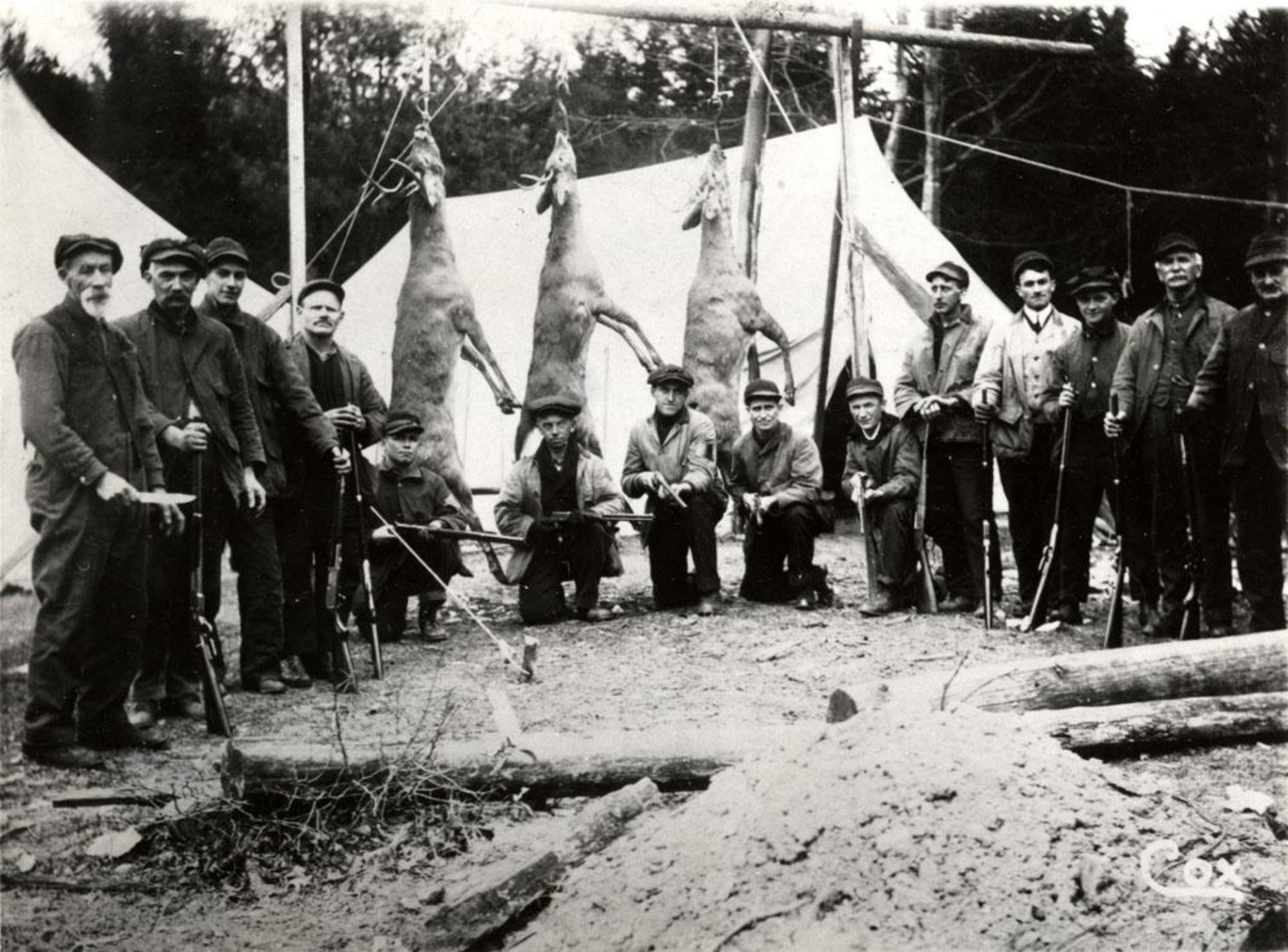


Introduction to Pennsylvania's Deer Management Program

Christopher S. Rosenberry
Deer and Elk Section
Bureau of Wildlife Management



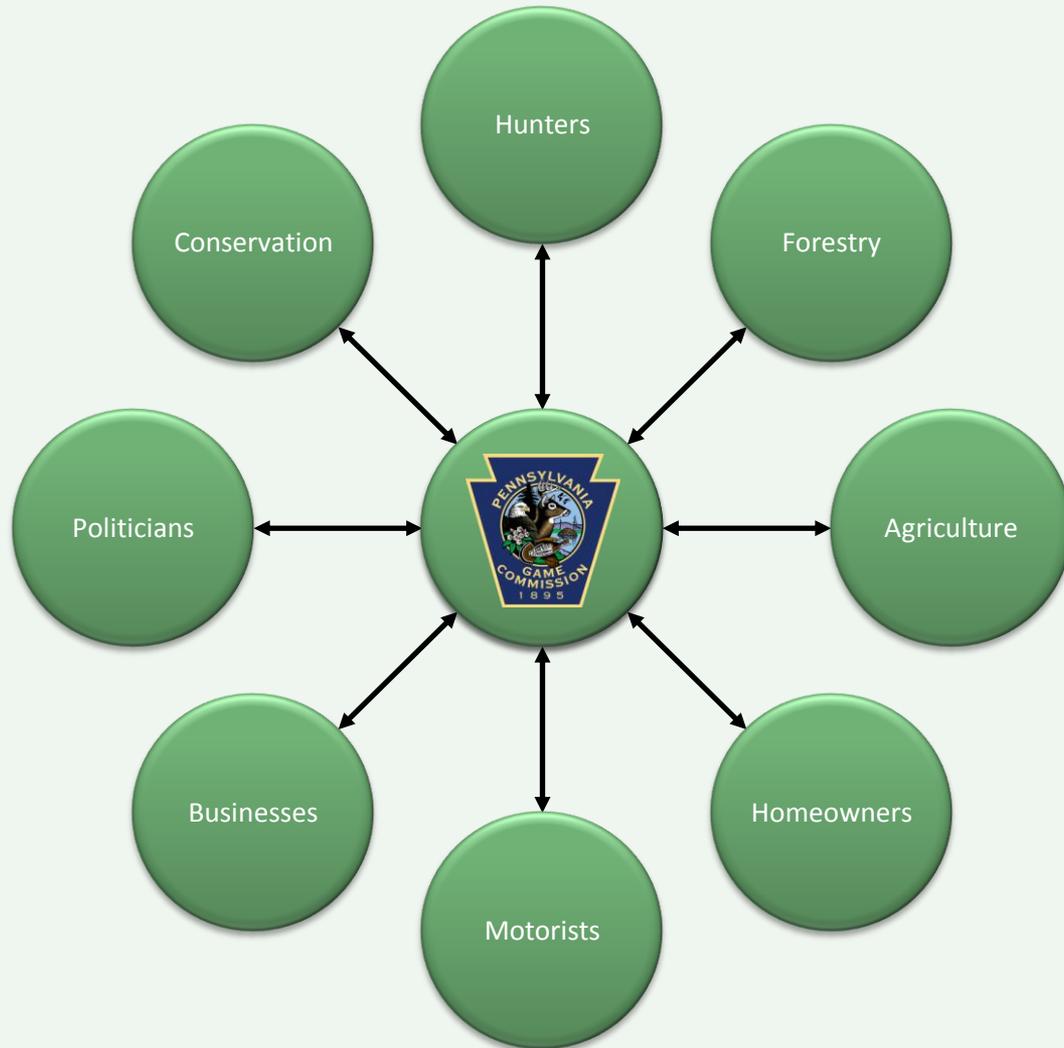


“To anyone who has carefully studied the situation it is evident that large parts of the range in Pennsylvania are overstocked with deer”



Hunters submitted petitions to the Game Commission demanding doe hunting be stopped and encouraging landowners to post their lands with signs proclaiming ‘No Doe Hunting’

Game Commission often finds itself in the middle of opposing views.



Public groups invited to identify deer management goals.

Sportsmen Interests

- Pennsylvania Federation of Sportsmen's Clubs
- Unified Sportsmen of Pennsylvania
- Pennsylvania Deer Association
- United Bowhunters of Pennsylvania
- Quality Deer Management Association
- National Wild Turkey Federation

Agricultural Interests

- Pennsylvania Farm Bureau
- Pennsylvania Vegetable Growers Association

Commercial Forestry Interests

- Keith Horn and Associates
- Forest Investment Associates
- Kane Hardwood

Urban-Suburban Municipalities

- Montgomery County Parks
- Lorimer Park

Environmental Conservation Interests

- Audubon
- Western Pennsylvania Conservancy
- The Nature Conservancy

Federal and State Agencies

- USDA – Forestry Service
- Pennsylvania Department of Agriculture
- Pennsylvania Department of Conservation and Natural Resources

Legislature

- House Game and Fisheries Committee Chairman
- Senate Game and Fisheries Committee Chairman

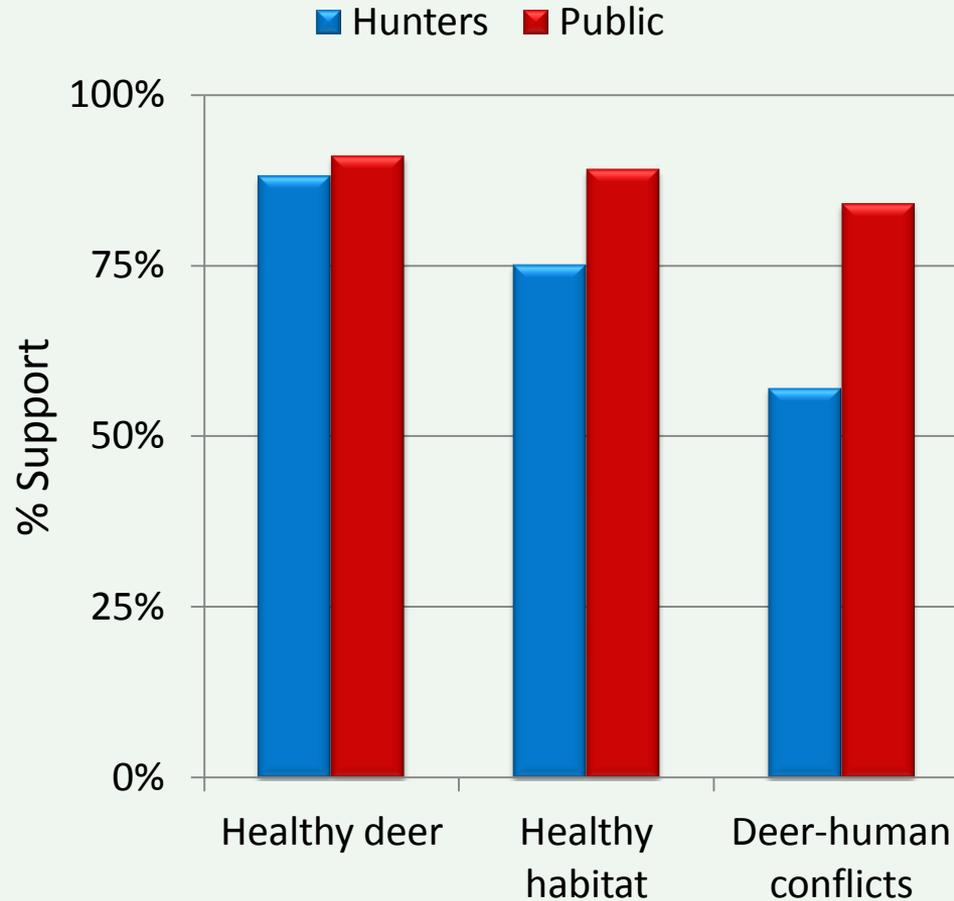
Game Commission

- Commissioner
- Representatives from all regions
- Representatives from bureaus

Deer management recommendations are guided by publicly identified goals.

- 
- A photograph of a deer with large, brown antlers standing in a forest. The deer is facing left, and its body is partially obscured by a tree trunk. The background is a dense forest with green and brown foliage.
- **Healthy & sustainable deer population**
 - **Healthy & sustainable forest habitat**
 - **Acceptable deer-human conflicts**
 - Provide recreational opportunities
 - Improve information and education

Hunters and the public support deer management goals.



**How do we know if we have
achieved the goals?**

Each goal is defined by specific objectives and associated measures.

Goal	Objective	Measure
Healthy deer population	Maintain current fawn:doe ratio	Harvest age data
	Minimize disease risk	Disease testing, including CWD testing of hunter harvest
Healthy forest habitat	Adequate regeneration on 70% of forested plots	USFS Regeneration Data
	Moderate deer impact levels	USFS Deer Impact Data
Acceptable Deer-human conflicts	Majority of citizens consider deer population 'just right'	Statewide telephone survey of resident adults

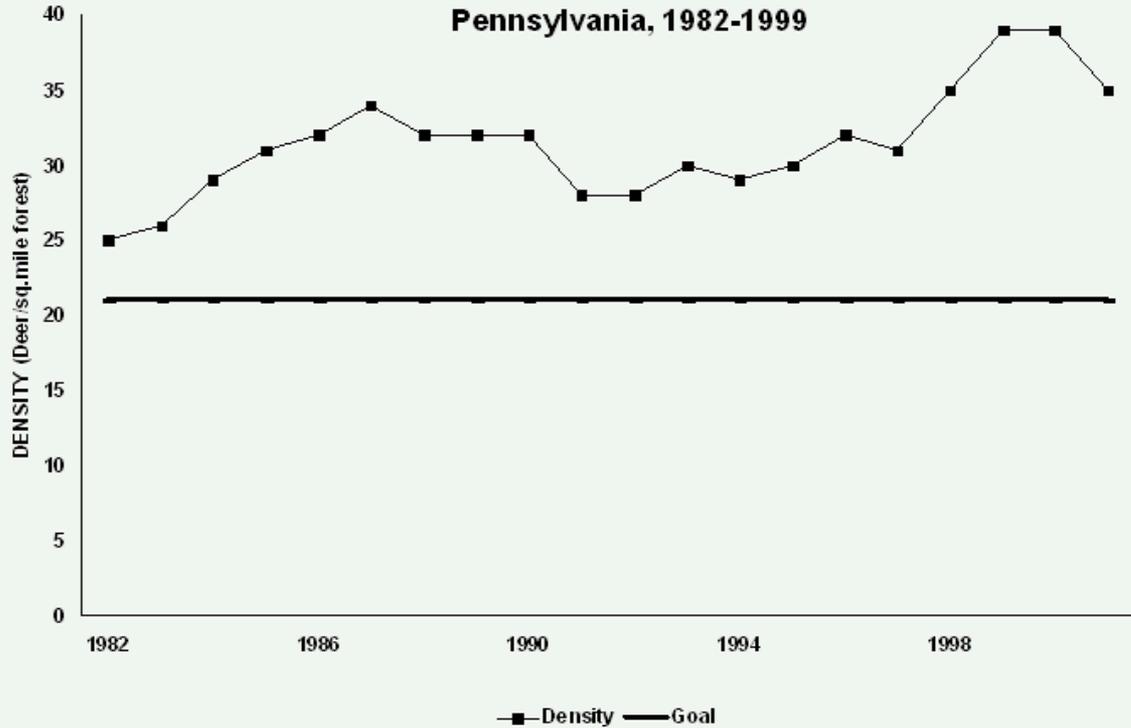
Harvested deer provide data on fawn:doe ratios, harvests, population trends, & disease.



Employees age 20,000+ deer each year.

Deer heads also provide samples for disease testing.

Deer abundance is a supporting measure. It is no longer the focus of management actions.



For decades, deer densities defined deer management objectives.

Today, deer population trends are used to monitor effectiveness management actions.

Number of young trees is used to determine forest regeneration.

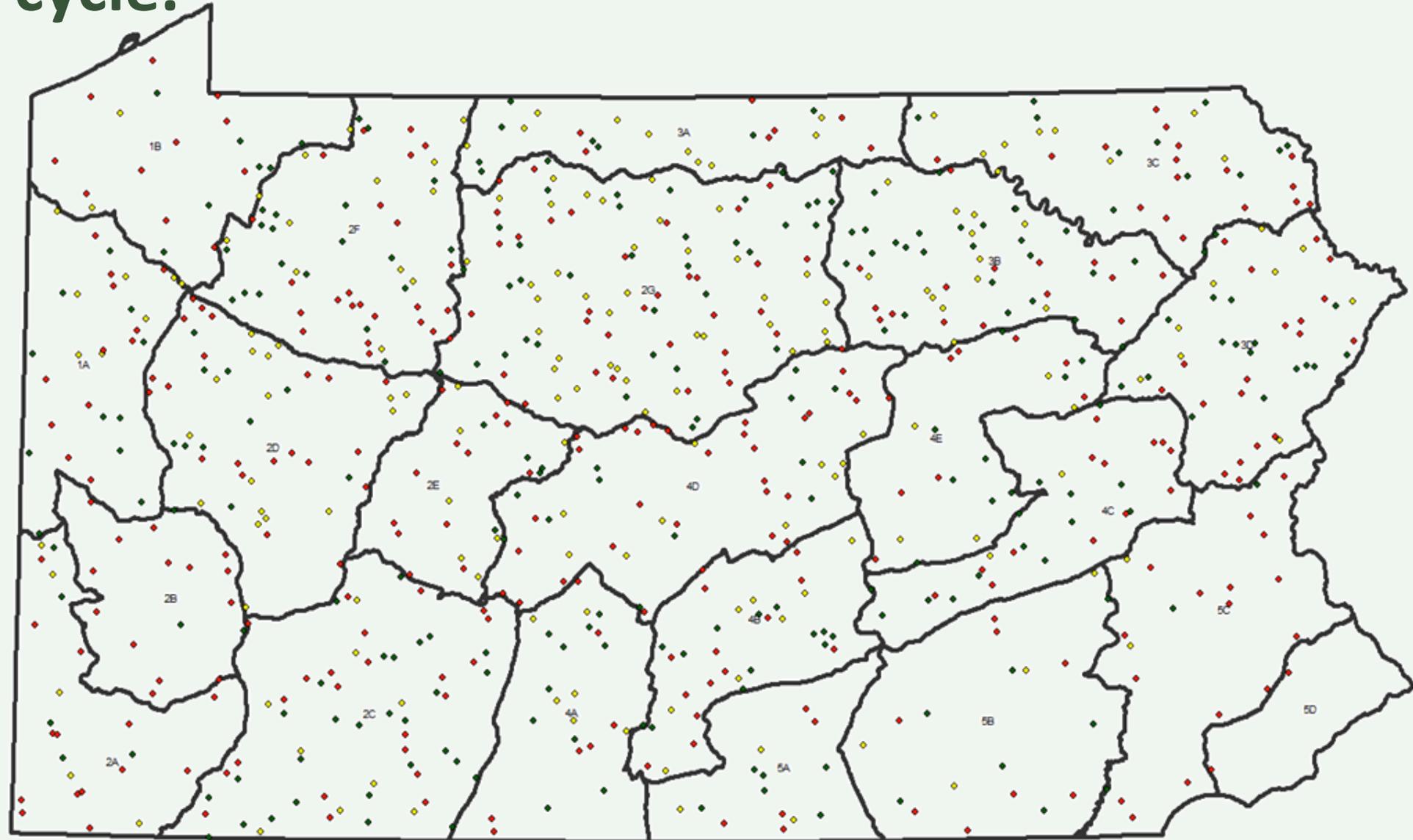


Data are collected by US Forest Service on public and private lands.



Deer impact affects regeneration assessment.

Distribution of forest plots from the 2007-2011 cycle.



Oak trees are not the only species counted.

Category	Tree Species	
Dominants	Eastern Hemlock	
	Red Maple	
	Sweet (Black) Birch	
	Beech	
	Ash	
	Yellow Poplar	
	Oaks	
	White pine	
	Sugar Maple	
	Hickories	
	Black cherry	
	Other High Canopy	Black gum
		Aspen
		Other Birches
Other Maples (except Norway and Striped)		
Cucumber tree		
Willow		
Other Conifers		
Hackberry		
Black locust		
Sweet gum		
Honeylocust		
Black walnut		
Sycamore		
Basswood and others		

Citizen opinions on deer population levels are based on telephone survey of resident adults.

Responsive Management™



PENNSYLVANIA RESIDENTS' OPINIONS ON
AND ATTITUDES TOWARD DEER AND
DEER MANAGEMENT

DRAFT

Conducted for the Pennsylvania Game Commission
by Responsive Management

2012

Survey designed to provide >400 responses per WMU.

Summary of goals, objectives, and measures.

Goal	Objective	Measure
Healthy deer population	Maintain current fawn:doe ratio	Harvest age data
	Minimize disease risk	Disease testing, including CWD testing of hunter harvest
Healthy forest habitat	Adequate regeneration on 70% of forested plots	USFS Regeneration Data
	Moderate deer impact levels	USFS Deer Impact Data
Deer-human conflicts	Majority of citizens consider deer population 'just right'	Statewide telephone survey of resident adults

Deer data collection and analysis procedures have passed all types of critical reviews.

REPORTING-RATE VARIABILITY AND PRECISION OF WHITE-TAILED DEER HARVEST ESTIMATES IN PENNSYLVANIA

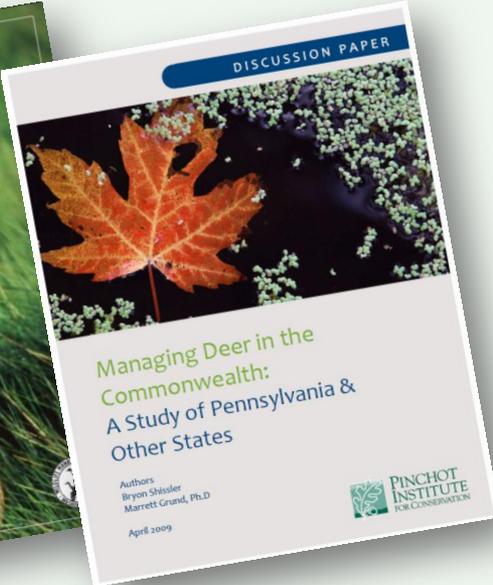
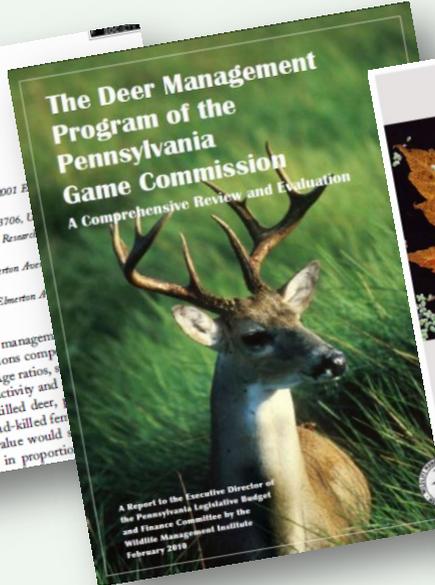
CHRISTOPHER S. ROSENBERRY,¹ Pennsylvania Game Commission, Harrisburg, PA 17110, USA
DUANE R. DIEFFENBACH, U.S. Geological Survey, Pennsylvania State University, 113 Merkle Lab, University Park, PA 16802, USA
BRET D. WALLINGFORD, Pennsylvania Game Commission, Bluffton, Spring Mills, PA 16875, USA

Abstract: Use of reported harvests as an index to actual harvest is not equal for all types of animals and hunters and does not vary equally for white-tailed deer (*Odocoileus virginianus*) harvest to determine (DMU), type of deer (antlered or antlerless), or sex. During 2001-2005, reporting rates varied by year, DMU, and type of deer (antlered or antlerless) and were poor predictors of estimated antlerless harvests (median $R^2 = 0.909$). During 2001-2005, reporting rates were precise for both statewide (CV < 2.5%) and antlerless harvests (median $R^2 = 0.909$). During 2001-2005, reporting rates were precise for both statewide (CV < 2.5%) and antlerless harvests (median $R^2 = 0.909$).

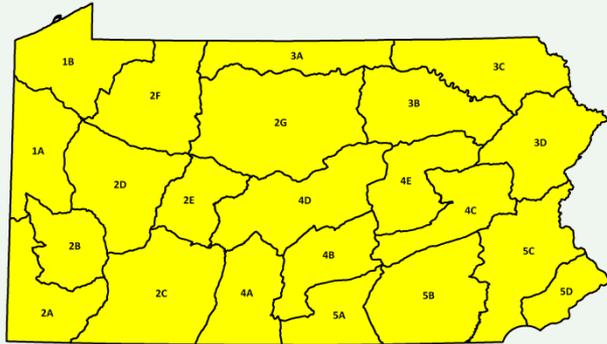
White-Tailed Deer Age Ratios as Herd Management and Predator Impact Measures in Pennsylvania

CHRISTOPHER S. ROSENBERRY,¹ Pennsylvania Game Commission, Bureau of Wildlife Management, 2001 Elmerton Ave., PA 17110, USA
ANDREW S. NORTON, University of Wisconsin, 4141 Russell Labs, 1630 Linden Drive, Madison, WI 53706, USA
DUANE R. DIEFFENBACH, United States Geological Survey, Pennsylvania Cooperative Fish and Wildlife Research Station, University Park, PA 16802, USA
JEANNINE T. FLEEGLE, Pennsylvania Game Commission, Bureau of Wildlife Management, 2001 Elmerton Ave., PA 17110, USA
BRET D. WALLINGFORD, Pennsylvania Game Commission, Bureau of Wildlife Management, 2001 Elmerton Ave., PA 17110, USA

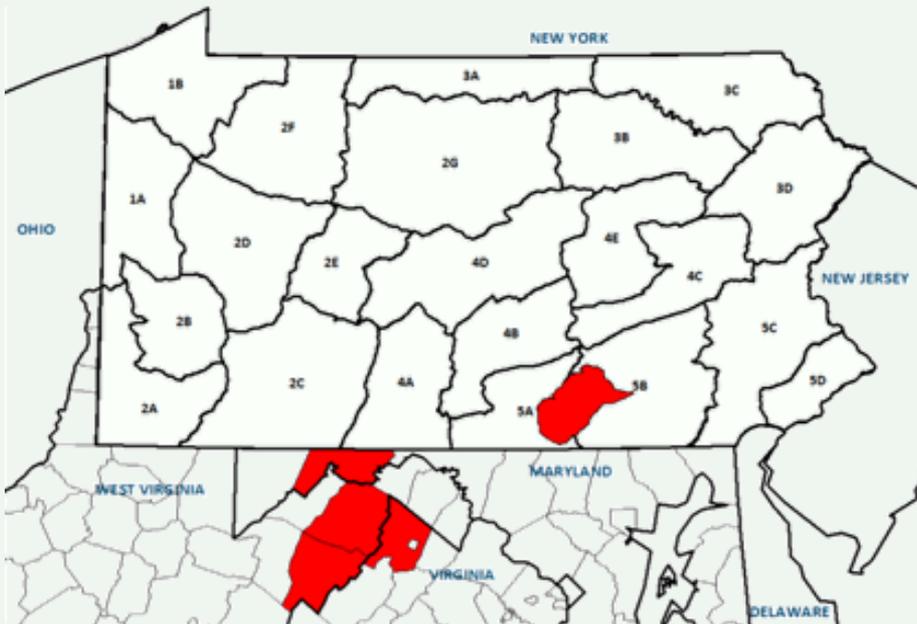
ABSTRACT A review of the Pennsylvania Game Commission's (PGC) deer management program and public concern about predator impacts on deer (*Odocoileus virginianus*) populations compels us to investigate the role of age ratios in developing management recommendations. Age ratios of juveniles in the antlerless harvest, may provide an index to population productivity and reproduction of juveniles in the antlerless harvest from hunter-killed deer. We estimated proportion of juveniles in the antlerless harvest from road-killed deer, using the Pennsylvania (USA) sex-age-kill model, and reproduction from road-killed deer estimates and a simulation model, we concluded that no single age-ratio value would be a reliable measure of population status. Wildlife Management Unit-specific trends in proportion of juveniles in the antlerless harvest would be a more reliable measure of population status.



All WMUs are achieving the deer health goal.

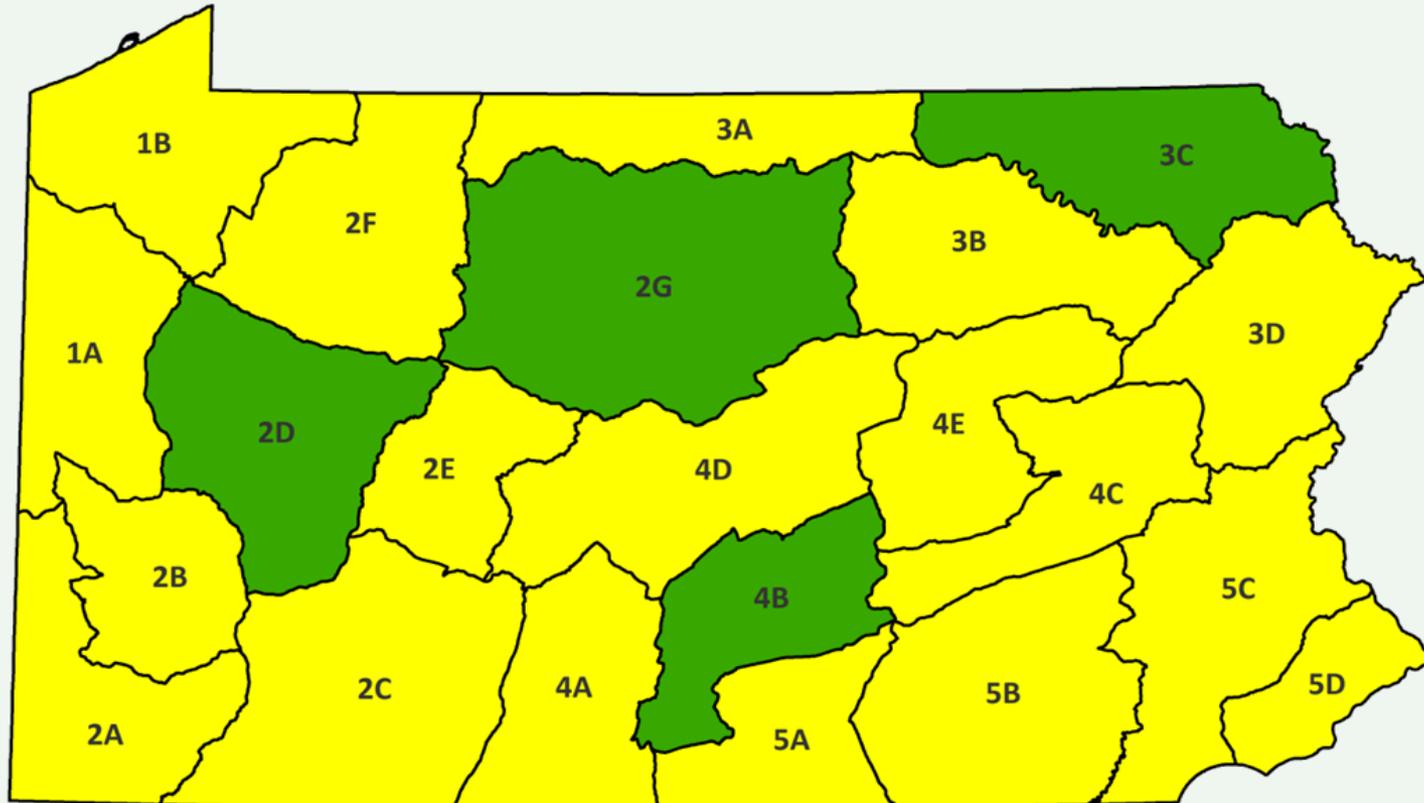


Proportion of fawns in antlerless harvest stable since 2003.

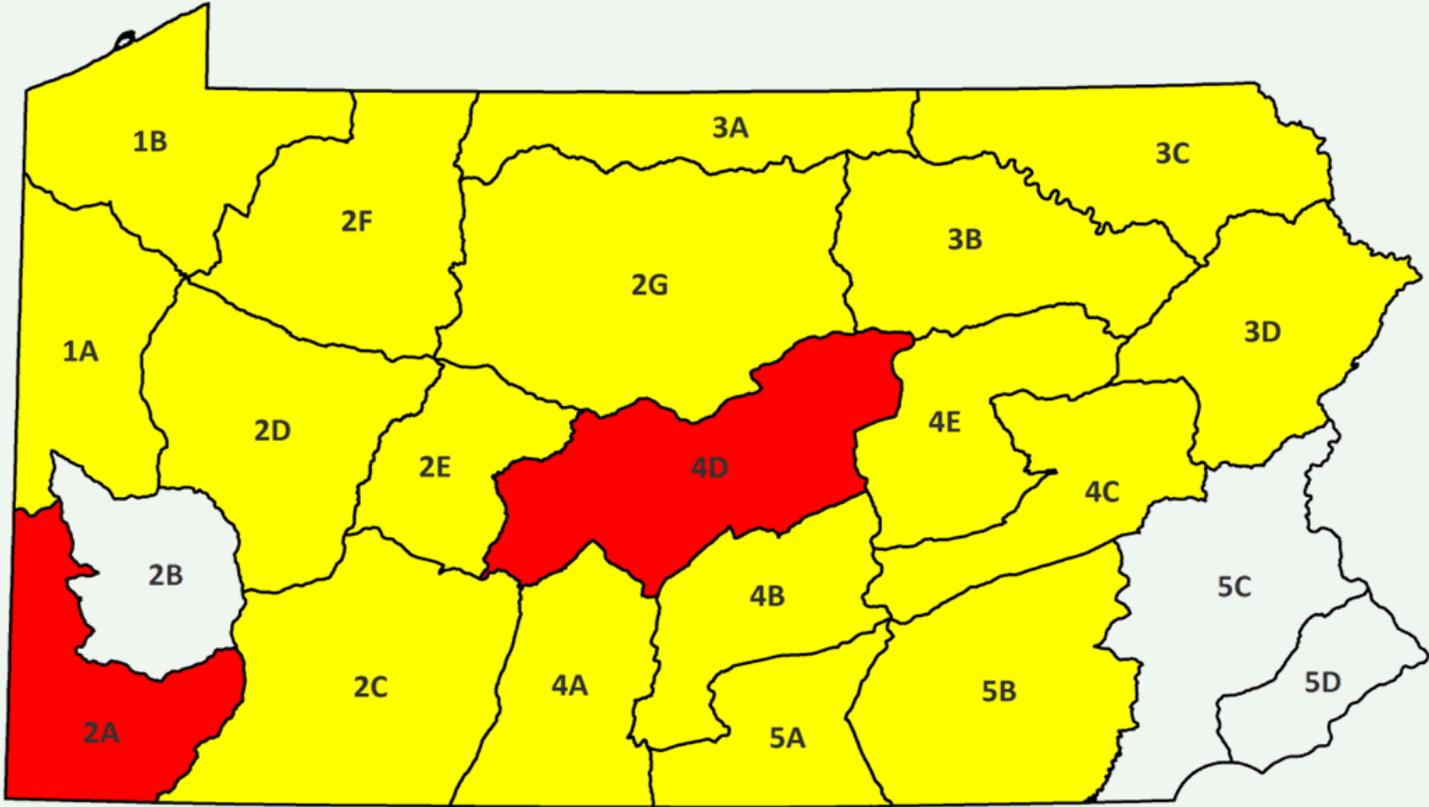


CWD not detected in wild deer in any WMU.

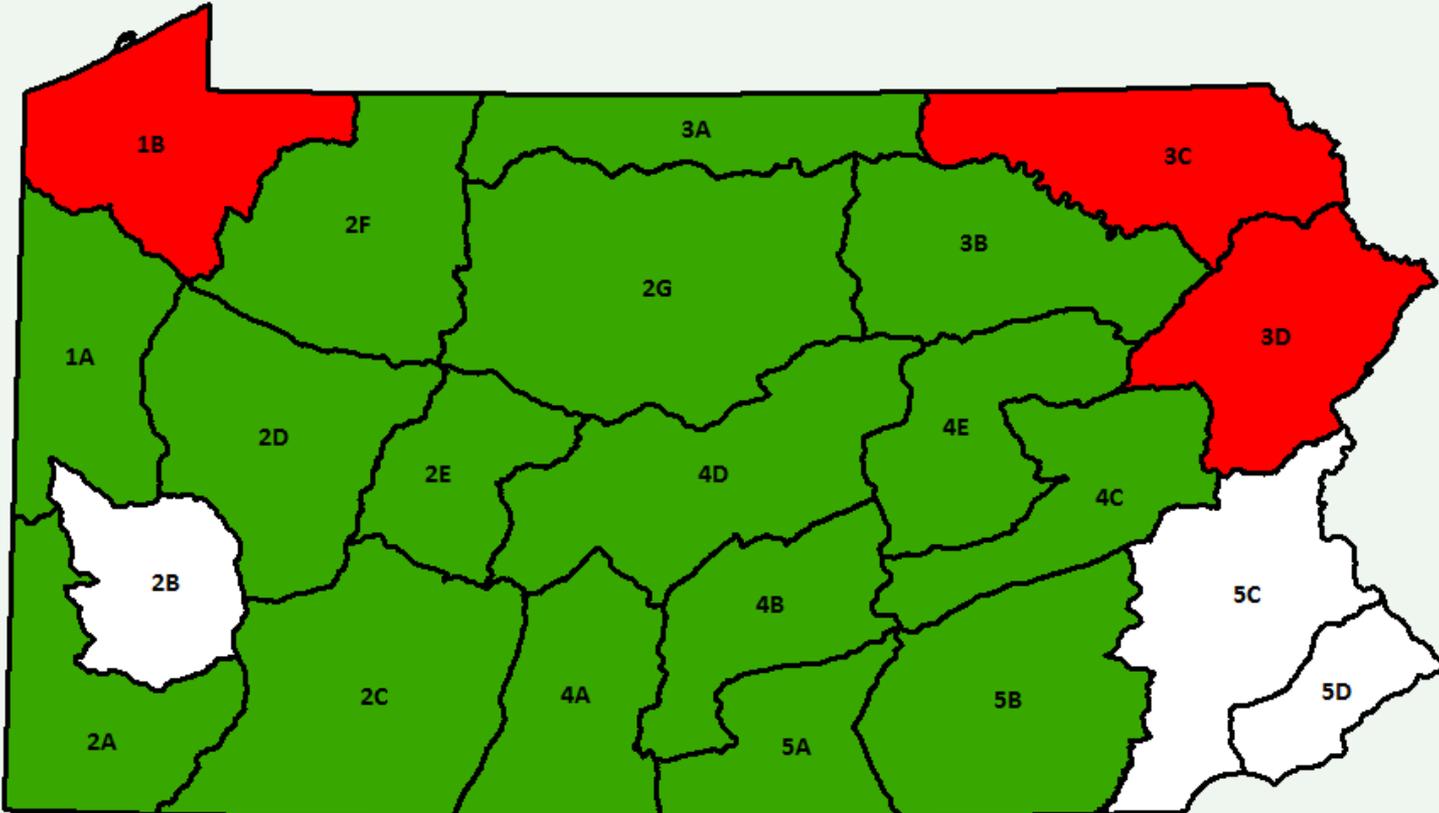
WMU population trends from 2006 to 2011 were stable in most WMUs.



No WMUs have good regeneration.

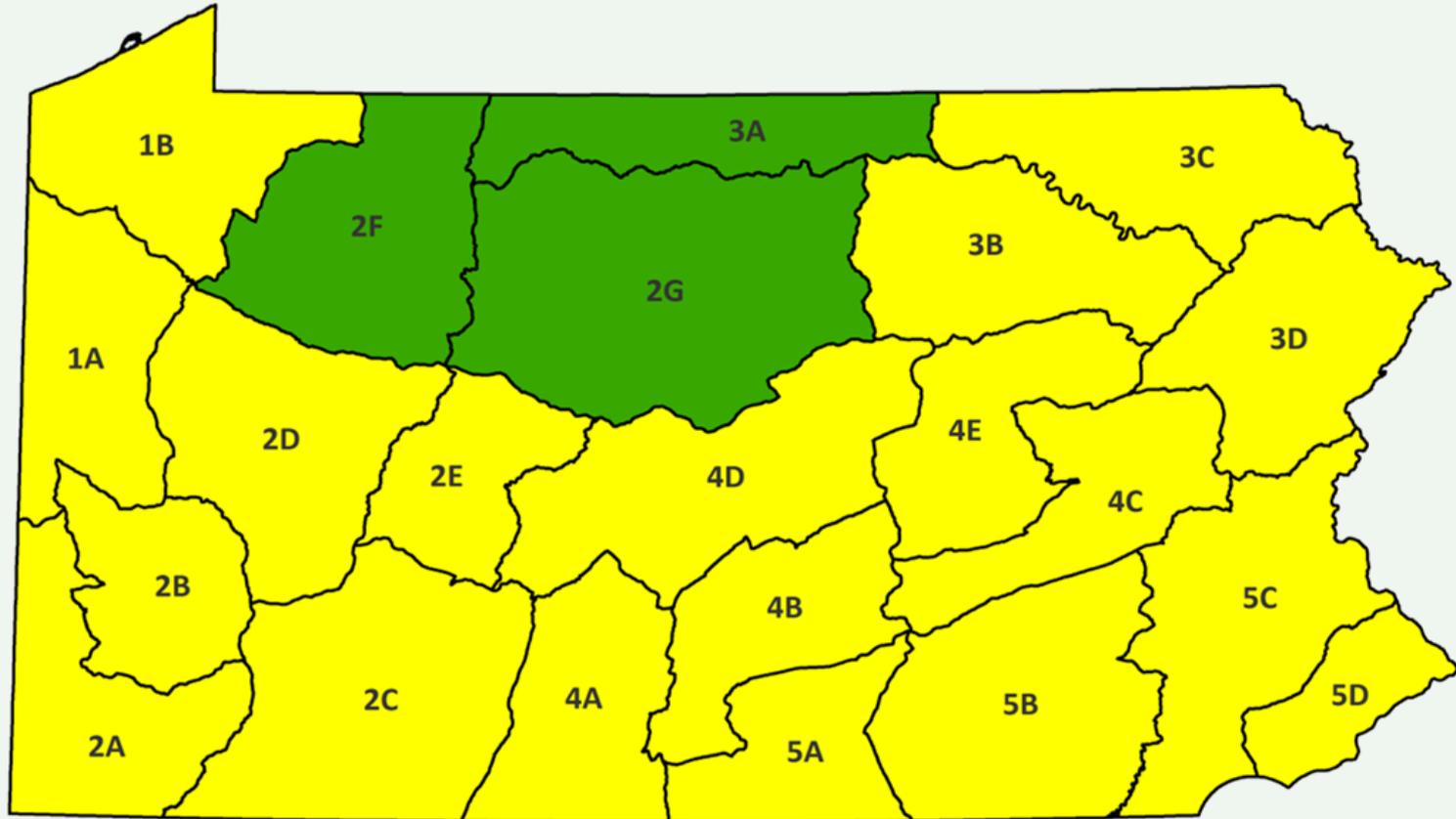


Deer impact is acceptable in most WMUs.



 Deer impact acceptable
 Deer impact too high

Citizens are satisfied with the current deer populations in most WMUs.



Recommendation Process

Deer Management Recommendation Process

Do people want less deer?

- If yes, reduce deer population
- If no, continue

Is CWD present?

- If yes, follow CWD response plan
- If no, continue

Is F:D ratio decreasing?

- If yes, is population below objective?
- If no, continue

Is forest habitat good?

- If yes, do people want more deer?
- If no, continue

Is regen improving?

- If yes, stabilize deer population
- If no, continue

Is deer impact improving?

- If yes, stabilize deer population
- If no, continue

Is deer impact acceptable?

- If yes, stabilize deer population
- If no, reduce deer population

Antlerless allocation data and process provided to public.

2012-13 Deer Management Assessments and Antlerless License Allocation Proposals



April 5, 2012

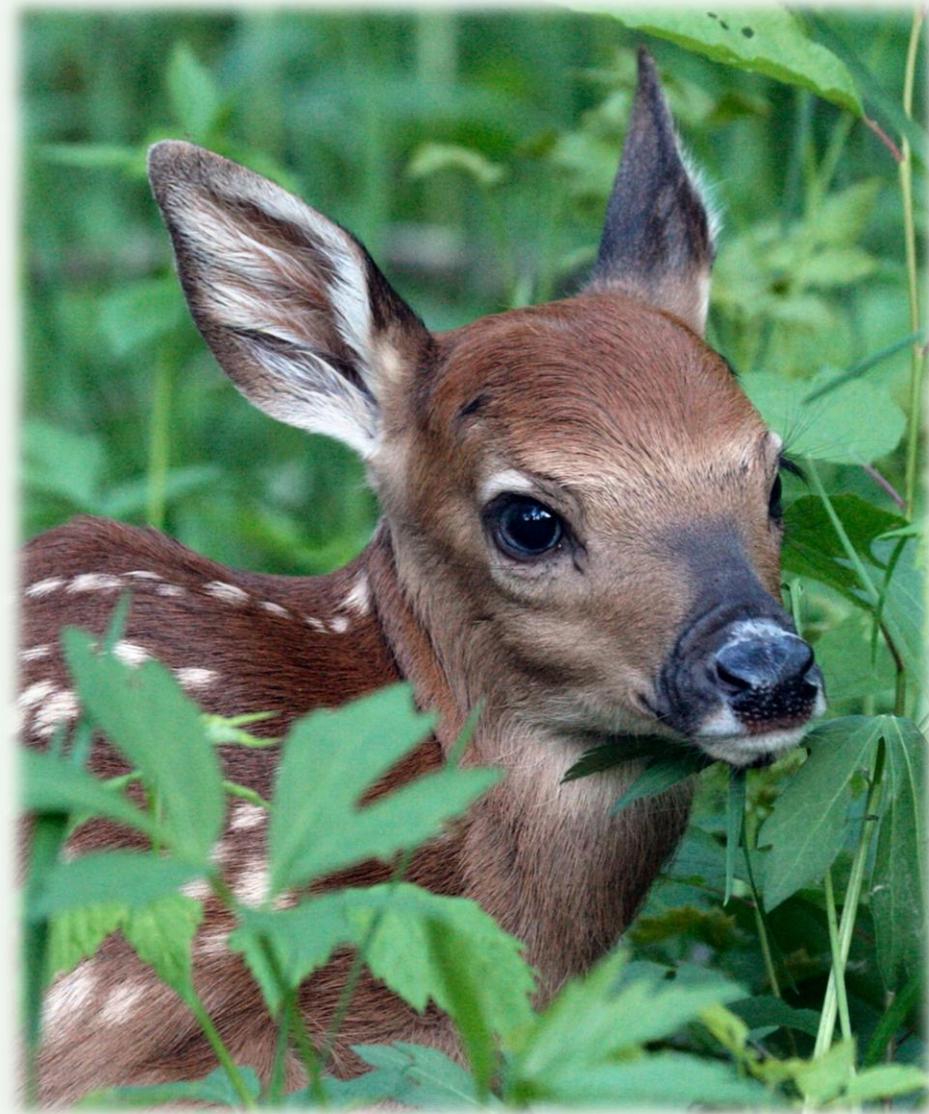
Deer and Elk Section, Bureau of Wildlife Management

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 biologists make recommendations, not decisions.



Status of Deer Management in Pennsylvania



Deer populations are healthy and sustainable, although CWD detected in a captive deer.

Deer-human conflicts are acceptable.

Forest health is not good, but deer impacts are acceptable in most WMUs.

Deer program is data driven and data collection and analysis procedures have passed numerous professional reviews.

Current Topics

Things sound good, but what about all the negative comments?

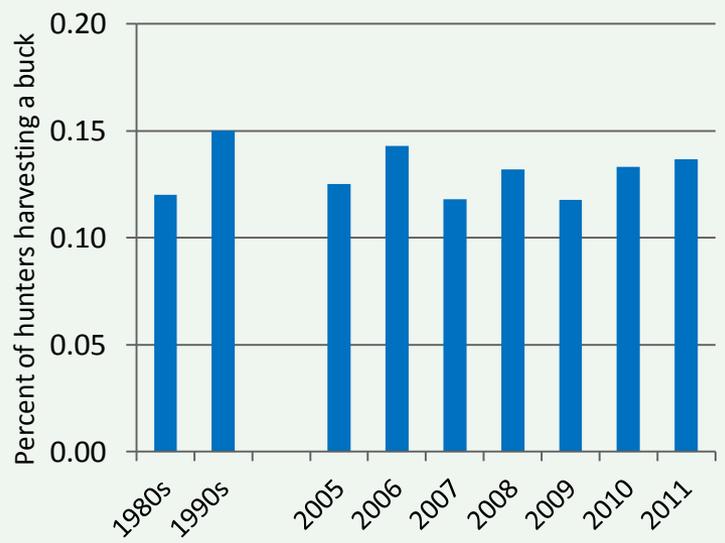
“Where were the deer?”

“...the commission or someone is trying to ‘unilaterally decimate’ the deer herd until there are no whitetails left in the state.”

Hunting is the most important recreational opportunity.



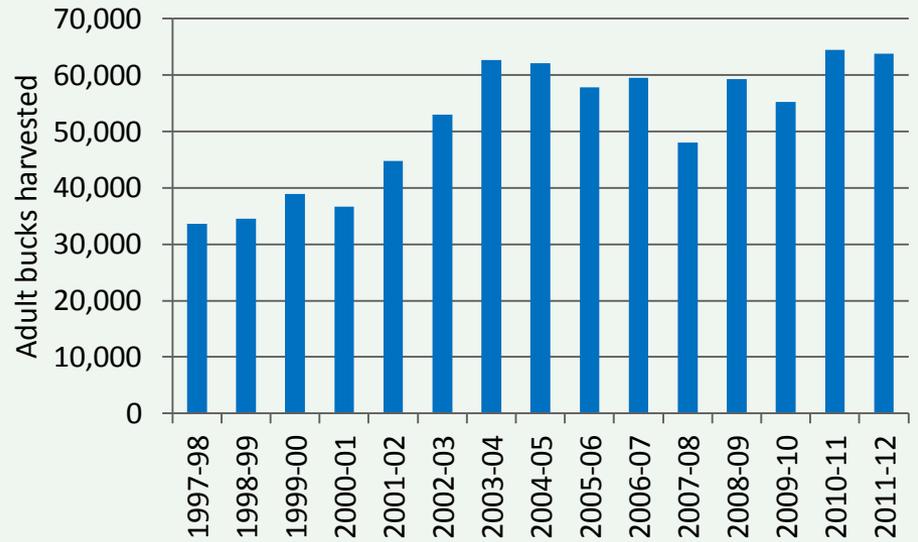
Antlered harvest success is similar to or better than the past.



1980s Average: 1,200,000 hunters harvested 144,000 bucks per year = 12% success rate

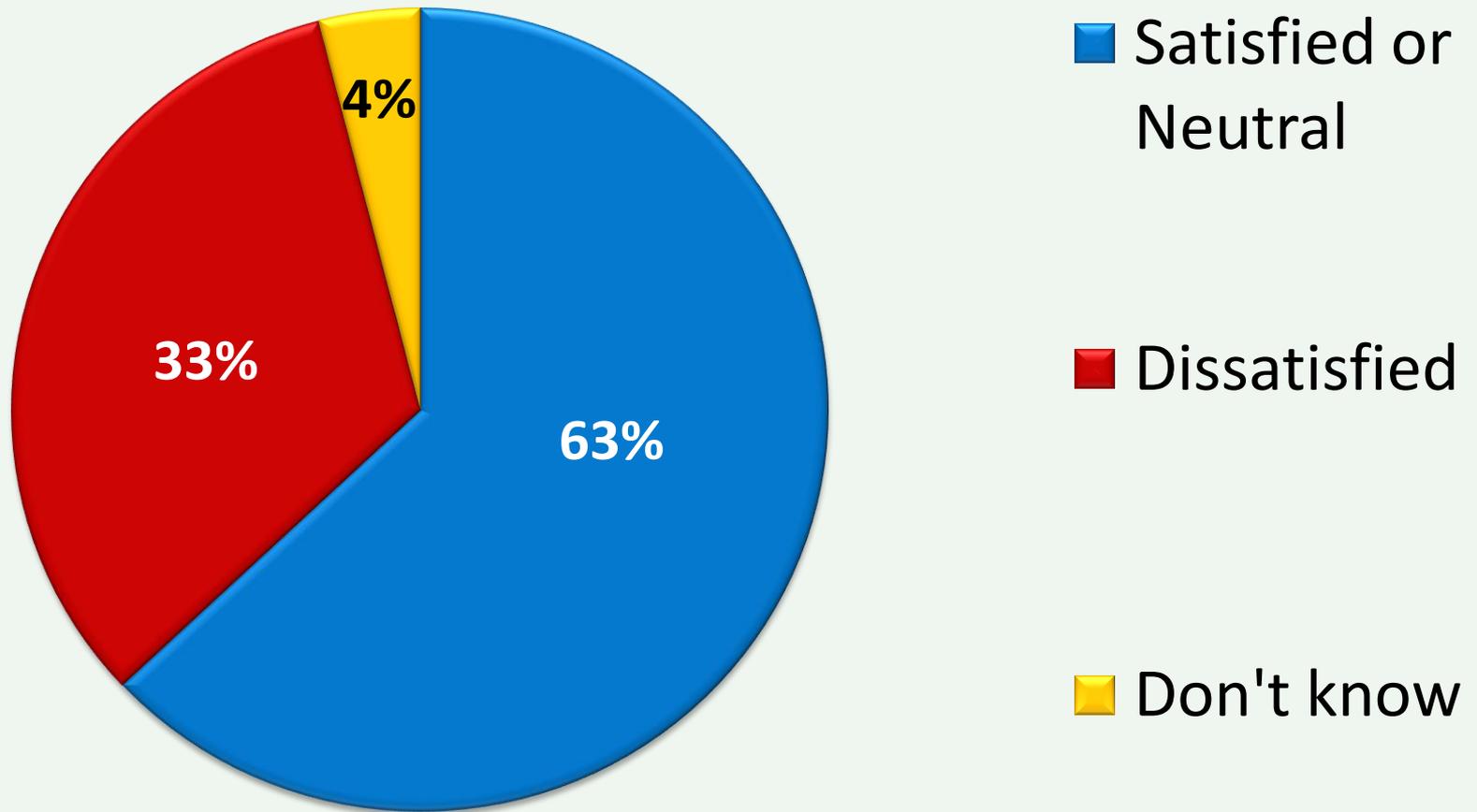
1990s Average: 1,100,000 hunters harvested 169,000 bucks per year = 15% success rate

2005-2011 Average: 939,000 hunters harvested 121,000 bucks per year = 13% success rate

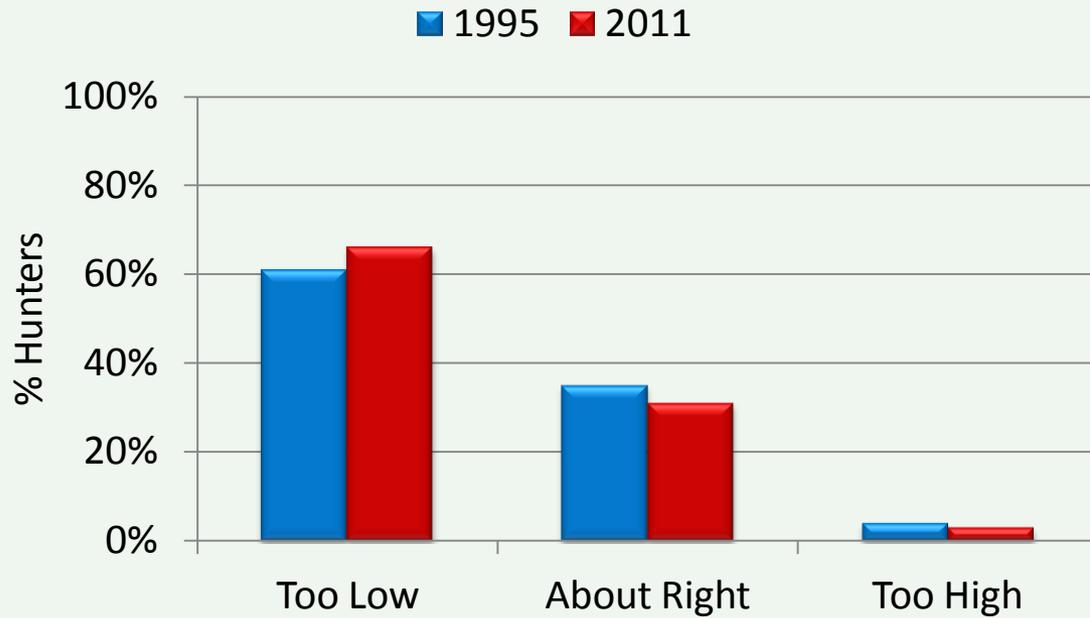


Hunters are harvesting more adult bucks.

A majority of hunters are content with the deer program.



But, a deer program cannot give hunters everything they want and still achieve its goals.



Hunters want to see more deer.

But, a deer program cannot give hunters everything they want and still achieve its goals.

	Current	What hunters want
Deer seen during 4 days of hunting	11	22

Hunters want to see twice as many deer.

	Current	Objective
Regeneration	48%	70%

Forest health goal not achieved.

A deer population increase cannot be justified, if forest health goal is not met.

Are harvest estimates reliable?



Deer harvest data are the primary source for deer population assessments and monitoring.

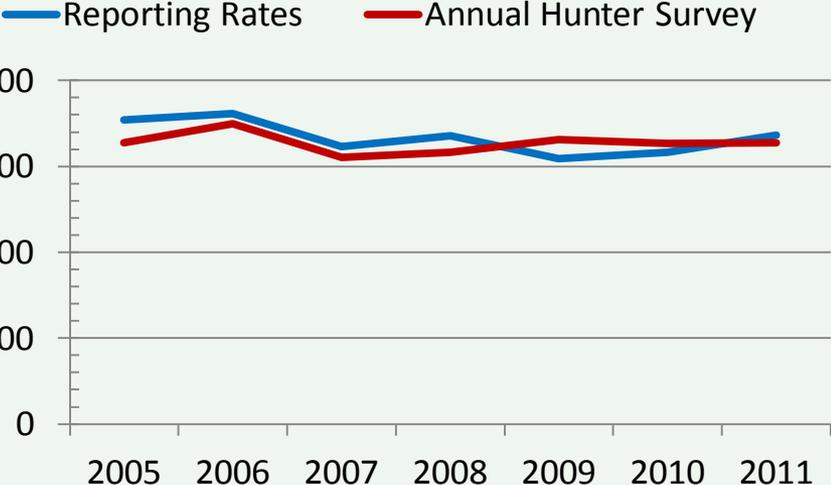


Hunting accounts for 70% of all mortality.

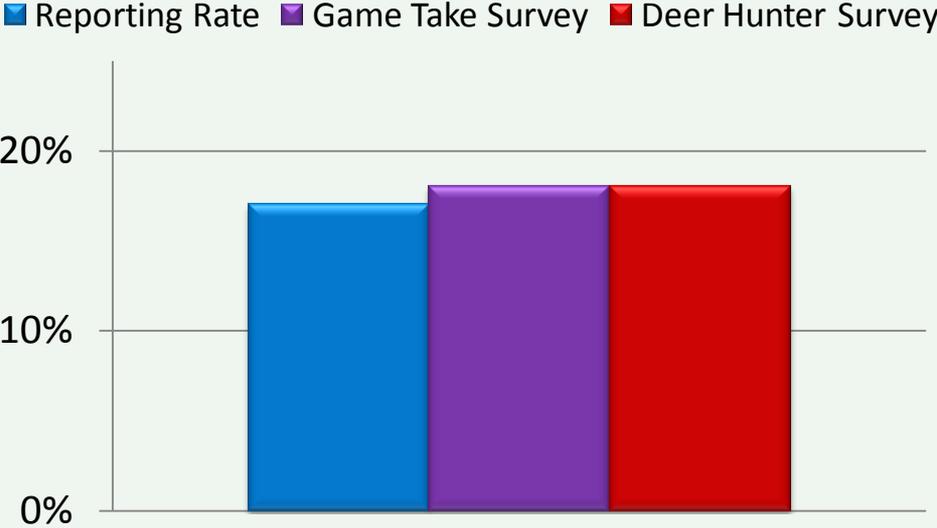


The Game Commission relies on hunters to provide accurate harvest data.

Deer harvest estimates are reliable.



For decades, 2 separate methods have provided similar results.

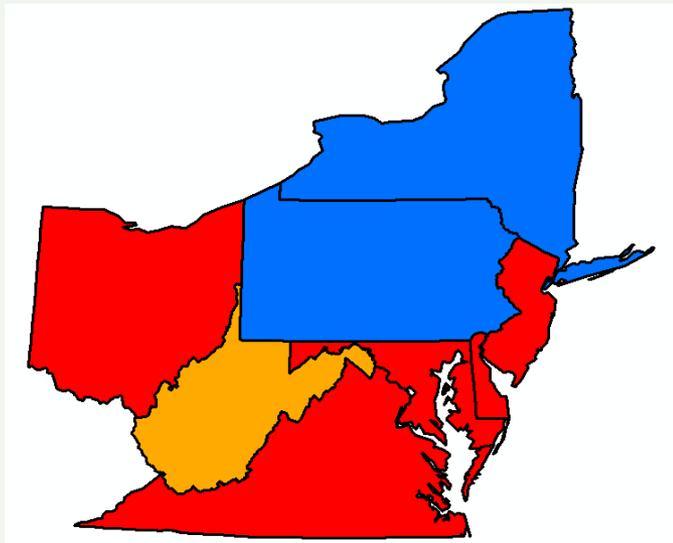


Last year, we saw close agreement in antlered hunter success rates from 3 separate data sets.

Check stations would be a step backwards.

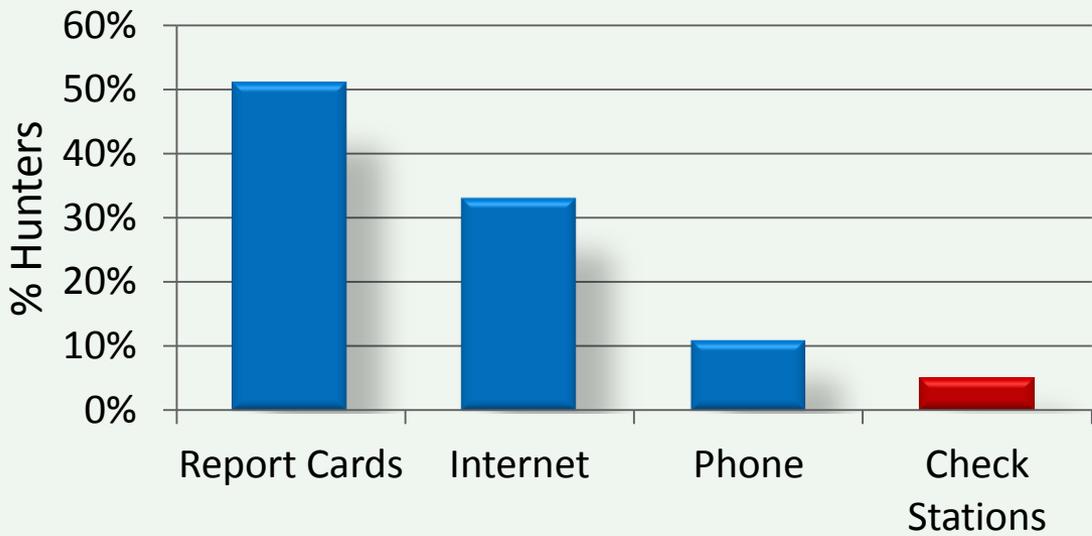


Check stations are more inconvenient, but provide the same information as cards, phone, and Internet.



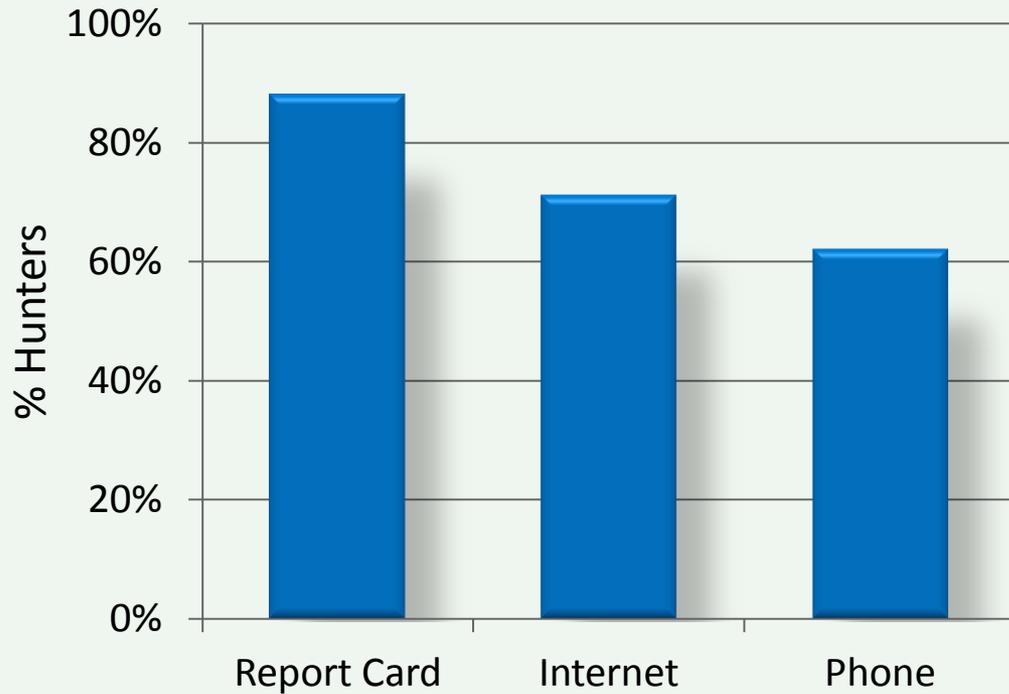
States are replacing check stations with more convenient methods.

Hunters do not want deer check stations.



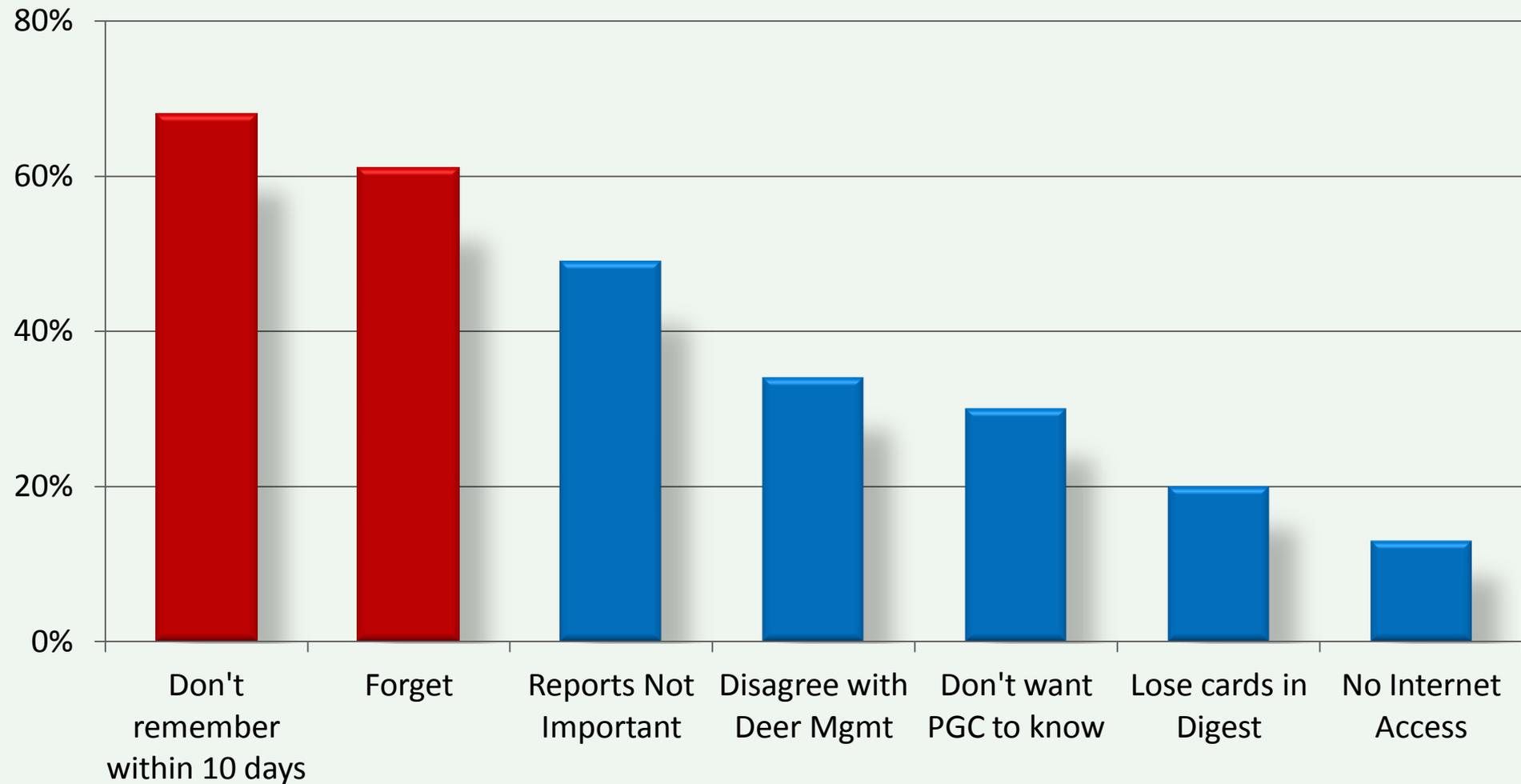
Check stations are least preferred reporting method.

Hunters say current reporting methods are easy, convenient, and acceptable.



A majority of hunters consider current methods to be easy and convenient.

The reason for low reporting...hunters' forget.



Are predators hurting deer populations?



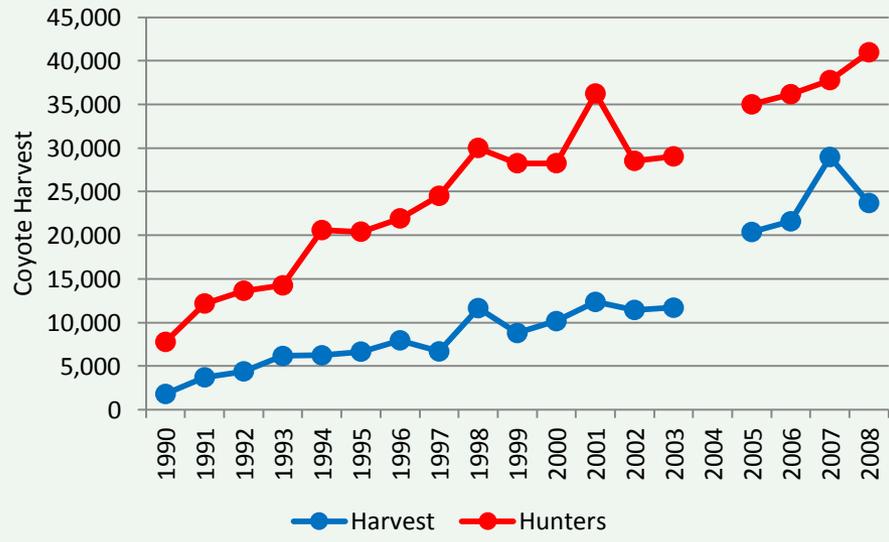
Predators are blamed for low deer numbers.

“With effective predators...especially coyotes being at an all-time high, the fawn recruitment numbers have been severely impacted ”

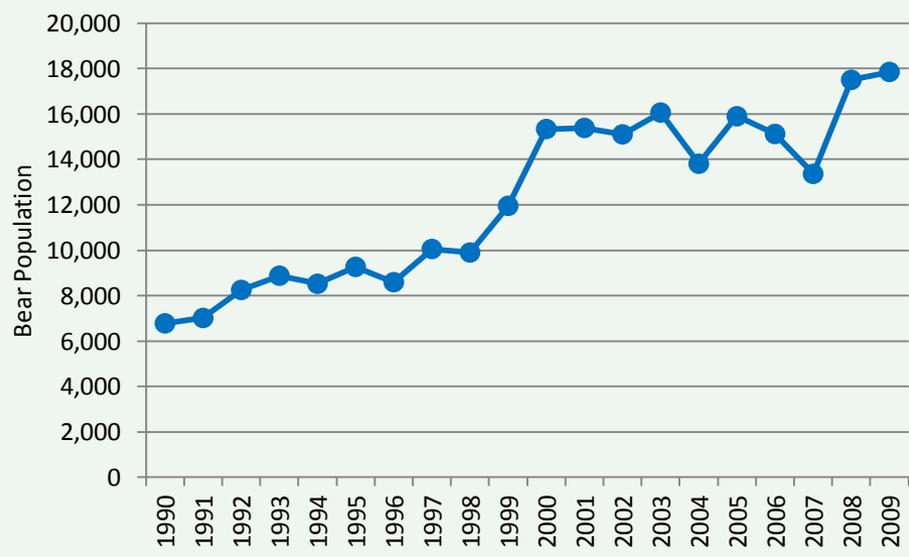
“Coyotes blamed for limiting deer numbers”

Pennsylvania Outdoor News, January 2010

In Pennsylvania, higher predator populations are assumed to be hurting deer populations.

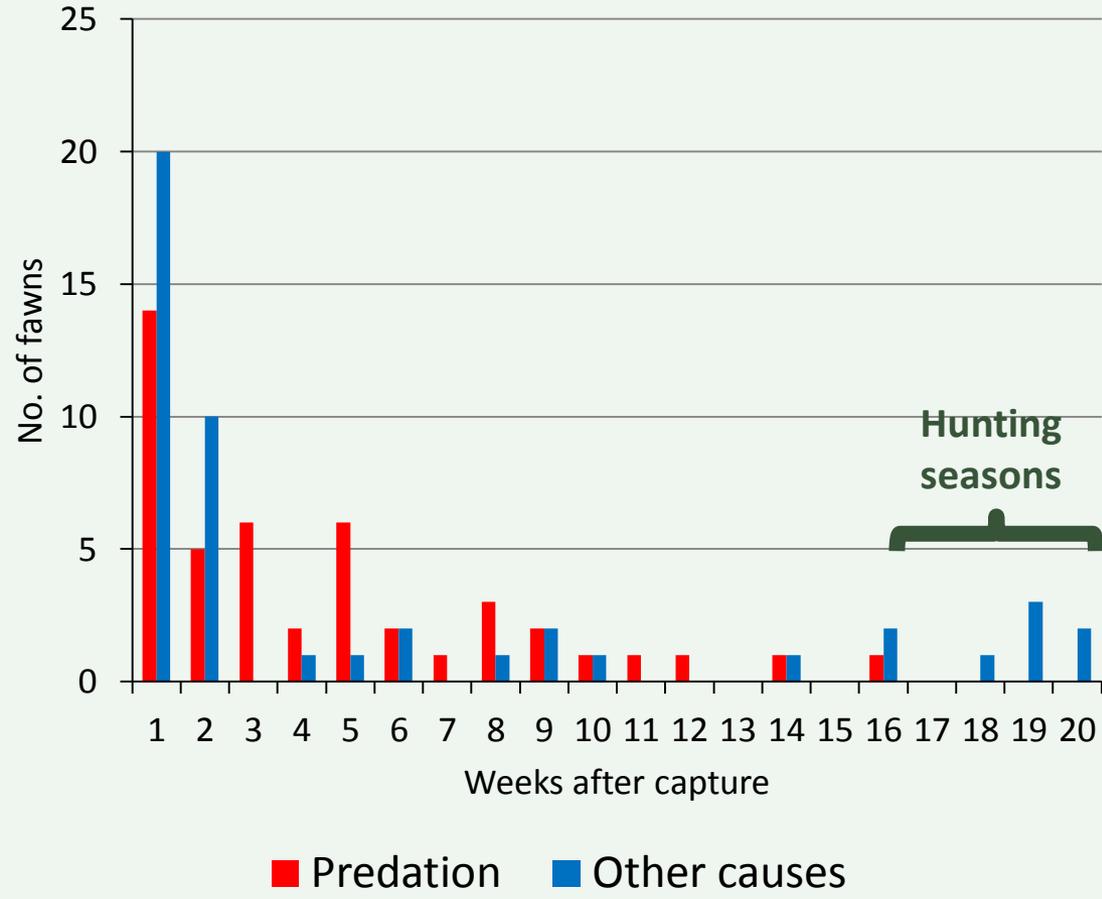


Coyote harvest & hunters increased substantially in last 20 years.

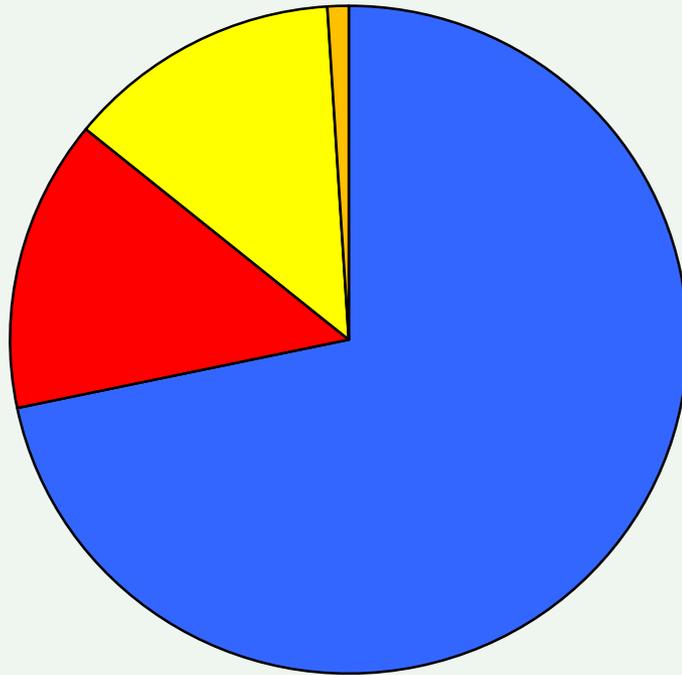


Bear populations tripled in last 20 years.

Predation occurs prior to deer hunting seasons



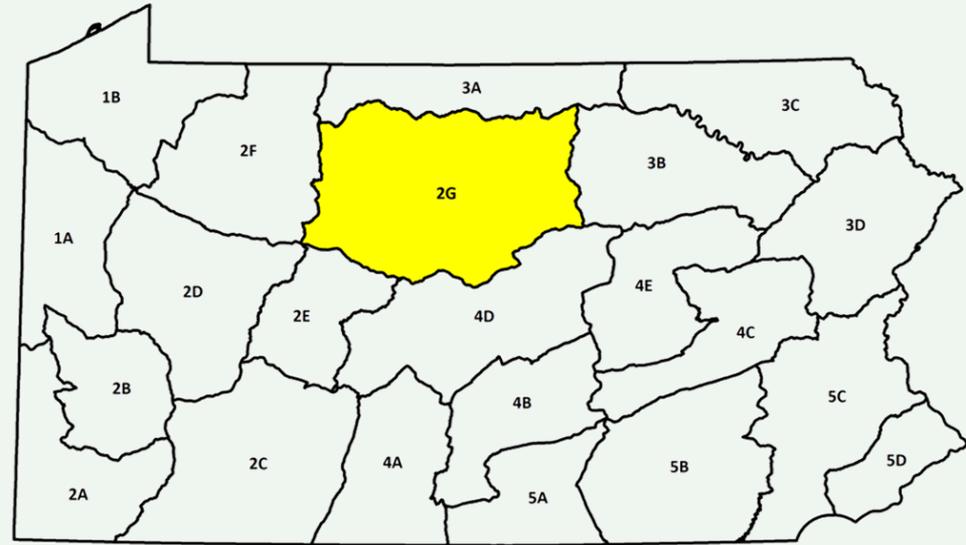
If a deer survives to its first hunting season, the risk of predation is minimal.



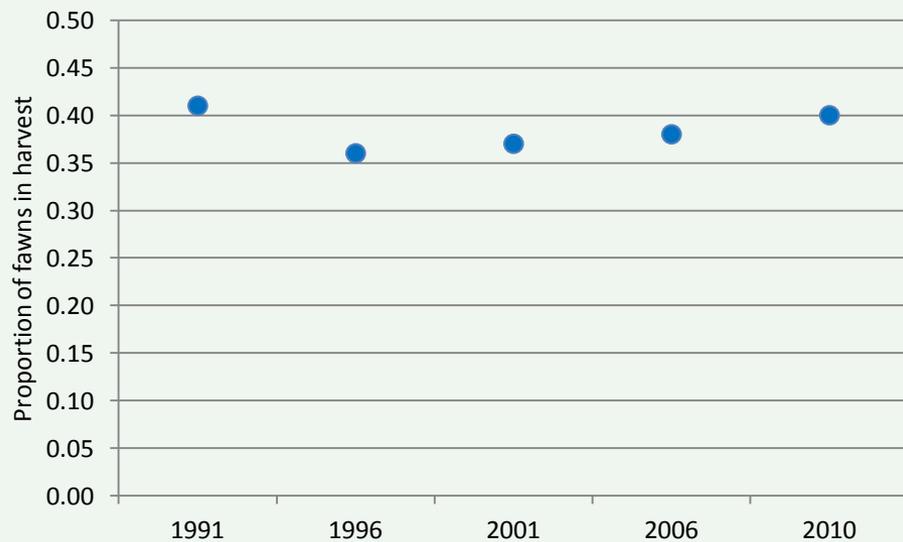
5 predator mortalities have been recorded.

- Hunting
- Other Human
- Natural & Unknown
- Predation

Even in the WMU with large predator populations, impacts on the deer population are insignificant.



WMU 2G has highest coyote and bobcat harvests and a large bear population.



Proportion of fawns in antlerless harvest is stable over last 20 years.

More information on the deer program is available at www.pgc.state.pa.us.

Pennsylvania White-tailed Deer



THE LEGACY CONTINUES: "The white-tailed deer is today Pennsylvania's most striking game animal. At the same time, it is also the Commonwealth's most complicated game problem." — Pennsylvania Game News, Editorial, October 1947

Looking For Answers?

[Ask The Deer Biologist - Ask a question. Check out answers to other questions.](#)
[Guide to Finding Answers to Questions About Deer and Their Management](#)

Whitetail Periodicals

[Pennsylvania's Deer Chronicles](#)
[Life and Times of the Whitetail Columns](#)

Deer Management

[2009-18 White-Tailed Deer Management Plan](#)
[2012 Antlerless Allocations and Supporting Information](#)
[Monitoring Deer Populations in Pennsylvania](#)
[Effect of bait on deer harvest special regulation areas of Pennsylvania](#)
[Citizen Input into Deer Management](#)
[An Evaluation of Deer Management Options](#)
[Forest Habitats and Deer Deterrent Fencing](#)
[A Place to Call Home - Deer Habitat Relationships](#)
[Common Resource of the Commonwealth - Managing Deer for Everyone](#)
[Seeing the Whole Picture - Estimating Deer Harvests](#)
[Why Bigger is Better - Wildlife Management Units](#)

Research and Surveys

[2011-12 Reporting Rate Survey Report](#)
[2011 Pennsylvania Deer Hunter Survey Preliminary Results](#)
[Deer and Deer Management Opinions and Attitudes](#)
[Deer Field Study in Southeastern Pennsylvania](#)

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