



New Jersey

Department of Environmental Protection

Bob Martin, Commissioner

Division of Fish & Wildlife

Dave Chanda, Director

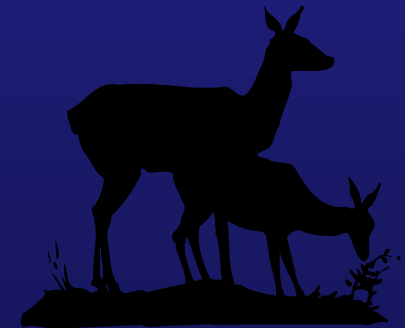
Larry Herrighty, Assistant Director

Bureau of Wildlife Management

Patrick C. Carr, Supervising Biologist

Deer Research Project

Carole Kandoth, Project Leader





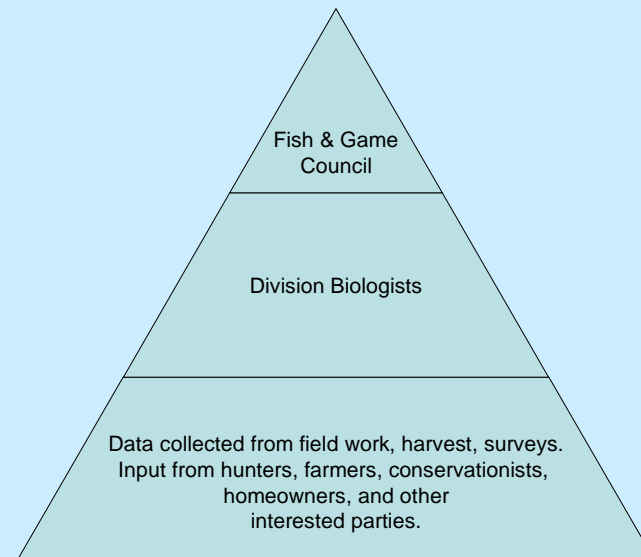
Request to include Zones 28, 30, 31, 34 & 47 in APR program.

Present data from existing APR zones.

Upcoming hunter survey on APR.

Possible regulatory change?

Game Code – 2 yr cycle



Quality Deer Management:

“Quality Deer Management (QDM) is a management philosophy/practice that unites landowners, hunters, and managers in a common goal of producing biologically and socially balanced deer herds within existing environmental, social, and legal constraints.” QDMA

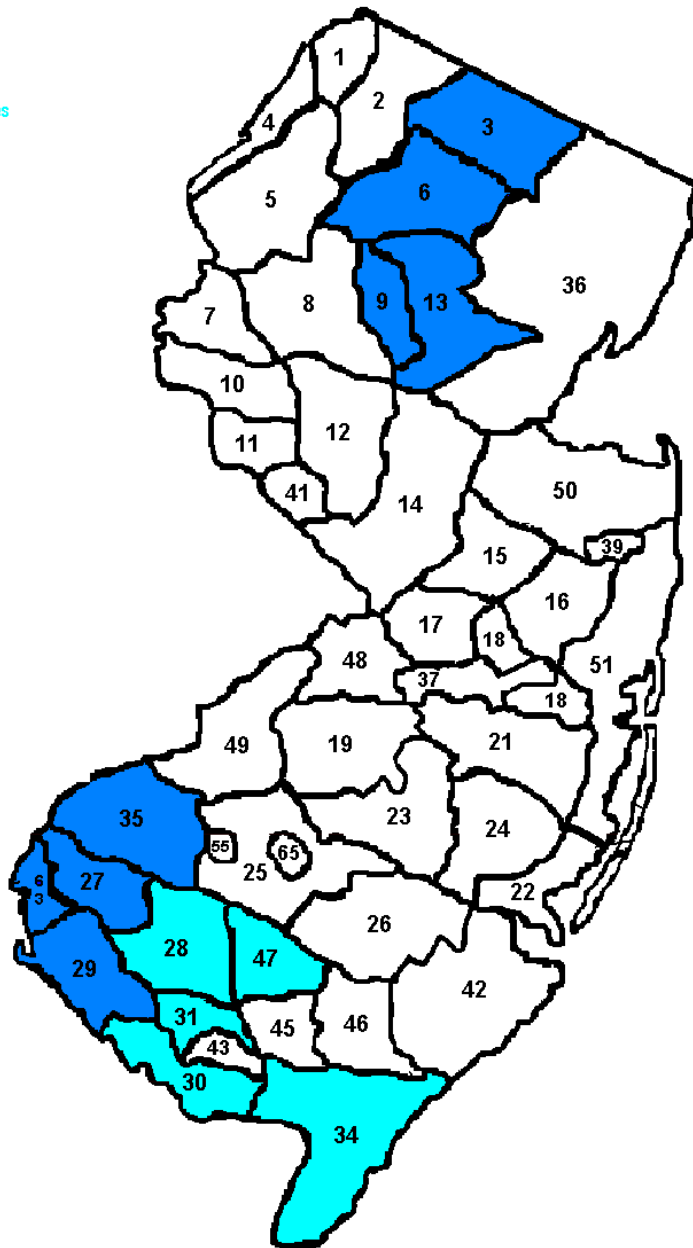
“Protection of younger bucks.”

“Adequate harvest of female deer to maintain a healthy population in balance with existing habitat conditions and landowner desires.”

Proper habitat management.

Existing APR zones

Proposed APR zones



NJ's APR Program

Instituted in 2000.

3 points per side.

Zone 6 removed in 2007.

North
vs.
South

***But first a word on
percentages versus actual numbers...***

Harvest of 3.5+ year olds up by 50%!

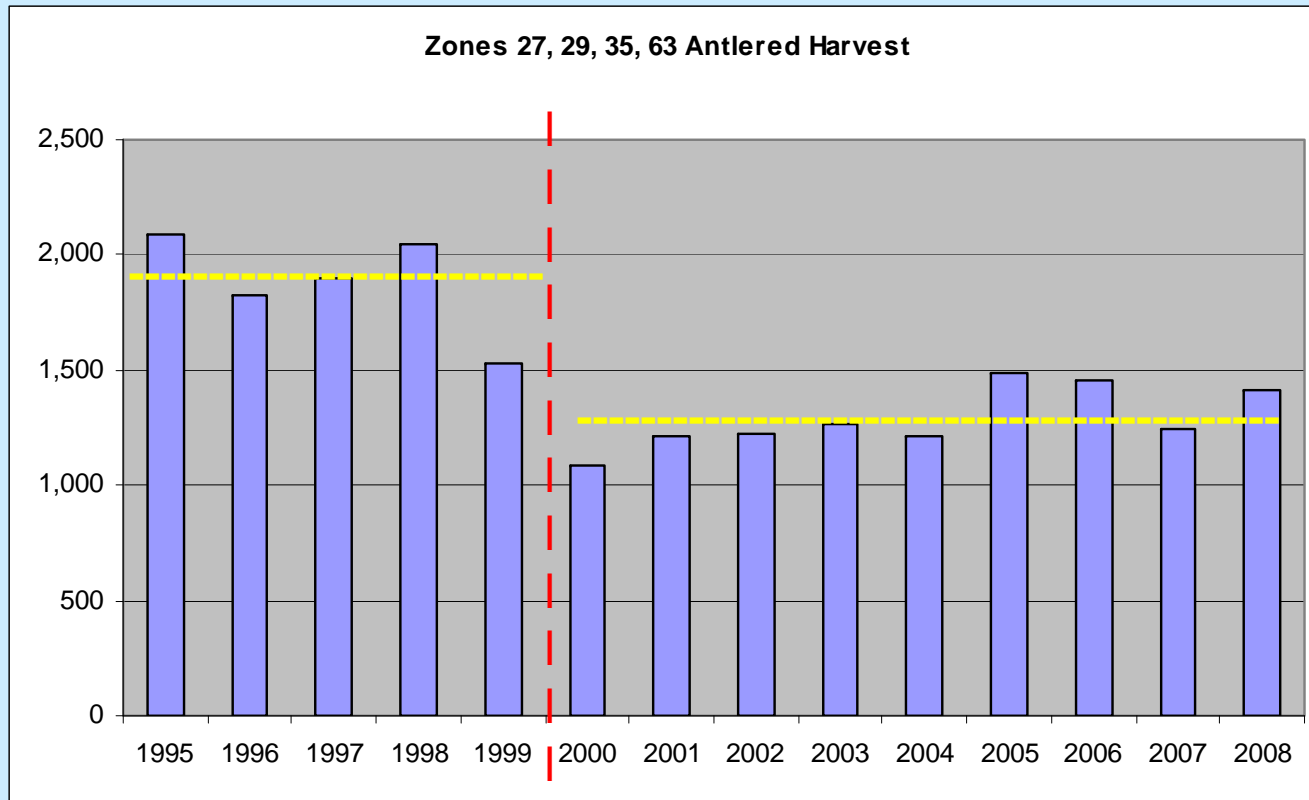
Pre-treatment harvest: 4 deer

Post-treatment harvest: 6 deer

Net gain of 2 animals

Harvest numbers by age class are extrapolated from biological samples.

Southern APR Zones – Total Antlered Harvest

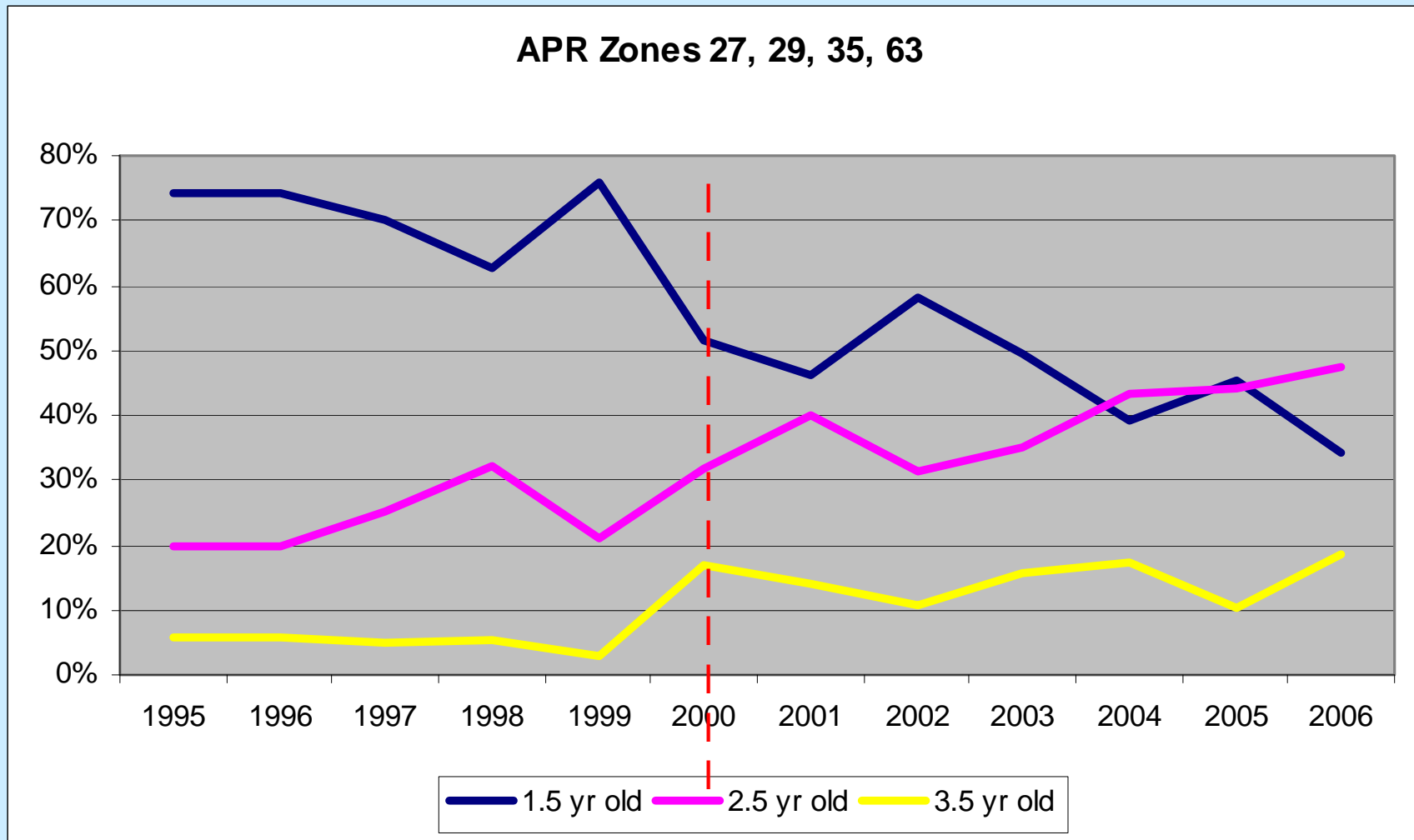


Pre-APR antlered harvest: 1,876

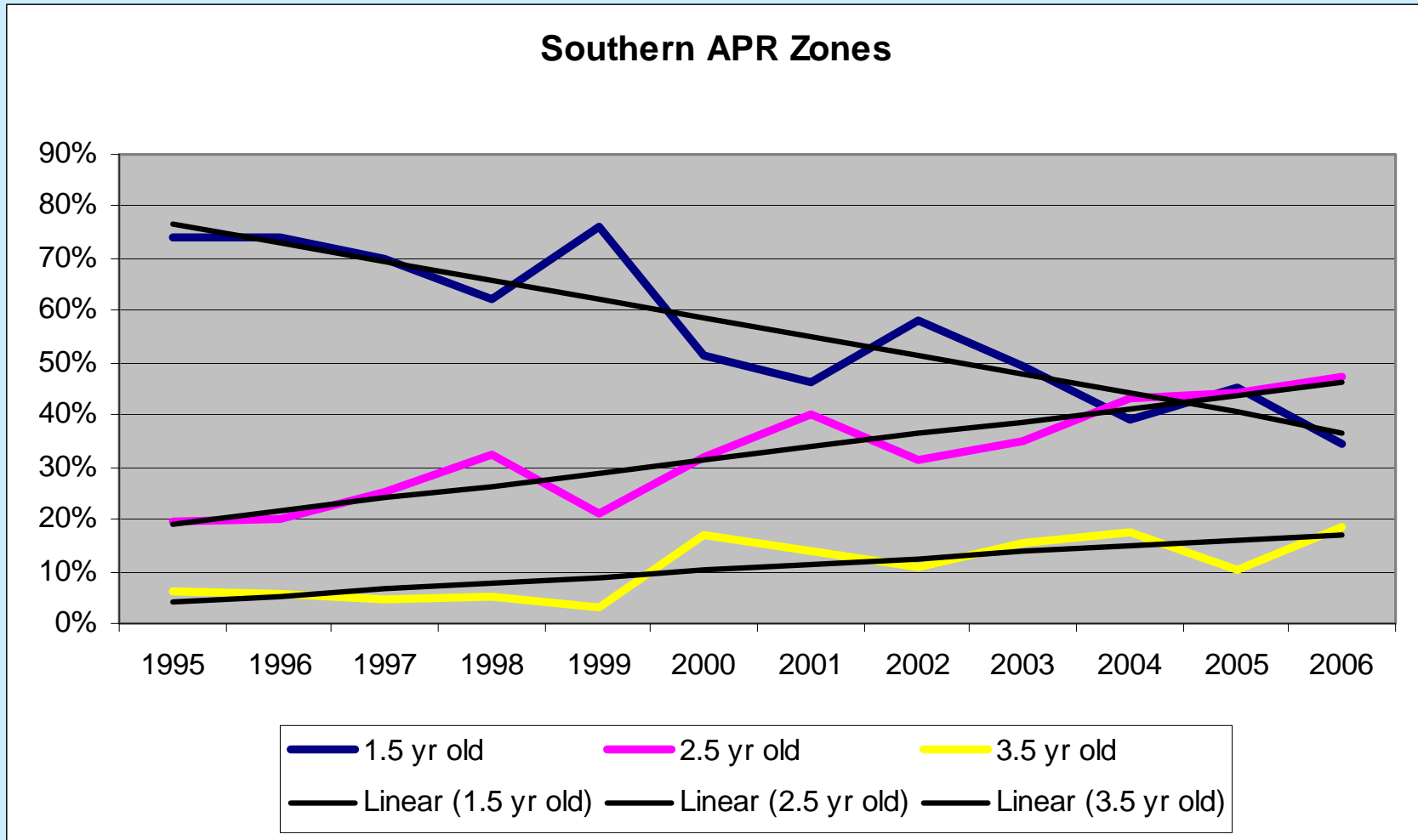
Post-APR antlered harvest: 1,289

Decline in antlered harvest: 31%

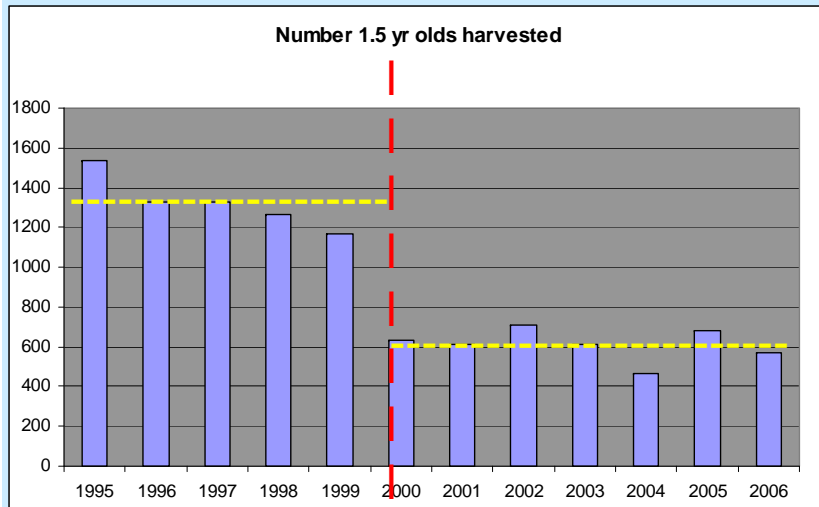
Southern APR Zones – Age Class by Percentage of Total Antlered Harvest



Southern APR Zones – Age Class by Percentage of Total Antlered Harvest



APR Zones 27, 29, 35, 63 – Age Class by Number



Avg. Yearling Harvest

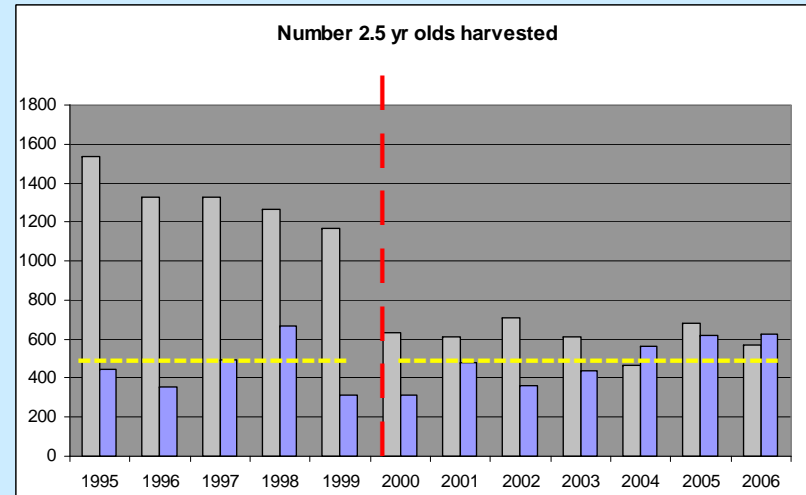
Pre-APR Harvest: 1,325

Post-APR Harvest: 613

Avg. 2.5 yr old Harvest

Pre-APR Harvest: 456

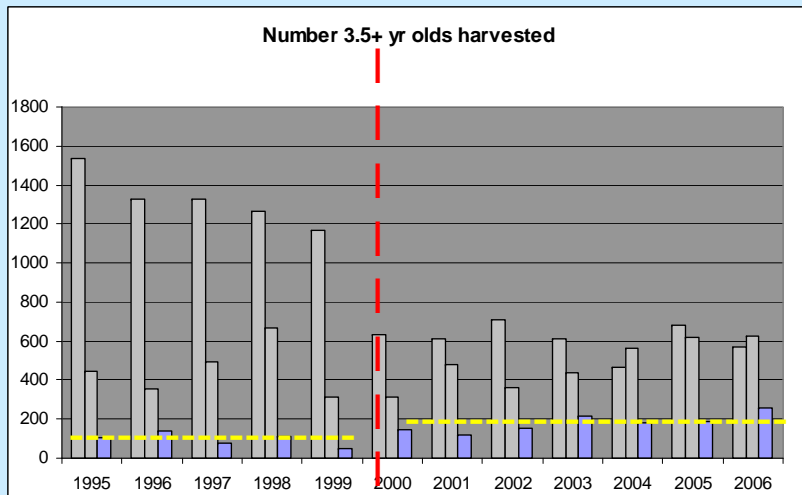
Post-APR Harvest: 486



Avg. 3.5+ yr old Harvest

Pre-APR Harvest: 95

Post-APR Harvest: 179



APR Zones 27, 29, 35, 63 – Age Class by Number

Age Class	Pre-APR	Post-APR	N change
1.5	1,325	613	-712
2.5	456	486	+30
3.5+	95	179	+84
Total	1,876	1,278	

$-712 + 114 = -598$ (average number of bucks lost to harvest *per year* in the southern APR zones.)

On 361 sq. miles of deer range, that's 1.7 bucks per sq. mile not harvested.

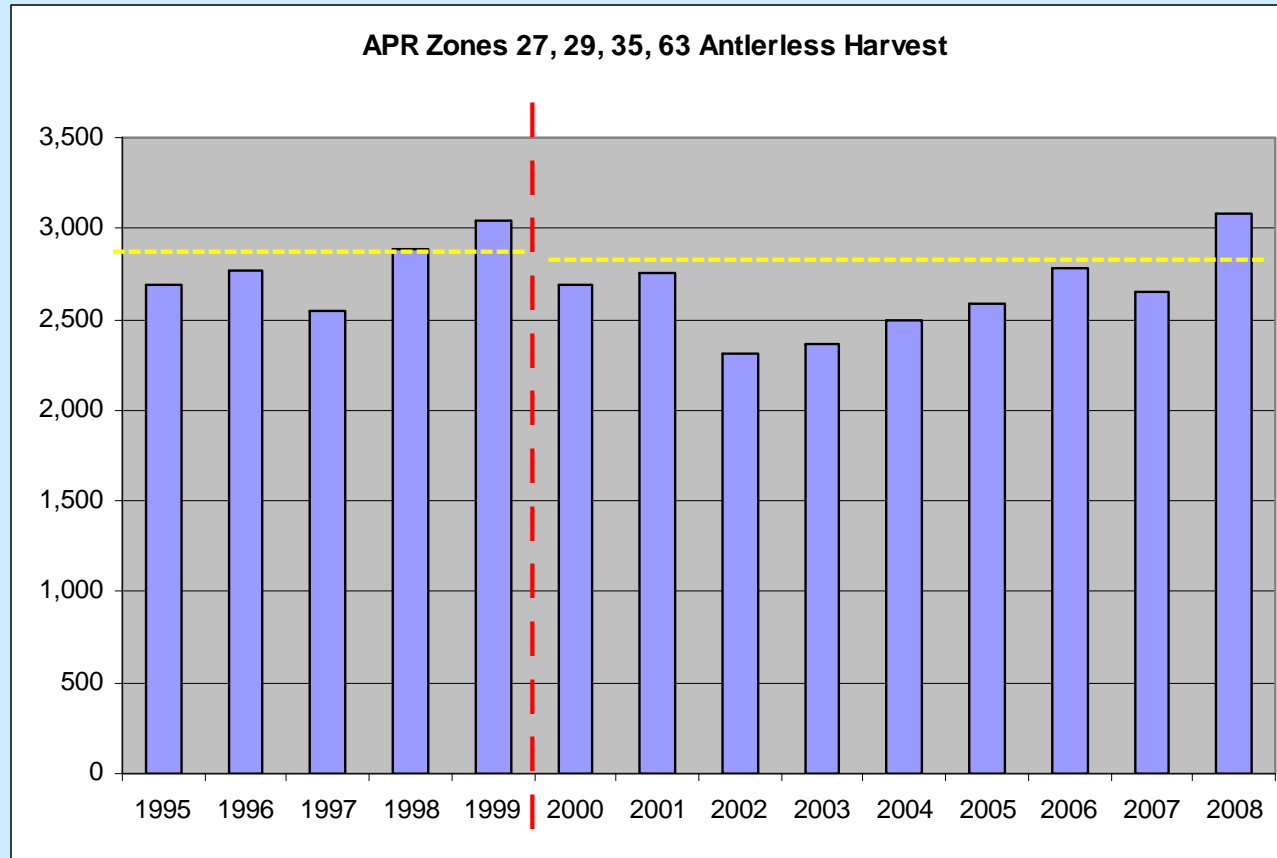
APR Zones 27, 29, 35, 63 – Harvest by Antler Points

Points	PRE	POST	% change	N
3	823	81	-90%	-742
4	1277	194	-85%	-1083
5	1086	705	-35%	-381
6	1562	1039	-33%	-523
7	934	728	-22%	-206
8	1273	1284	1%	11
9	275	315	15%	40
10	149	165	11%	16
11	37	53	43%	16
12	21	23	10%	2
13	4	4	0%	0
14	4	2	-50%	-2
15	1	1	0%	0
16	1	1	0%	0
17	0	1	100%	1
18	1	0	-100%	-1

Loss of 2,938 bucks ≤ 7 points

Gain of 86 bucks with ≥ 8 points

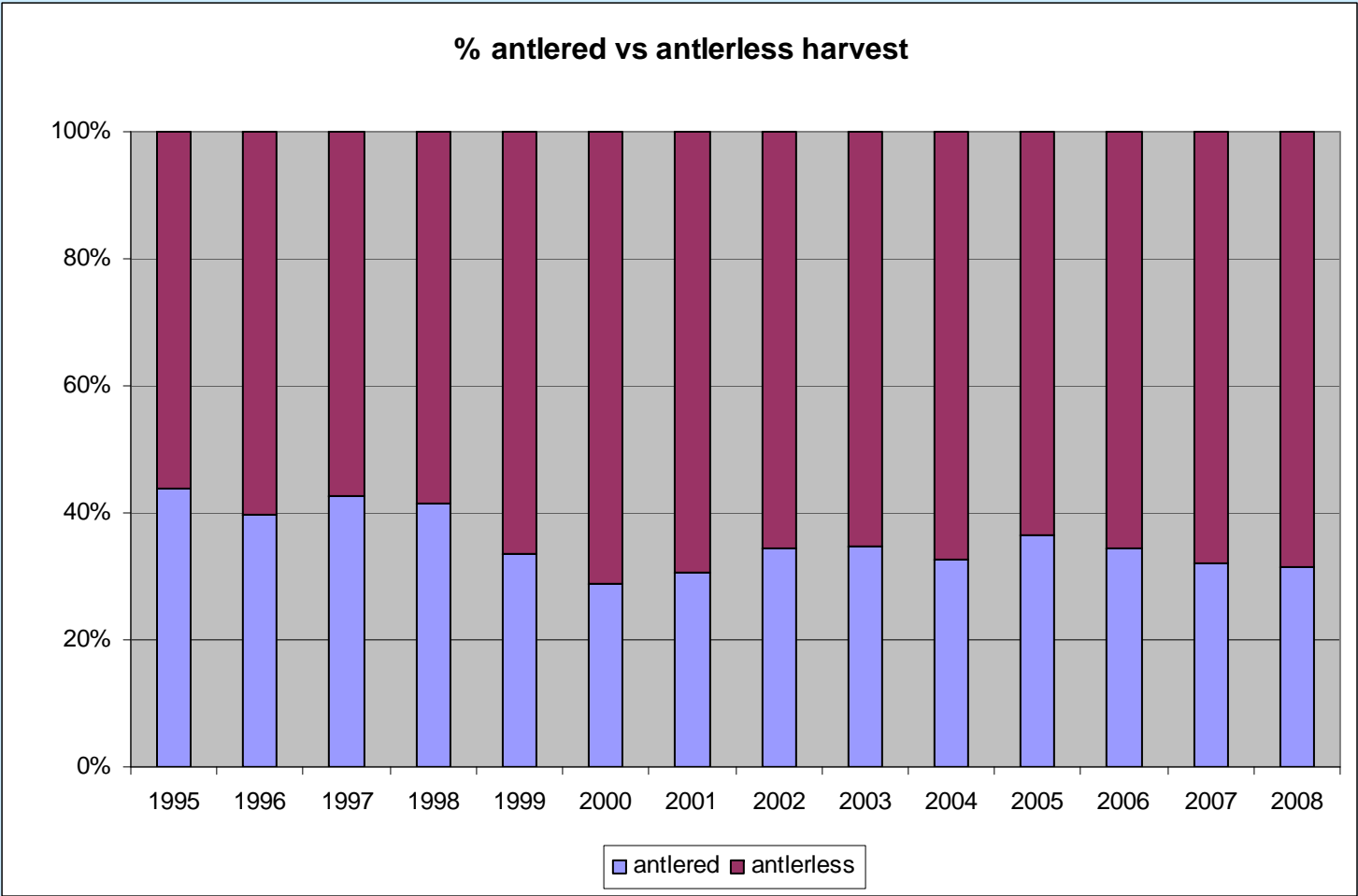
Southern APR Zones – Total Antlerless Harvest



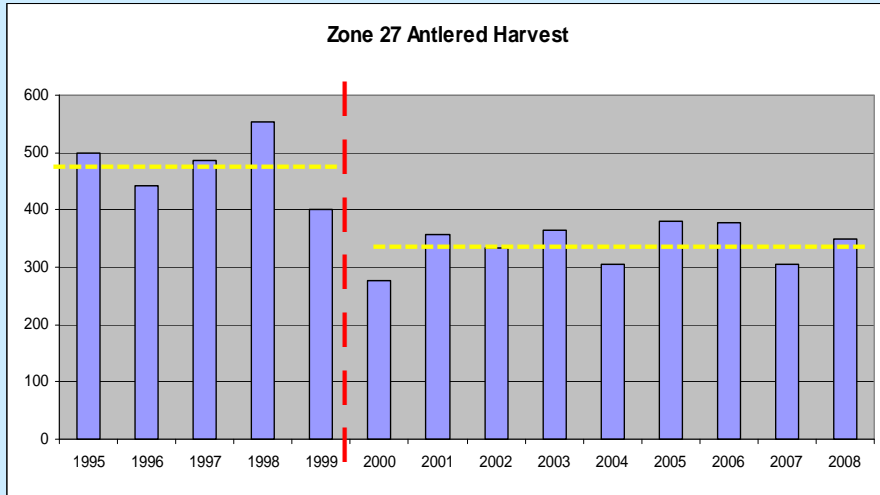
Pre-APR Harvest: 2,785

Post-APR Harvest: 2,637

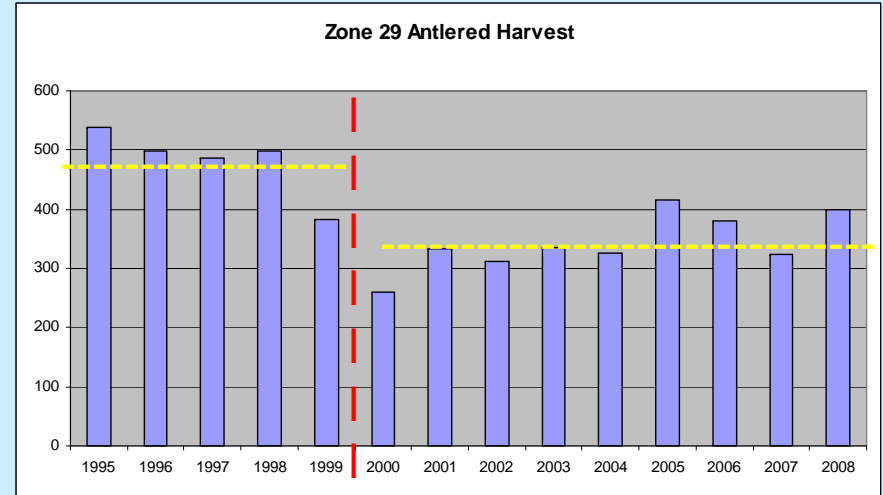
Southern APR Zones – % Harvest



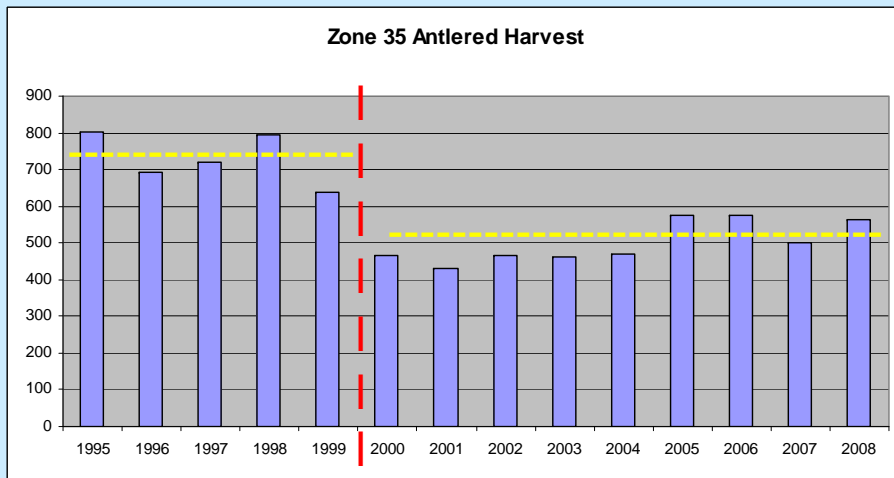
Total Antlered Harvest by Zone for existing APR



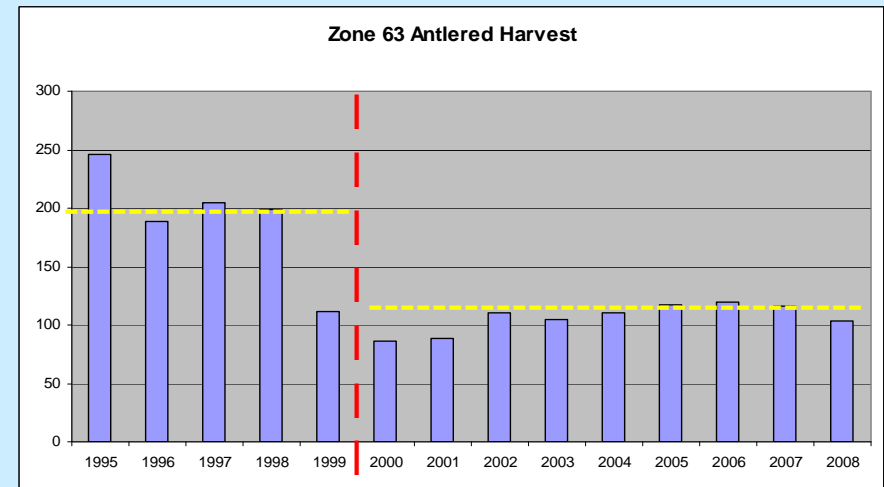
Pre-APR antlered harvest: 476 Post-APR antlered harvest: 339
29% decline in antlered harvest



Pre-APR antlered harvest: 481 Post-APR antlered harvest: 343
29% decline in antlered harvest



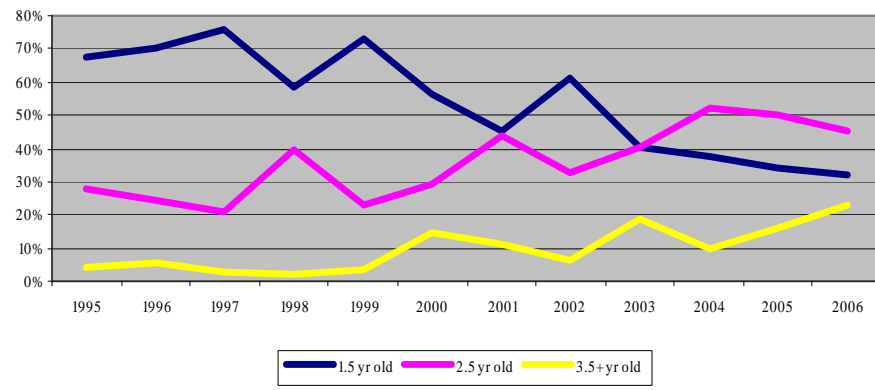
Pre-APR antlered harvest: 729 Post-APR antlered harvest: 501
31% decline in antlered harvest



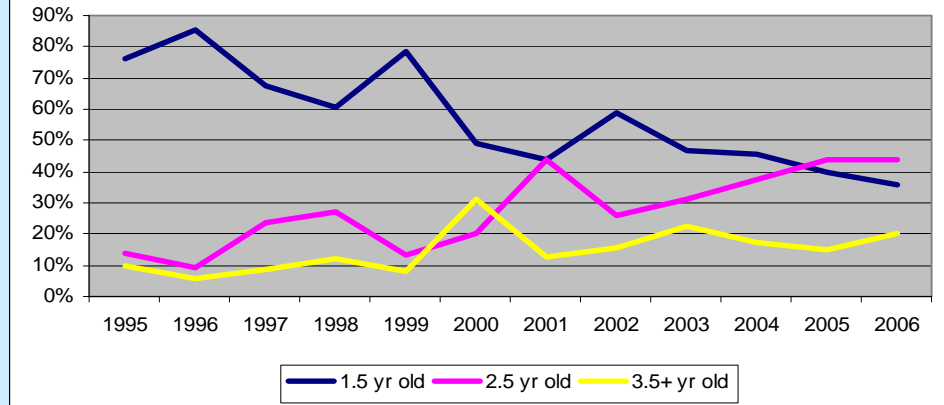
Pre-APR antlered harvest: 190 Post-APR antlered harvest: 119
37% decline in antlered harvest

Age Class by Percentage of Total Antlered Harvest for existing APR

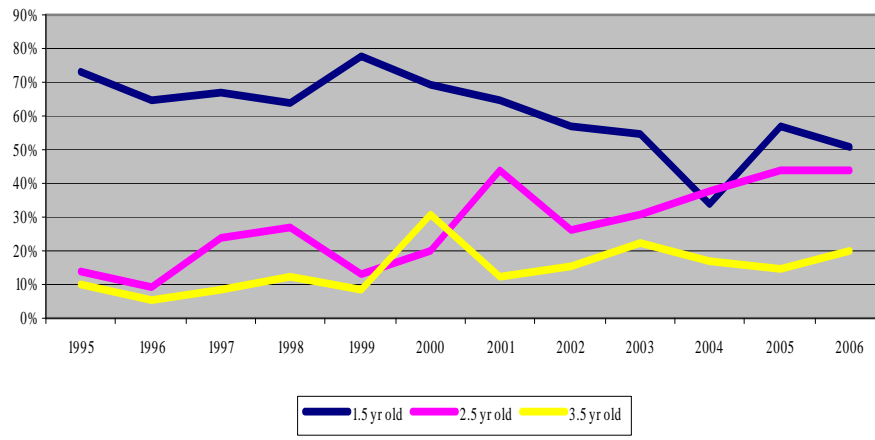
Zone 27 Aged Antlered Harvest



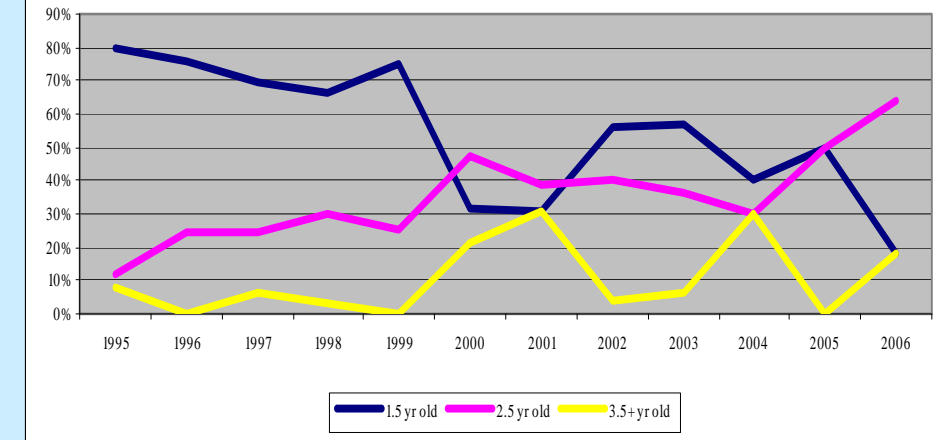
Zone 29 Aged Antlered Harvest



Zone 35 Aged Antlered harvest

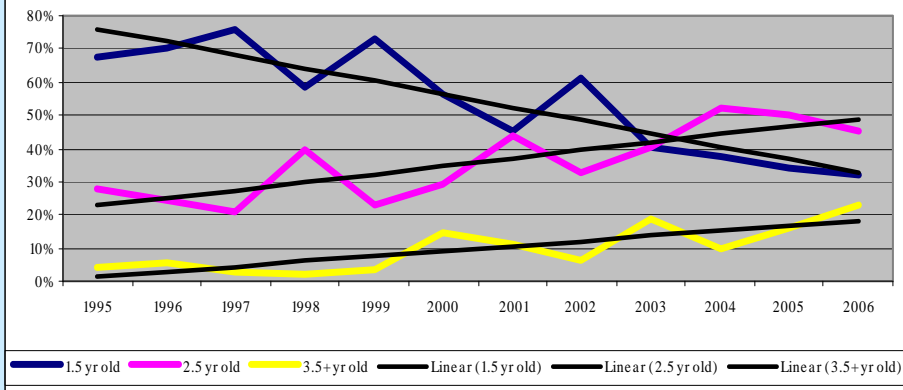


Zone 63 Aged Antlered Harvest

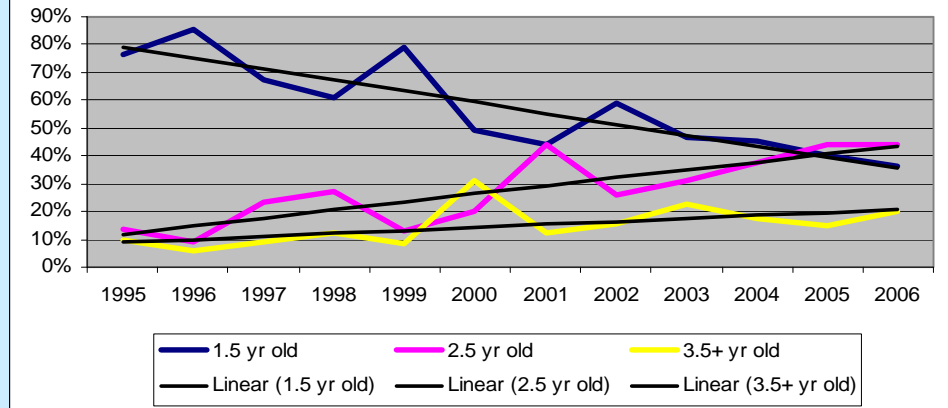


Age Class by Percentage of Total Antlered Harvest for existing APR

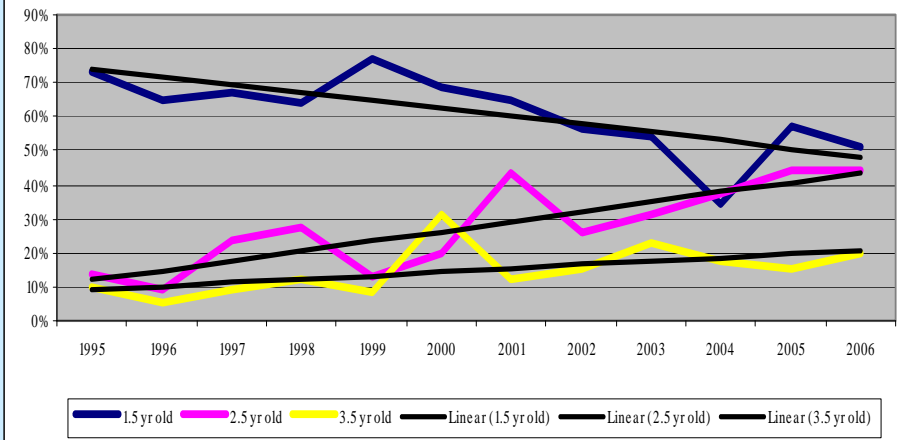
Zone 27 Aged Antlered Harvest



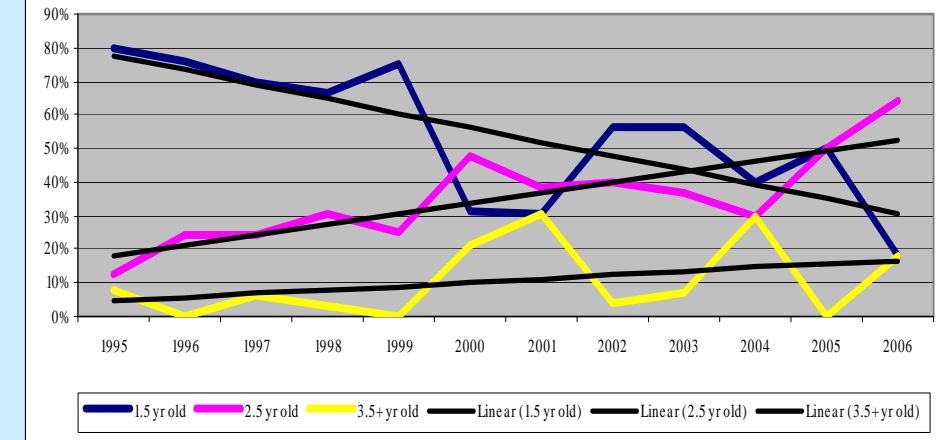
Zone 29 Aged Antlered Harvest



Zone 35 Aged Antlered harvest



Zone 63 Aged Antlered Harvest



APR Zone 27 – Age Class by Number

Age Class	Pre-APR	Post-APR	N change
1.5	335	147	-188
2.5	142	145	+3
3.5+	17	50	+33
Total	494	342	-152

$-188 + 36 = -152$ (average number of bucks lost to harvest *per year* in Zone 27.)

On 103 sq. miles of deer range, that's 1.5 bucks per sq. mile not harvested.

APR Zone 29 – Age Class by Number

Age Class	Pre-APR	Post-APR	N change
1.5	367	152	-215
2.5	92	122	+30
3.5+	46	63	+17
Total	505	337	-168

$-215 + 47 = -168$ (average number of bucks lost to harvest *per year* in Zone 29.)

On 66 sq. miles of deer range, that's 2.5 bucks per sq. mile not harvested.

APR Zone 35 – Age Class by Number

Age Class	Pre-APR	Post-APR	N change
1.5	508	271	-237
2.5	210	173	-37
3.5+	34	50	+16
Total	752	494	-258

$-274 + 16 = -258$ (average number of bucks lost to harvest *per year* in Zone 35.)

On 171 sq. miles of deer range, that's 1.5 bucks per sq. mile not harvested.

APR Zone 63 – Age Class by Number

Age Class	Pre-APR	Post-APR	N change
1.5	154	43	-111
2.5	46	46	0
3.5+	10	16	+6
Total	210	105	-105

$-111 + 6 = -105$ (average number of bucks lost to harvest *per year* in Zone 63.)

On 21 sq. miles of deer range, that's 5 bucks per sq. mile not harvested.

Recap of existing south Jersey APR Zones:

Average reduction in antlered harvest: 31%

- For every 6.25 yearlings passed up, 1 older age class buck appears in the harvest.
- Loss of 712 yearlings, gain of 114 older age class bucks.
- 84% of “saved” yearlings do NOT show up in harvest.

Average %s of bucks in harvest by Age Class:

	Pre-APR		
	1.5	2.5	3.5+
27	69%	28%	4%
29	74%	17%	9%
35	69%	27%	4%
63	73%	22%	4%
all south	71%	24%	5%

	Post-APR		
	1.5	2.5	3.5+
27	43%	42%	15%
29	45%	36%	19%
35	55%	35%	10%
63	41%	44%	15%
all south	48%	38%	14%

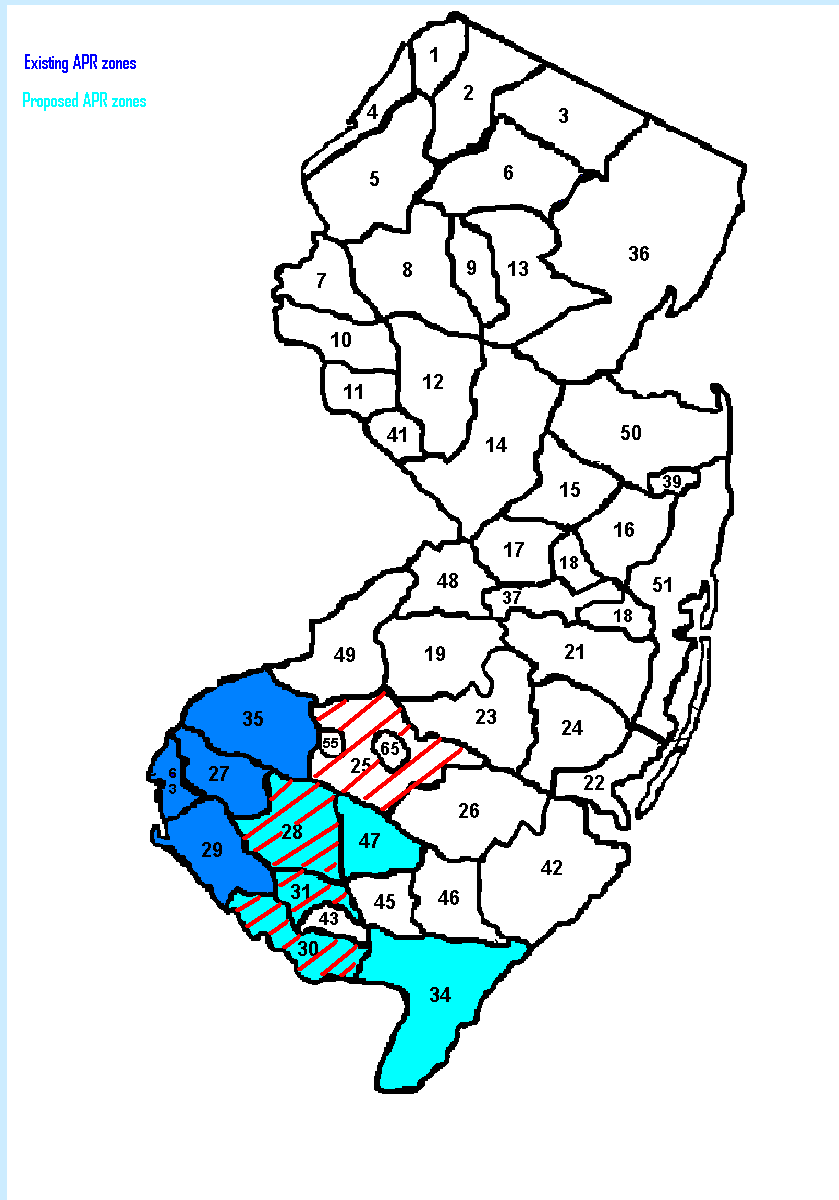
Will Antler Point Restrictions Produce Trophy Bucks?

1. Age at maturity.
2. "High-grading".

Mississippi data shows a decrease in gross B&C scores of 5" to 9" for 2.5 yr olds, and 10" to 17" for 3.5 yr olds.



Where have all the yearlings gone...?



- sub-legal bucks being checked in adjacent zones?

Zone	Pre-APR	Post-APR	n diff
25	288	326	38
28	266	331	65
30	126	117	-9
31	78	90	12
Total			106

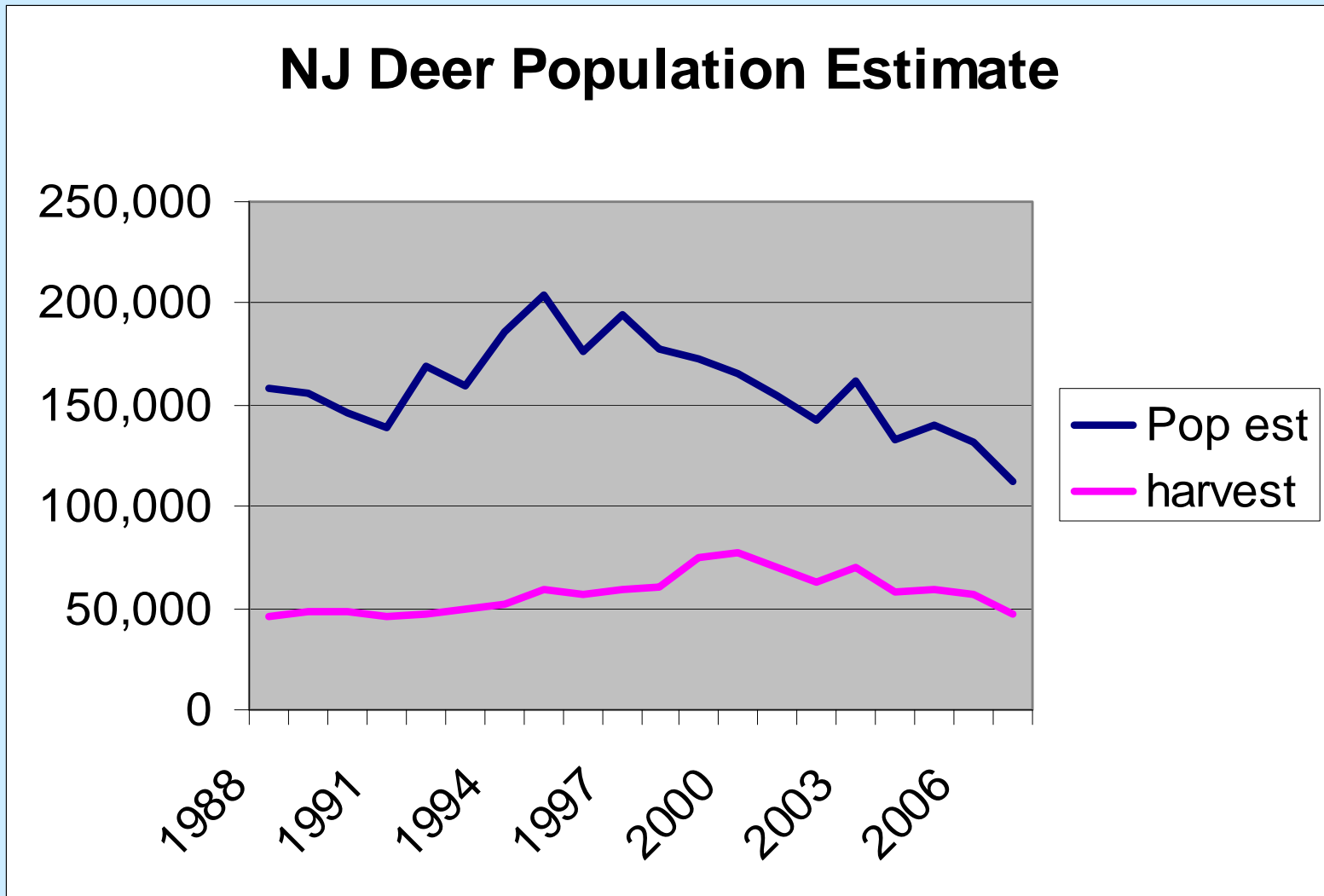
Zone	Pre-APR	Post-APR	n diff
25	516	478	-38
28	431	484	53
30	209	194	-15
31	135	142	7
Total			7

598 yearlings do not show up in harvest as older age class bucks

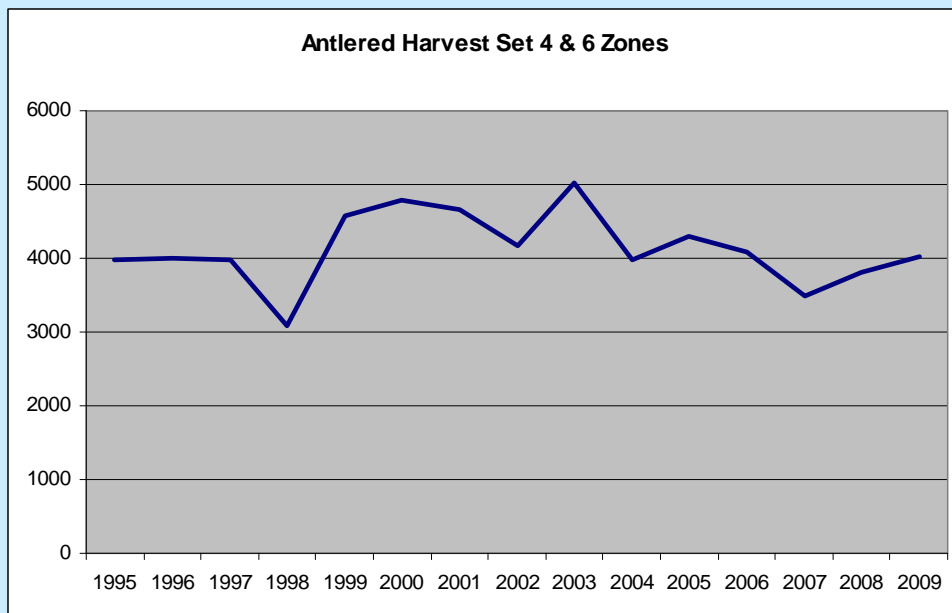
Cars, refugia, smarter!

Where have all the yearlings gone...?

- reduction in overall population?



Where have all the yearlings gone...?

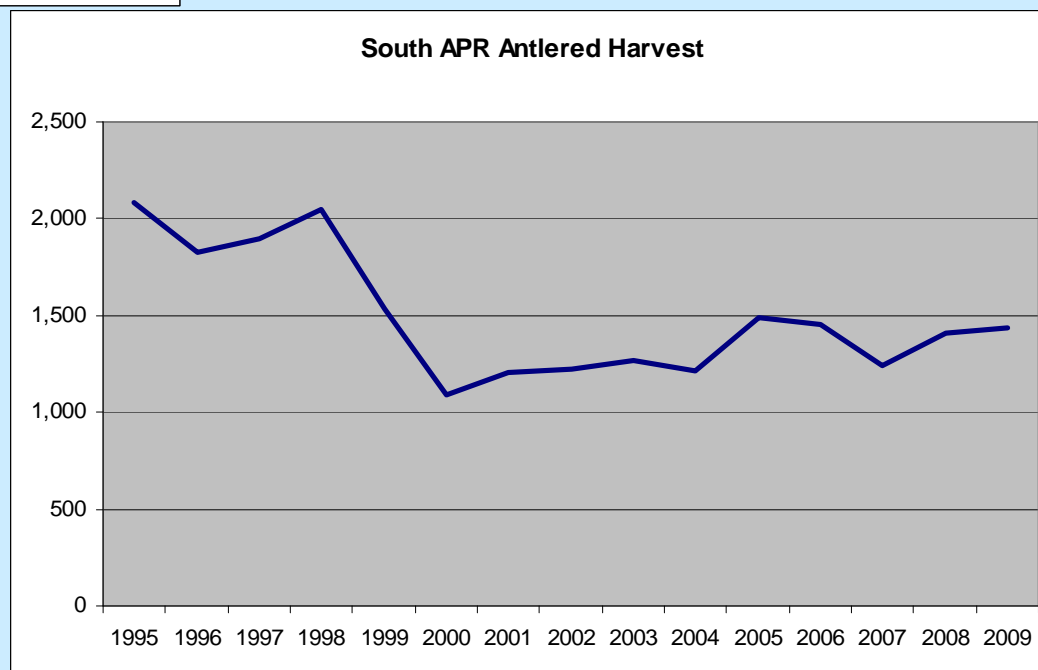


Pre-2000 avg.: 3,925

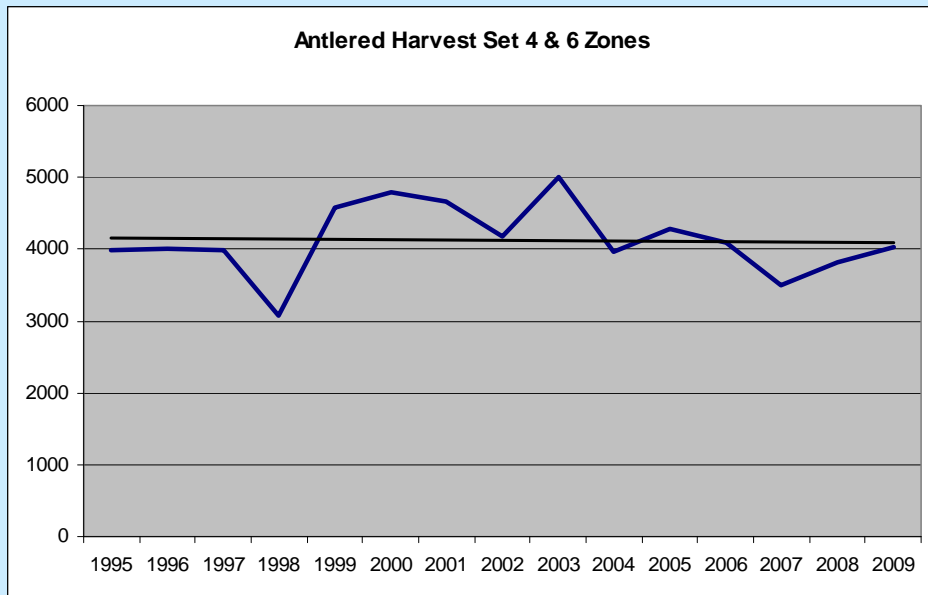
Post-2000 avg.: 4,230

Pre-APR avg.: 1,876

Post-APR avg.: 1,303



Where have all the yearlings gone...?

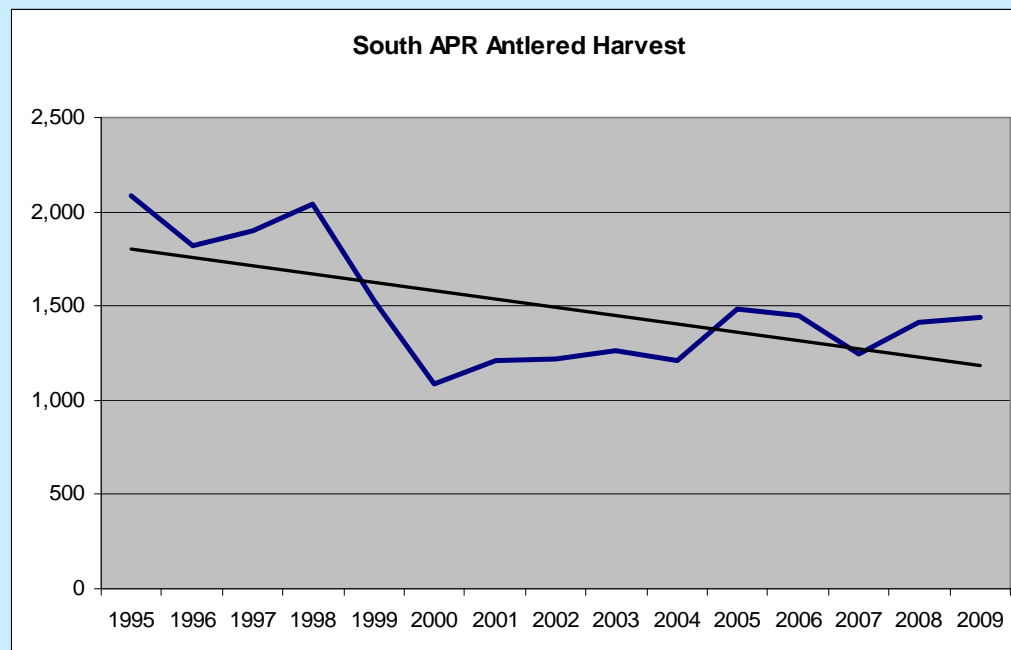


Pre-2000 avg.: 3,925

Post-2000 avg.: 4,230

Pre-APR avg.: 1,876

Post-APR avg.: 1,303



Pennsylvania's APR program:

PA Deer Harvest				
	Antlered	Average		%age Yearling Bucks in Antlered Harvest
1999-2000	194,368			
2000-2001	203,221	200,279		
2001-2002	203,247			78%
2002-2003	165,416		APR instituted	68%
2003-2004	142,270			56%
2004-2005	124,410			50%
2005-2006	120,500	128,478	-36%	52%
2006-2007	135,290		71,800	56%
2007-2008	109,200			56%
2008-2009	122,410			52%
2009-2010	108,330			49%

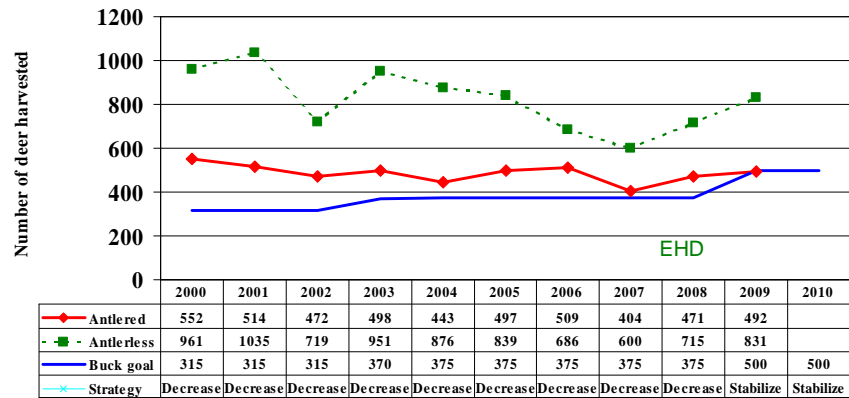
Pennsylvania's APR program:

PA Deer Harvest					
		Antlerless	Average		
1999-2000		184,224			
2000-2001		301,379	256,123		
2001-2002		282,767			
2002-2003		352,113			APR instituted
2003-2004		322,620			
2004-2005		284,910			
2005-2006		233,890	255,963		
2006-2007		226,270			
2007-2008		213,870			
2008-2009		213,440			
2009-2010		200,590			-160

Proposed APR – Zone 28

Deer Management Zone 28

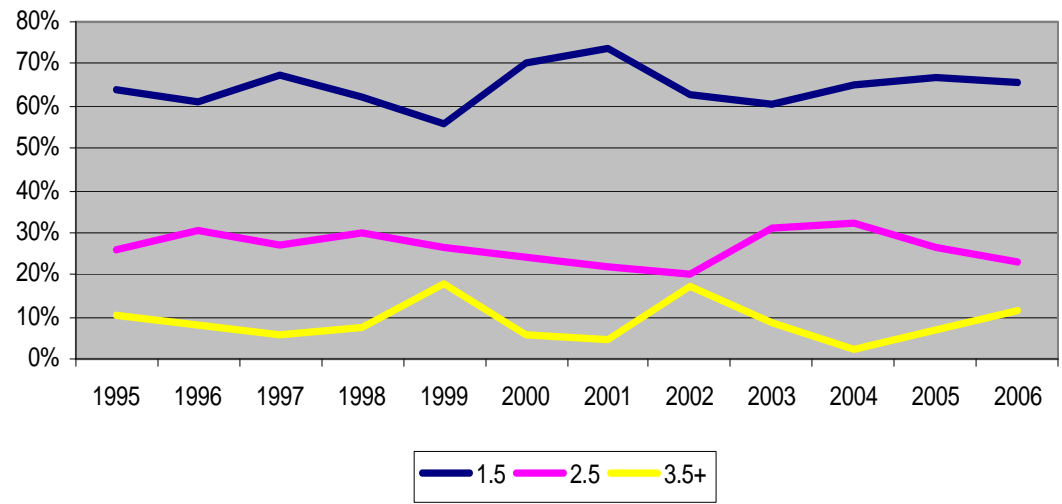
Deer Range = 125 sq.mi.
2007 Deer Density: 30.6



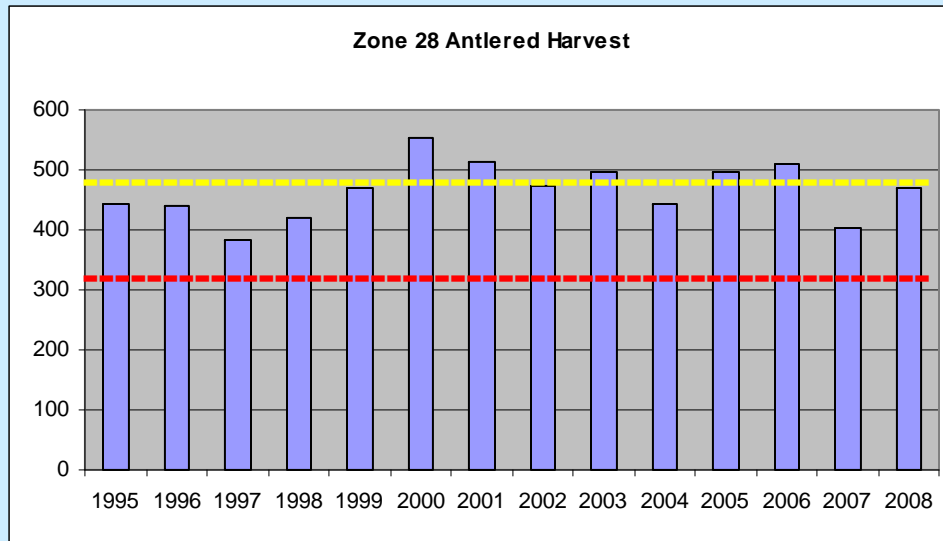
Reg Set 4

Extended A & B since 2003

Zone 28 Antlered Harvest by Age Class



Proposed APR – Zone 28



Current average antlered harvest: 465

Predicted average antlered harvest under APR: 321

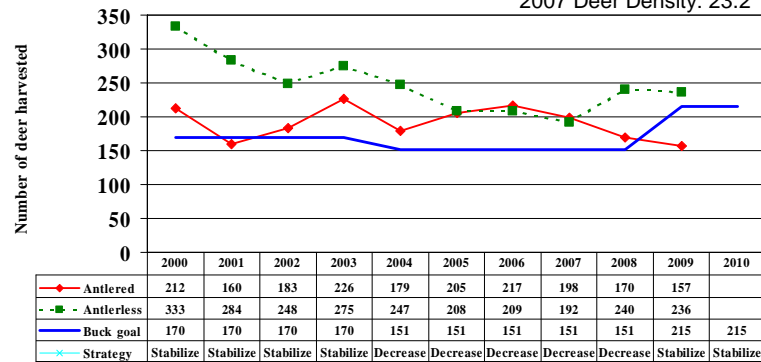
Net loss of ~ 144 yearling bucks per year.

Net gain of ~ 23 older age class bucks per year.

Proposed APR – Zone 30

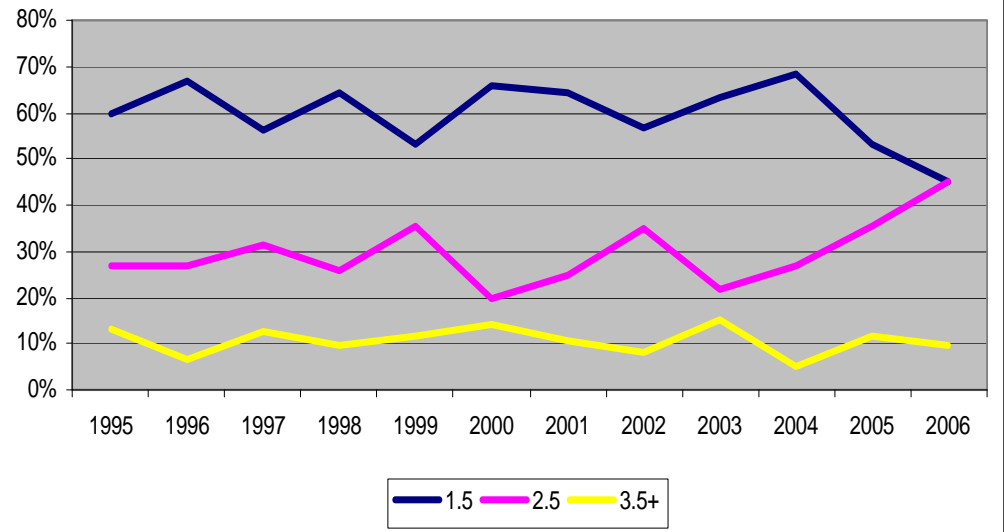
Deer Management Zone 30

Deer Range = 43 sq.mi.
2007 Deer Density: 23.2

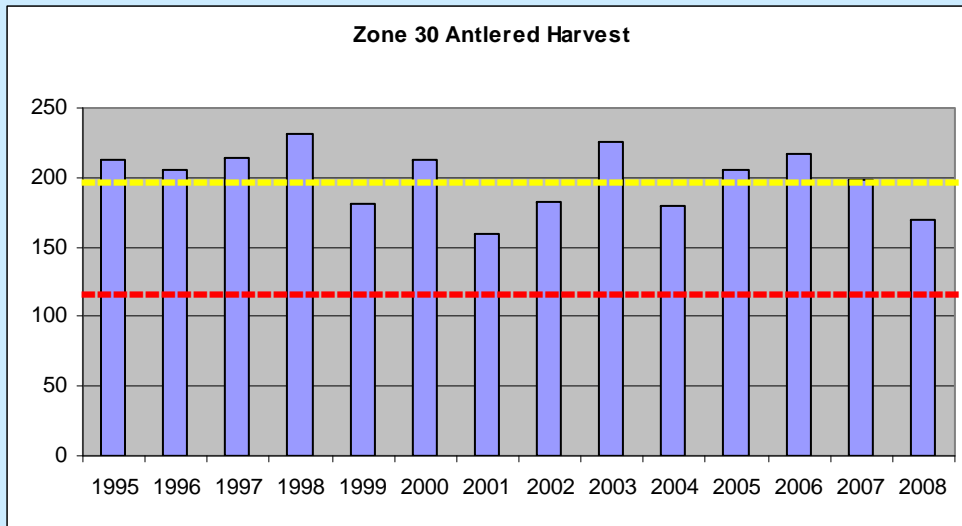


Reg Set 3

Zone 30 Antlered Harvest by Age Class



Proposed APR – Zone 30



Current average antlered harvest: 200

Predicted average antlered harvest under APR: 138

Net loss of ~ 62 yearling bucks per year.

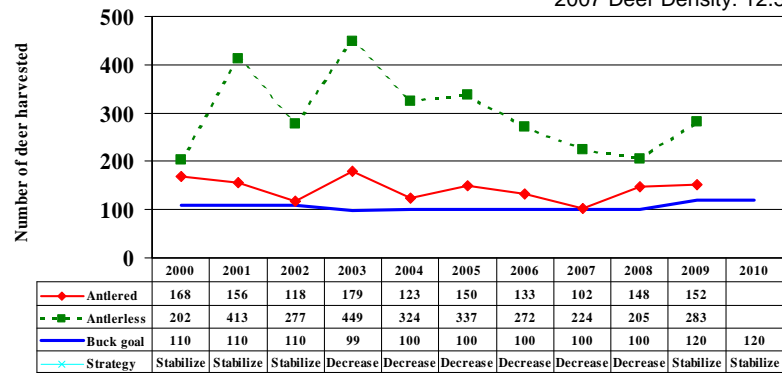
Net gain of ~ 10 older age class bucks per year.

Proposed APR – Zone 31

Deer Management Zone 31

Deer Range = 40 sq.mi.

2007 Deer Density: 12.3

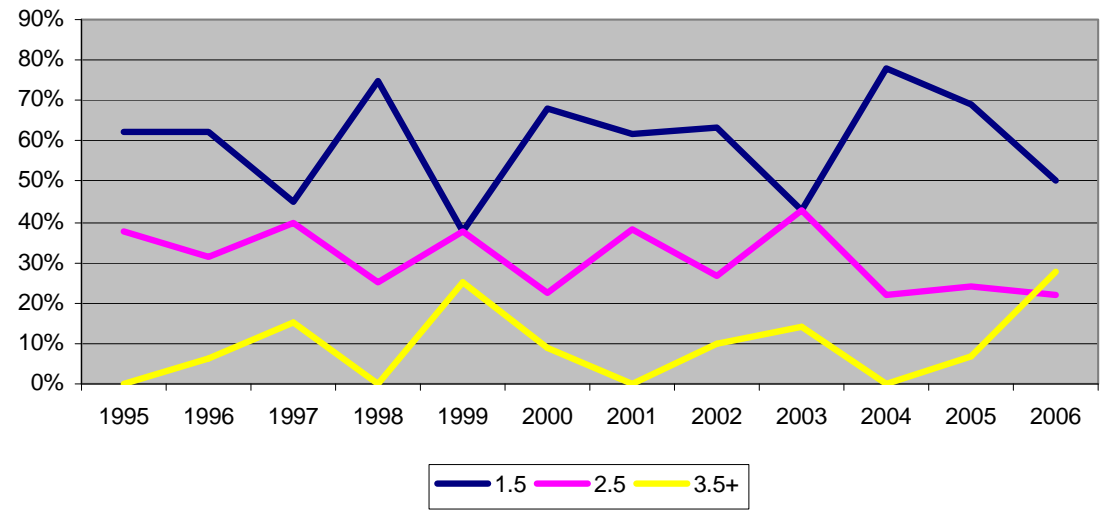


Reg Set 4

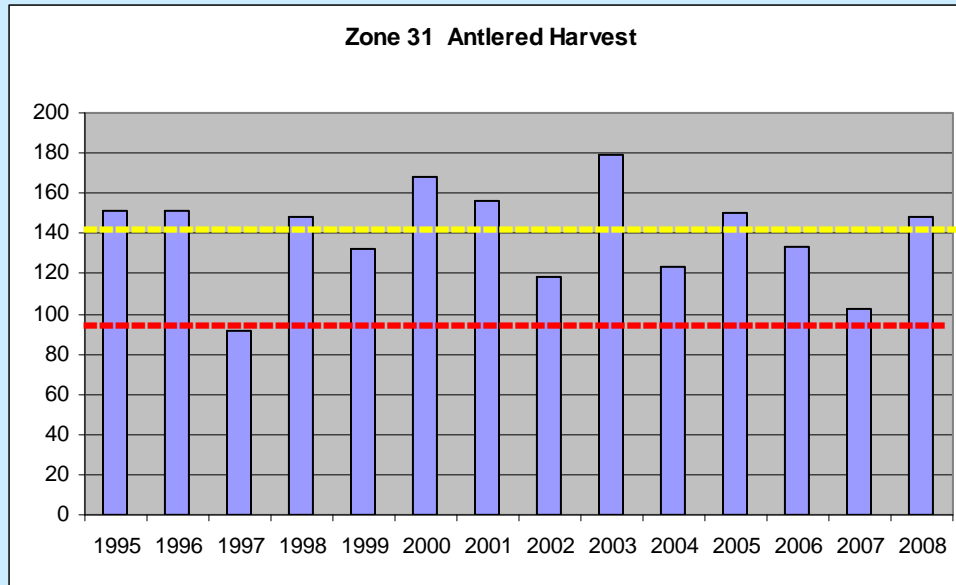
Unlimited Antlerless since 2001

Extended A & B since 2003

Zone 31 Antlered Harvest by Age Class



Proposed APR – Zone 31



Current average antlered harvest: 139

Predicted average antlered harvest under APR: 96

Net loss of ~ 43 yearling bucks per year.

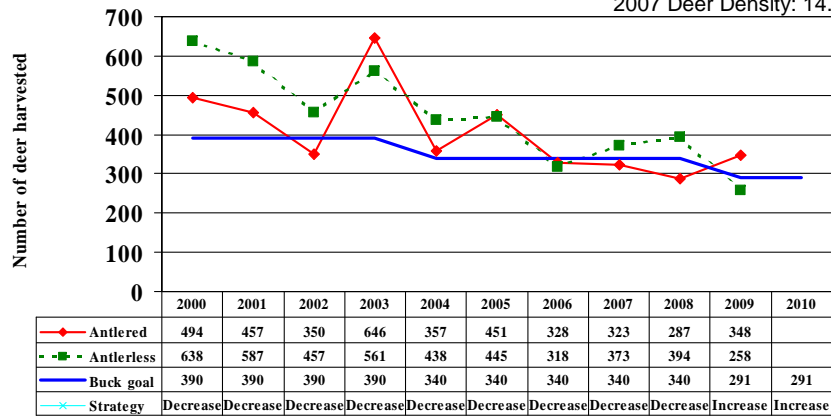
Net gain of ~ 7 older age class bucks per year.

Proposed APR – Zone 34

Deer Management Zone 34

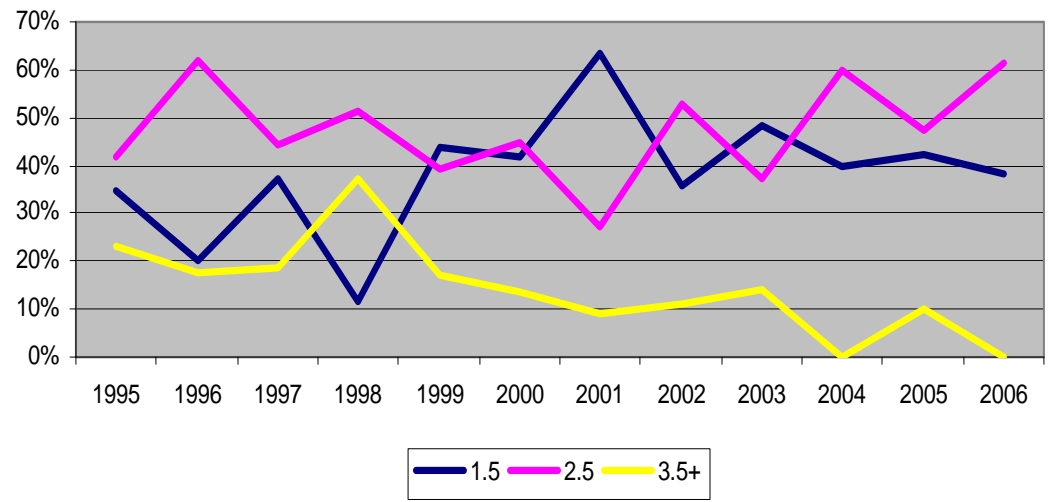
Deer Range = 97 sq.mi.

2007 Deer Density: 14.8

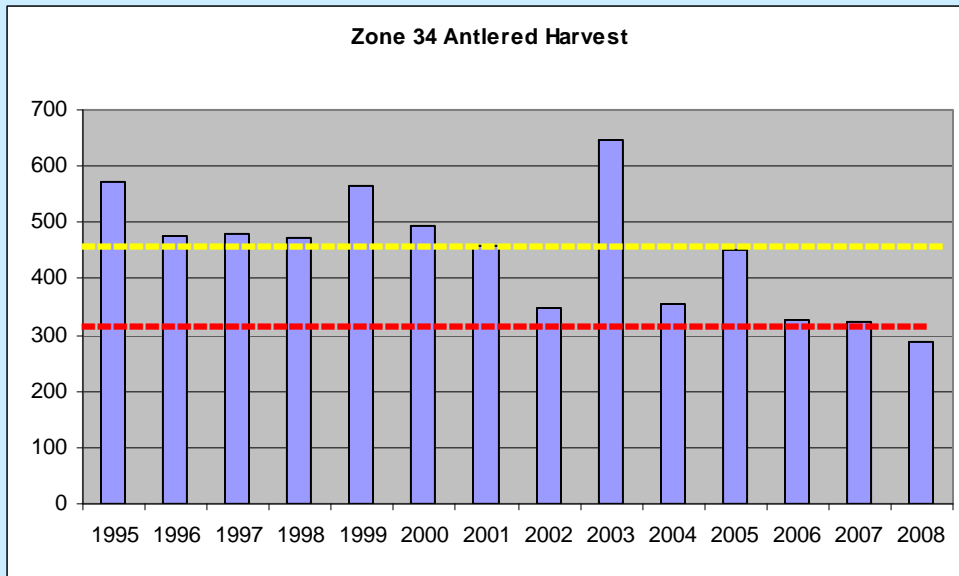


Moved from Reg Set 3 to Regulation Set 0 in 2009-10

Zone 34 Antlered Harvest by Age Class



Proposed APR – Zone 34



Current average antlered harvest: 447

Predicted average antlered harvest under APR: 308

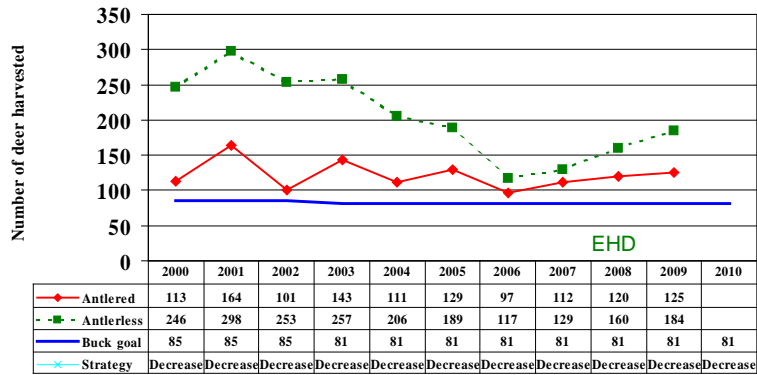
Net loss of ~ 139 yearling bucks per year.

Net gain of ~ 22 older age class bucks per year.

Proposed APR – Zone 47

Deer Management Zone 47

Deer Range = 54 sq.mi.
2007 Deer Density: 14.6

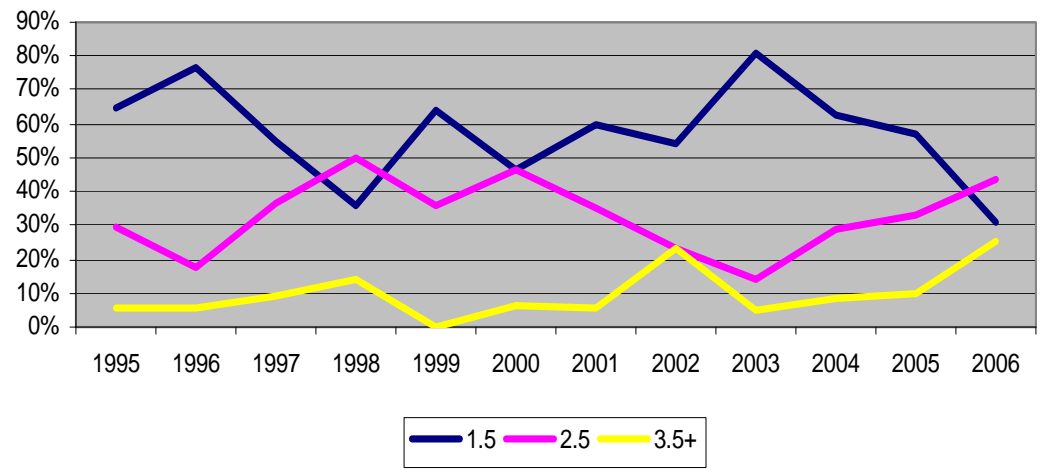


Reg Set 4

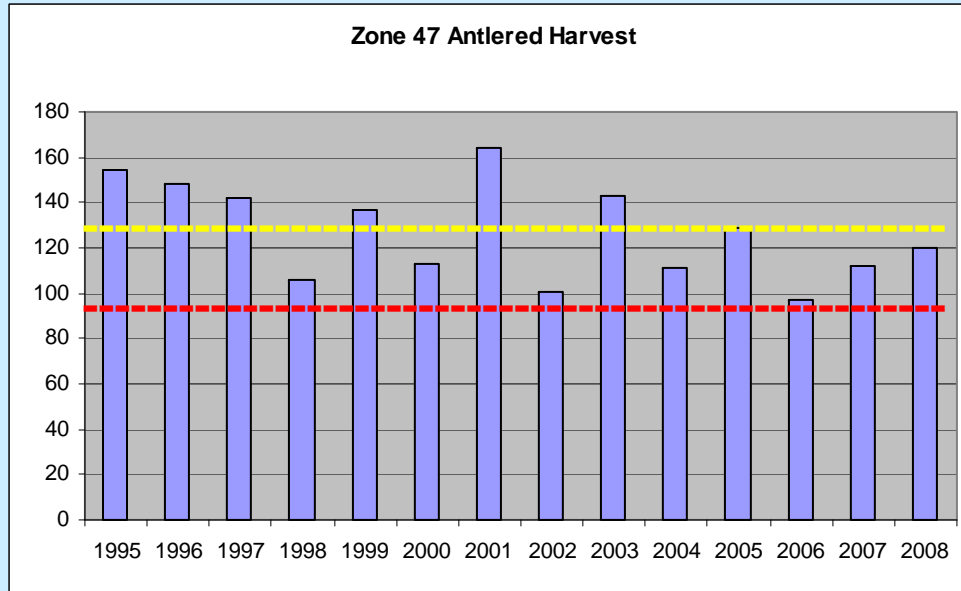
Extended A & B since 2003

Buck goal = 1.5 bucks per square mile.

Zone 47 Antlered Harvest by Age Class



Proposed APR – Zone 47



Current average antlered harvest: 127

Predicted average antlered harvest under APR: 88

Net loss of ~ 39 yearling bucks per year.

Net gain of ~ 6 older age class bucks per year.

Proposed APR Zones Antlered Harvest by %s of Age Class

	1.5	2.5	3.5
28	66%	26%	8%
30	59%	30%	11%
31	61%	30%	10%
34	47%	43%	10%
47	57%	33%	10%
All	58%	32%	10%

N = 657 418 137

Existing south Jersey APR Zones

Pre-APR

	1.5	2.5	3.5+
27	69%	28%	4%
29	74%	17%	9%
35	69%	27%	4%
63	73%	22%	4%
all south	71%	24%	5%

N = 1,325 456 95

Post-APR

	1.5	2.5	3.5+
27	43%	42%	15%
29	45%	36%	19%
35	55%	35%	10%
63	41%	44%	15%
all south	48%	38%	14%

N = 613 486 179

Proposed APR Zones Antlered Harvest by %s of Age Class

	1.5	2.5	3.5
28	66%	26%	8%
30	59%	30%	11%
31	61%	30%	10%
34	47%	43%	10%
47	57%	33%	10%
All	58%	32%	10%

Habitat!
Mast-dependence

Yearling antler beam diameter	Condition rating
	<i>Aaron Moen</i>
<15.0	below standard
>15.0<17.0	standard
>17.0<19.0	above standard
>19.0	substantially above standard

<u>Proposed Zones</u>	5 yr avg
Zone 28	19.31
Zone 30	14.99
Zone 31	16.67
Zone 34	13.03
Zone 47	17.03

<u>Existing Zones</u>	5 yr avg
Zone 27	20.814
Zone 29	19.962
Zone 35	21.382
Zone 63	21.296

Existing APR Zones 27, 29, 35, 63 – Age Class by Number

Age Class	Pre-APR	Post-APR	N change	
1.5	1,325	613	-712	- 116%
2.5	456	486	+30	+ 7%
3.5+	95	179	+84	+ 88%
Total	1,876	1,278		

$-712 + 114 = -598$ (average number of bucks lost to harvest per year in the southern APR zones.)

On 361 sq. miles of deer range, that's 1.7 bucks per sq. mile not harvested.

On 361 sq. miles of deer range, that's <1/3 older age class buck per sq. mile harvested. (1 older buck ~>3 miles)

In Conclusion...

- ◆ Division of Fish & Wildlife supports QDM *on private lands where supported by quality habitat.*
- ◆ APR has positives & negatives:

Positives

- *harvest of older age class bucks increase.*
- *increase in higher point classes*

Negatives

- *decrease in overall buck harvest*
- *number of older age classes did not equal number of yearlings saved.*
- *increase in higher point classes did not equal decrease in lower point classes.*

Questions?

Contact:

Biologist Joe Leskie

609-748-2043

