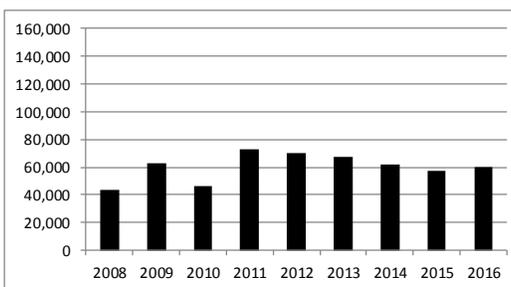


RED=7-day season

POST-HUNT Deer Population

Trend STABLE

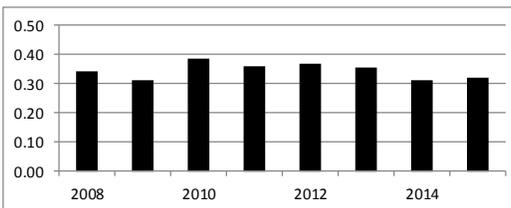
Year	Total
2008	43,299
2009	62,529
2010	46,284
2011	73,017
2012	70,495
2013	67,011
2014	61,428
2015	56,905
2016	60,398



DEER HEALTH: Fawn to Doe Ratio² Approximately 6% of WMU is a CWD DMA

Trend STABLE

Year	Total
2008	0.34
2009	0.31
2010	0.39
2011	0.36
2012	0.37
2013	0.36
2014	0.31
2015	0.32

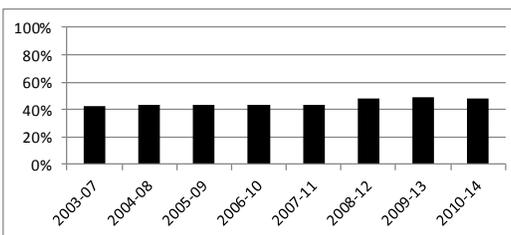


FOREST HEALTH

Regeneration Assessment Fair

Plot - Plot Regeneration No Change Plot - Plot Deer Impact No Change Mean Deer Impact 3 or less

Year	% Adequate
2003-07	43%
2004-08	43%
2005-09	43%
2006-10	44%
2007-11	43%
2008-12	48%
2009-13	49%
2010-14	48%



Citizen Survey Results

Too High 8% Just Right 46% Too Low 38%

Antlerless Allocation Options

Firearm Season Option	Increase Harvest	Stable Harvest	Decrease Harvest
5 day antlered & 7 day concurrent	47,000	34,000	21,000

¹ - The number of antlerless licenses sold that it takes to harvest an antlerless deer. The number sold will differ from the allocation.

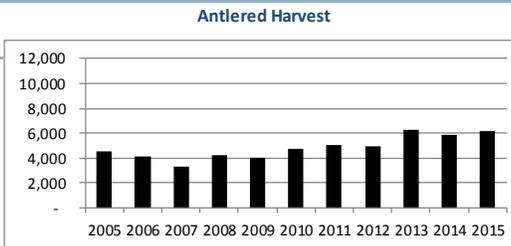
² - Harvest fawn to doe ratio is calculated as percent of fawns in the antlerless harvest.

2016-17 Pennsylvania Game Commission Antlerless Allocation Worksheet

WMU	4E	WMU Characteristics				
		% Developed	% Forest	%Ag/Field	%Public	Area (sq mi)
		8%	54%	34%	4%	1,736

Deer Harvest

Year	Antlered	Antlerless	Allocation	Lic/Deer ¹
2005	4,544	9,130	38,000	4.1
2006	4,134	8,975	38,000	4.2
2007	3,314	8,119	38,000	4.6
2008	4,270	7,193	30,000	4.1
2009	4,064	6,287	30,000	4.8
2010	4,768	5,923	26,899	4.6
2011	5,076	6,054	29,000	4.8
2012	4,960	6,079	28,000	4.6
2013	6,287	7,707	26,000	3.4
2014	5,847	5,919	21,000	3.6
2015	6,202	6,914	25,000	3.6

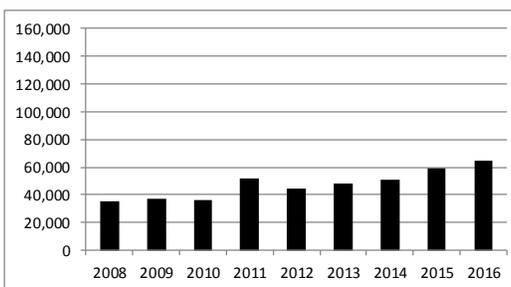


RED=7-day season

POST-HUNT Deer Population

Trend INCREASING

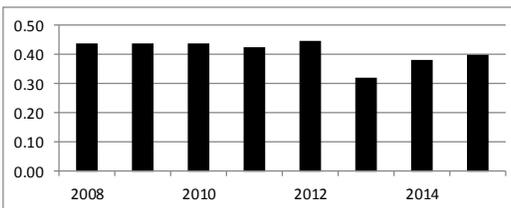
Year	Total
2008	35,121
2009	37,339
2010	36,311
2011	51,706
2012	44,225
2013	48,318
2014	50,707
2015	59,206
2016	64,923



DEER HEALTH: Fawn to Doe Ratio²

Trend STABLE

Year	Total
2008	0.44
2009	0.44
2010	0.44
2011	0.42
2012	0.45
2013	0.32
2014	0.38
2015	0.40

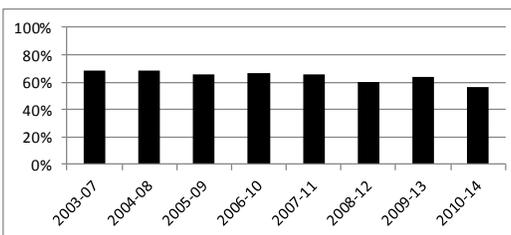


FOREST HEALTH

Regeneration Assessment Fair

Plot - Plot Regeneration No Change Plot - Plot Deer Impact No Change Mean Deer Impact 3 or less

Year	% Adequate
2003-07	68%
2004-08	68%
2005-09	65%
2006-10	66%
2007-11	65%
2008-12	60%
2009-13	64%
2010-14	56%



Citizen Survey Results

Too High 8% Just Right 58% Too Low 28%

Antlerless Allocation Options

Firearm Season Option	Increase Harvest	Stable Harvest	Decrease Harvest
5 day antlered & 7 day concurrent	30,000	24,000	18,000

¹ - The number of antlerless licenses sold that it takes to harvest an antlerless deer. The number sold will differ from the allocation.

² - Harvest fawn to doe ratio is calculated as percent of fawns in the antlerless harvest.

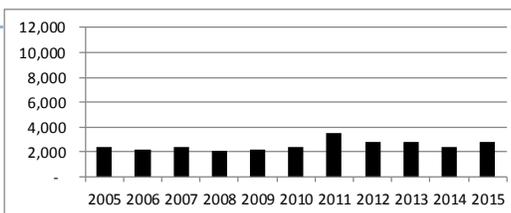
2016-17 Pennsylvania Game Commission Antlerless Allocation Worksheet

WMU	5A	WMU Characteristics				
		% Developed	% Forest	%Ag/Field	%Public	Area (sq mi)
		14%	35%	49%	11%	1,301

Deer Harvest

Year	Antlered	Antlerless	Allocation	Lic/Deer ¹
2005	2,396	4,690	28,000	5.8
2006	2,155	5,207	25,000	4.7
2007	2,433	3,881	22,000	5.5
2008	2,057	3,778	19,000	4.9
2009	2,237	4,194	19,000	4.6
2010	2,442	3,398	18,269	5.4
2011	3,575	3,573	19,000	5.3
2012	2,795	3,596	19,000	5.3
2013	2,825	4,098	19,000	4.6
2014	2,377	3,282	19,000	5.8
2015	2,862	4,631	19,000	4.1

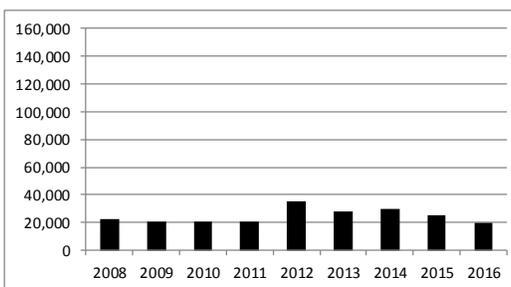
Antlered Harvest



POST-HUNT Deer Population

Trend STABLE

Year	Total
2008	22,602
2009	20,504
2010	20,512
2011	21,098
2012	35,598
2013	28,014
2014	29,715
2015	25,032
2016	20,081

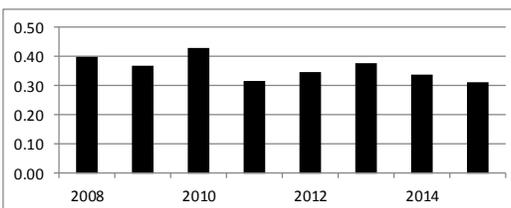


DEER HEALTH: Fawn to Doe Ratio²

THIS WMU CONTAINS A CWD DMA

Trend STABLE

Year	Total
2008	0.40
2009	0.37
2010	0.43
2011	0.32
2012	0.35
2013	0.38
2014	0.34
2015	0.31

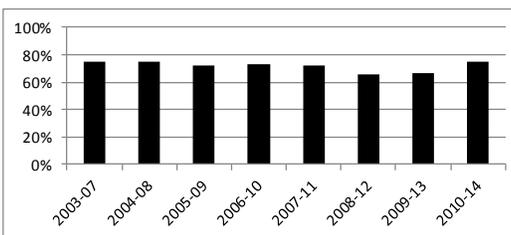


FOREST HEALTH

Regeneration Assessment Good

Plot - Plot Regeneration No Change Plot - Plot Deer Impact No Change Mean Deer Impact 3 or less

Year	% Adequate
2003-07	75%
2004-08	74%
2005-09	72%
2006-10	73%
2007-11	72%
2008-12	66%
2009-13	67%
2010-14	75%



Citizen Survey Results

Too High 5% Just Right 58% Too Low 25%

Antlerless Allocation Options

Firearm Season Option	Increase Harvest	Stable Harvest	Decrease Harvest
12 day concurrent	26,000	19,000	13,000

¹ - The number of antlerless licenses sold that it takes to harvest an antlerless deer. The number sold will differ from the allocation.

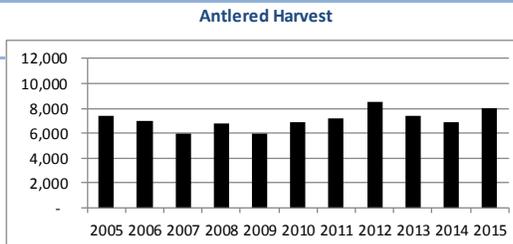
² - Harvest fawn to doe ratio is calculated as percent of fawns in the antlerless harvest.

2016-17 Pennsylvania Game Commission Antlerless Allocation Worksheet

WMU	5B	WMU Characteristics				
		% Developed	% Forest	%Ag/Field	%Public	Area (sq mi)
		19%	28%	49%	2%	2,640

Deer Harvest

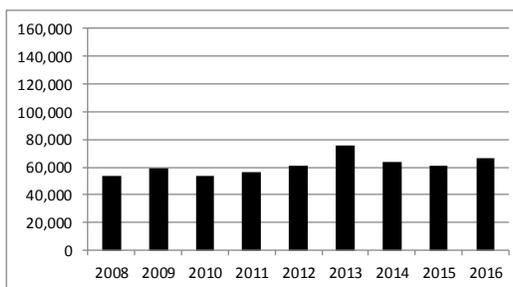
Year	Antlered	Antlerless	Allocation	Lic/Deer ¹
2005	7,381	11,717	56,000	4.6
2006	6,995	11,384	53,000	4.5
2007	5,974	11,143	53,000	4.6
2008	6,762	11,184	51,000	4.4
2009	6,007	11,321	51,000	4.5
2010	6,902	12,543	50,812	4.1
2011	7,174	12,943	50,000	3.9
2012	8,503	12,519	51,000	4.1
2013	7,443	12,847	50,000	3.9
2014	6,908	12,368	49,000	4.0
2015	8,009	11,451	50,000	4.4



POST-HUNT Deer Population

Trend **STABLE**

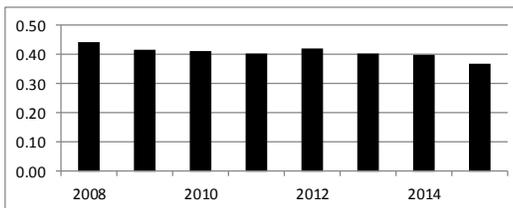
Year	Total
2008	54,020
2009	59,568
2010	53,213
2011	55,951
2012	60,723
2013	75,260
2014	63,591
2015	60,538
2016	66,282



DEER HEALTH: Fawn to Doe Ratio² **THIS WMU CONTAINS A CWD DMA**

Trend **STABLE**

Year	Total
2008	0.44
2009	0.42
2010	0.41
2011	0.40
2012	0.42
2013	0.41
2014	0.40
2015	0.37

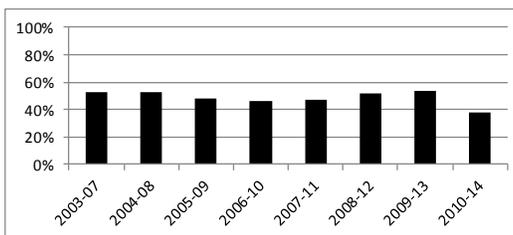


FOREST HEALTH

Regeneration Assessment **Fair**

Plot - Plot Regeneration No Change Plot - Plot Deer Impact No Change Mean Deer Impact **3 or less**

Year	% Adequate
2003-07	53%
2004-08	52%
2005-09	48%
2006-10	46%
2007-11	47%
2008-12	52%
2009-13	54%
2010-14	38%



Citizen Survey Results

Too High 13% Just Right 58% Too Low 21%

Antlerless Allocation Options

Firearm Season Option	Increase Harvest	Stable Harvest	Decrease Harvest
12 day concurrent	61,000	50,000	39,000

¹ - The number of antlerless licenses sold that it takes to harvest an antlerless deer. The number sold will differ from the allocation.

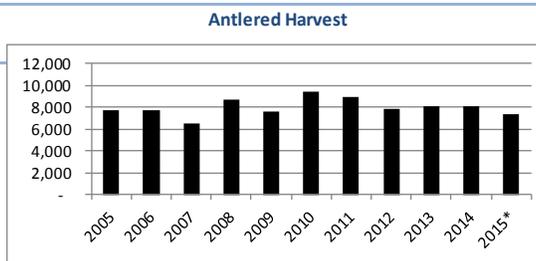
² - Harvest fawn to doe ratio is calculated as percent of fawns in the antlerless harvest.

2016-17 Pennsylvania Game Commission Antlerless Allocation Worksheet

WMU	5C	WMU Characteristics				
		% Developed	% Forest	%Ag/Field	%Public	Area (sq mi)
		27%	37%	31%	1%	2,024

Deer Harvest

Year	Antlered	Antlerless	Allocation	Lic/Deer ¹
2005	7,701	17,589	71,000	3.9
2006	7,708	16,123	79,000	4.8
2007	6,526	18,864	84,000	4.3
2008	8,729	20,238	92,000	4.4
2009	7,566	23,214	113,000	4.8
2010	9,400	23,977	121,960	4.7
2011	8,928	24,234	117,000	4.4
2012	7,825	23,648	111,000	4.5
2013	8,096	21,711	103,000	4.7
2014	8,035	22,152	95,000	4.3
2015*	7,416	13,551	70,000	5.1



* WMU Boundary Change

POST-HUNT Deer Population

Trend STABLE

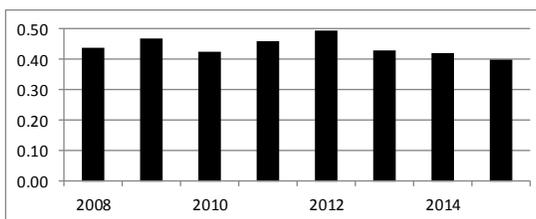
Year	Total
2008	
2009	
2010	
2011	
2012	
2013	
2014	

Harvest indices (i.e., antlered harvest, antlerless lic/deer), not PASAK model, used to monitor population trend

DEER HEALTH: Fawn to Doe Ratio²

Trend STABLE

Year	Total
2008	0.44
2009	0.47
2010	0.43
2011	0.46
2012	0.49
2013	0.43
2014	0.42
2015	0.40



FOREST HEALTH	Regeneration Assessment		
	Plot - Plot Regeneration	Plot - Plot Deer Impact	Mean Deer Impact

Year	% Adequate
2003-07	
2004-08	
2005-09	
2006-10	
2007-11	
2008-12	
2009-13	

Forest data not considered in this developed WMU

Citizen Survey Results	Too High	30%	Just Right	55%	Too Low	9%
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Antlerless Allocation Options			
Firearm Season Option	Increase Harvest	Stable Harvest	Decrease Harvest
12 day concurrent	99,000	90,000	80,000

¹ - The number of antlerless licenses sold that it takes to harvest an antlerless deer. The number sold will differ from the allocation.

² - Harvest fawn to doe ratio is calculated as percent of fawns in the antlerless harvest.

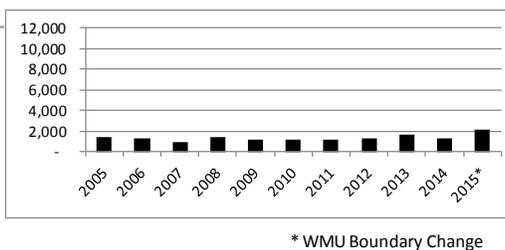
2016-17 Pennsylvania Game Commission Antlerless Allocation Worksheet

WMU	SD	WMU Characteristics				
		% Developed	% Forest	%Ag/Field	%Public	Area (sq mi)
		61%	18%	11%	0%	1,285

Deer Harvest

Year	Antlered	Antlerless	Allocation	Lic/Deer ¹
2005	1,460	4,166	20,000	4.5
2006	1,315	4,074	20,000	4.7
2007	977	5,185	20,000	3.8
2008	1,343	4,533	22,000	4.7
2009	1,130	3,911	22,000	5.2
2010	1,144	3,721	22,000	5.1
2011	1,156	3,827	22,000	4.7
2012	1,325	3,766	19,000	4.7
2013	1,589	4,483	18,000	4.0
2014	1,317	3,788	18,000	4.7
2015*	2,191	5,172	24,000	4.6

Antlered Harvest



* WMU Boundary Change

POST-HUNT Deer Population

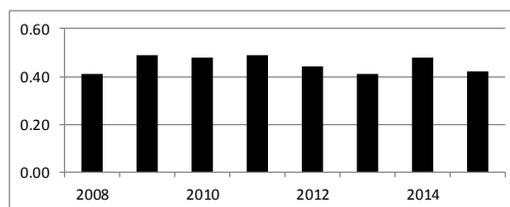
Trend INCREASING

Year	Total
2008	
2009	
2010	
2011	
2012	
2013	
2014	

*Harvest indices (i.e., antlered harvest, antlerless lic/deer), not PASAK model, used to monitor population trend*DEER HEALTH: Fawn to Doe Ratio²

Trend STABLE

Year	Total
2008	0.41
2009	0.49
2010	0.48
2011	0.49
2012	0.44
2013	0.41
2014	0.48
2015	0.42



FOREST HEALTH	Regeneration Assessment		
	Plot - Plot Regeneration	Plot - Plot Deer Impact	Mean Deer Impact
Year	% Adequate		
2003-07			
2004-08			
2005-09			
2006-10			
2007-11			
2008-12			
2009-13			

Forest data not considered in this developed WMU

Citizen Survey Results	Too High	25%	Just Right	55%	Too Low	18%
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Antlerless Allocation Options

Firearm Season Option	Increase Harvest	Stable Harvest	Decrease Harvest
12 day concurrent	25,000	20,000	14,000

¹ - The number of antlerless licenses sold that it takes to harvest an antlerless deer. The number sold will differ from the allocation.² - Harvest fawn to doe ratio is calculated as percent of fawns in the antlerless harvest.