

## APR Data Summary from April 2010 Deer Hunter Forums

The NJDEP Division of Fish and Wildlife hosted a New Jersey Deer Hunter Forum on three evenings in April on Antler Point Restrictions (APR). Fish and Wildlife deer biologists presented deer data for south Jersey deer management zones (DMZs) that currently have APR, and for DMZs 28, 30, 31, 34, and 47, where the South Jersey branch of the [Quality Deer Management Association](#) (QDMA) has requested APR regulations.

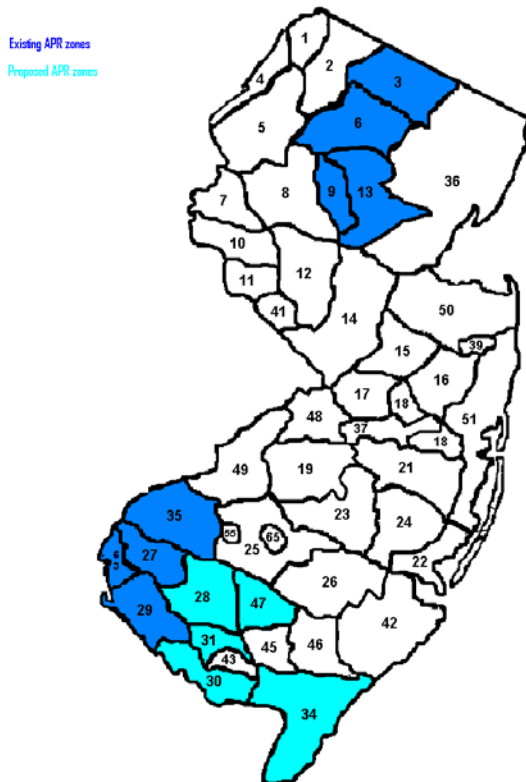
The forum allowed deer hunters who hunt south Jersey DMZs to see data for existing APR zones and deer data from the DMZs proposed for APR. The information provided at the forum may be helpful for deer hunters when completing an upcoming survey Fish and Wildlife sent to solicit deer hunter opinion on the QDMA proposal to implement APR in DMZs 28, 30, 31, 34, and 47.

The APR Survey data will be analyzed and presented to the Fish and Game Council during the June 8 meeting held at the Central Region Office on the Assunpink Wildlife Management Area.

**The following is a summation of the data presented at the forums.**

### QDM

Antler Point Restrictions are but one part of a philosophy called Quality Deer Management, which also espouses the adequate harvest of antlerless deer to maintain a healthy deer population in balance with habitat and landowner desires, and habitat management in the form of food plots and proper forest management.

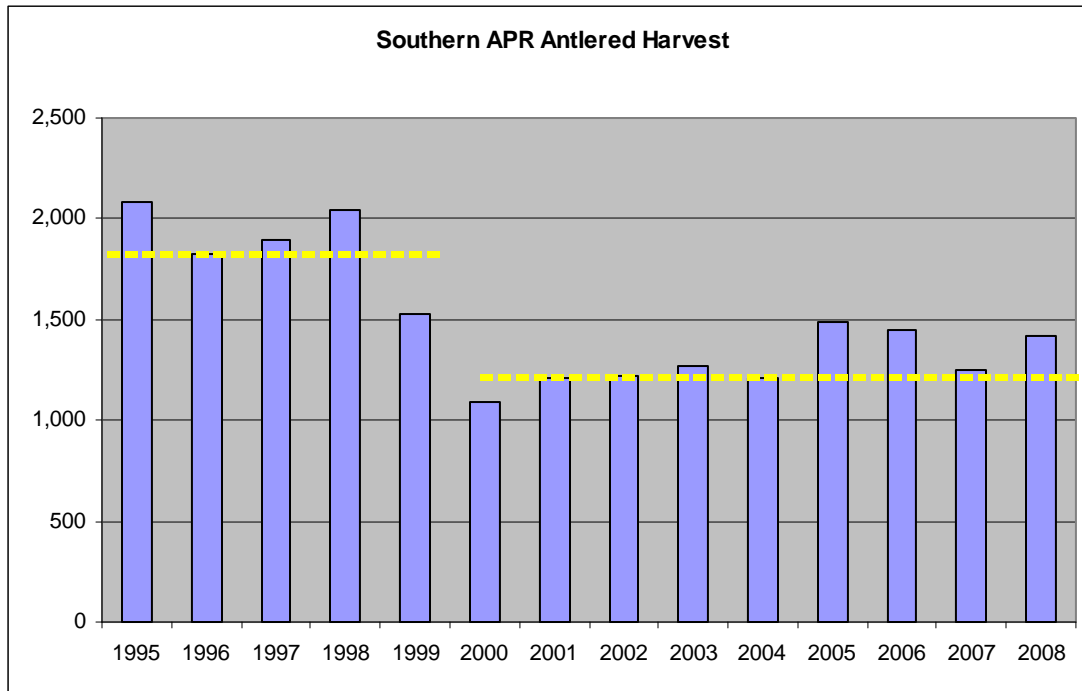


### EXISTING APR PROGRAM

Antler Point restrictions have been in place in NJ in selected zones (dark blue) since 2000 where only a buck with at least 3 points on one side is legal for harvest. The proposed zones are in light blue. Zone 6 was removed from APR in 2007 at the request of local sportsmen.

For the purpose of this data analysis, only the southern APR zones were considered, as the northern APR zones differ in human population densities, land use, habitat, and deer hunting regulations.

## Existing APR Zones 27, 29, 35, 63 Combined Data



**Figure 1.**

↑ APR starts

For all south APR zones, the combined average harvest before APR was 1,876 bucks per year. After the institution of APR, the combined average harvest was 1,289 bucks per year (Figure 1). This is a 31% decline in the antlered harvest due to APR. A decline in the antlered harvest is to be expected, since APR is an impediment to the harvest of an antlered deer.

Figure 2 shows the percentage of each age class of bucks composing the antlered harvest over time in all the south APR zones. Because APR saves the majority of yearling bucks from harvest by making them illegal, we save a large percentage of that age class and see a decline in that segment of the antlered harvest, and a corresponding increase in the 2.5 yr old and 3.5+ yr old segments. Note that the older age classes increase purely as a response to the decline in the yearling segment of the harvest, even if the actual numbers of older age class bucks do not increase.

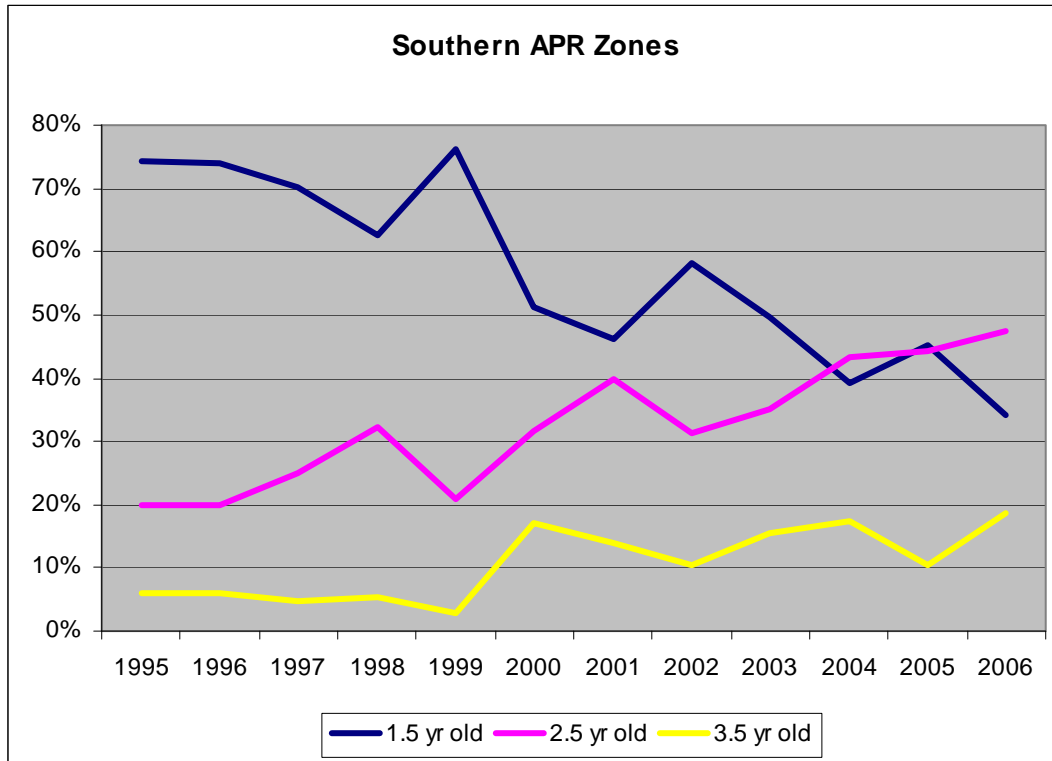


Figure 2. ↑ APR starts

Now let's look at each age class harvest for all the APR zones. These numbers are all summarized in Table 1.

The average yearling harvest pre-APR was 1,325 bucks per year. The post-APR average yearling harvest is 613 bucks per year for all the south APR zones.

The average 2.5 year old harvest pre-APR was 456 bucks per year; the post-APR average harvest of 2.5 year olds is 486 bucks per year.

The average 3.5+ year old harvest pre-APR was 95 bucks per year. The post-APR average harvest is 179 bucks per year.

On average, each year we save 712 yearling bucks from harvest, and gain 30 2.5 year old bucks and 84 3.5+ year old bucks. In other words, we harvest 712 less yearling bucks but gain only 114 older age class bucks as a result of APR.

That means that 84% of the yearlings saved from harvest every year do not show up in the harvest as older age class bucks. Another way of putting it is that for every 6.25 yearlings saved from harvest, we get 1 older age class buck in the harvest.

| 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    | <b>598</b> |

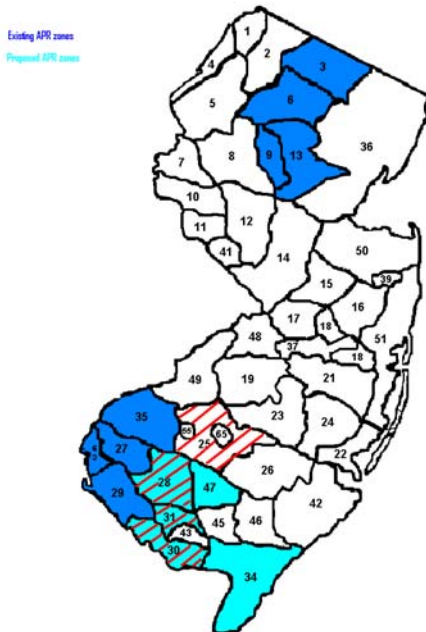
Therefore, 598 yearling bucks saved from harvest in the south APR zones do not show up in the harvest as older age class bucks every year.

Table 1.

**WHERE DID ALL THE YEARLINGS GO??**

① Are they being checked in as older age class bucks during times of the season when Division biologists are not aging deer?

To answer this question, antler point data in these zones was analyzed to see if the number of points per buck significantly changed during the bow seasons, or overall throughout the year. The data did not show a significant increase in the number of bucks with more points being checked in during the early seasons, or during any time in the hunting season.



② Are sub-legal bucks being taken in the APR zones, and then checked in as deer from surrounding zones with no APR regulation?

Analysis looked at both yearling buck age class and overall antlered harvest in the 4 adjacent zones to the APR zones.

The surrounding zones showed an average increase of 106 yearlings post-APR compared to pre-APR. Even if all these deer could be attributed to sub-legal APR deer, they don't come close to the 598 that were saved from harvest.

When total antlered harvest was looked at, there was a net gain of 7 bucks post-APR.

③ Are the “missing” yearlings due to an overall reduction in the statewide deer population?

New Jersey’s estimated deer population reached a high during the late 1990s at around 200,000 deer. Today’s estimates are down to 130,000 deer. The reduction in the overall statewide population was mainly the result of aggressive deer management tactics, namely the Earn-A-Buck regulation, which did not impact these zones.

When the south APR zones’ antlered harvest is compared to similar zones for the same time period, we see an 8% increase in the antlered harvest in the comparable zones versus a 31% decrease in the APR zones.

***WHERE DID ALL THE YEARLINGS GO??***

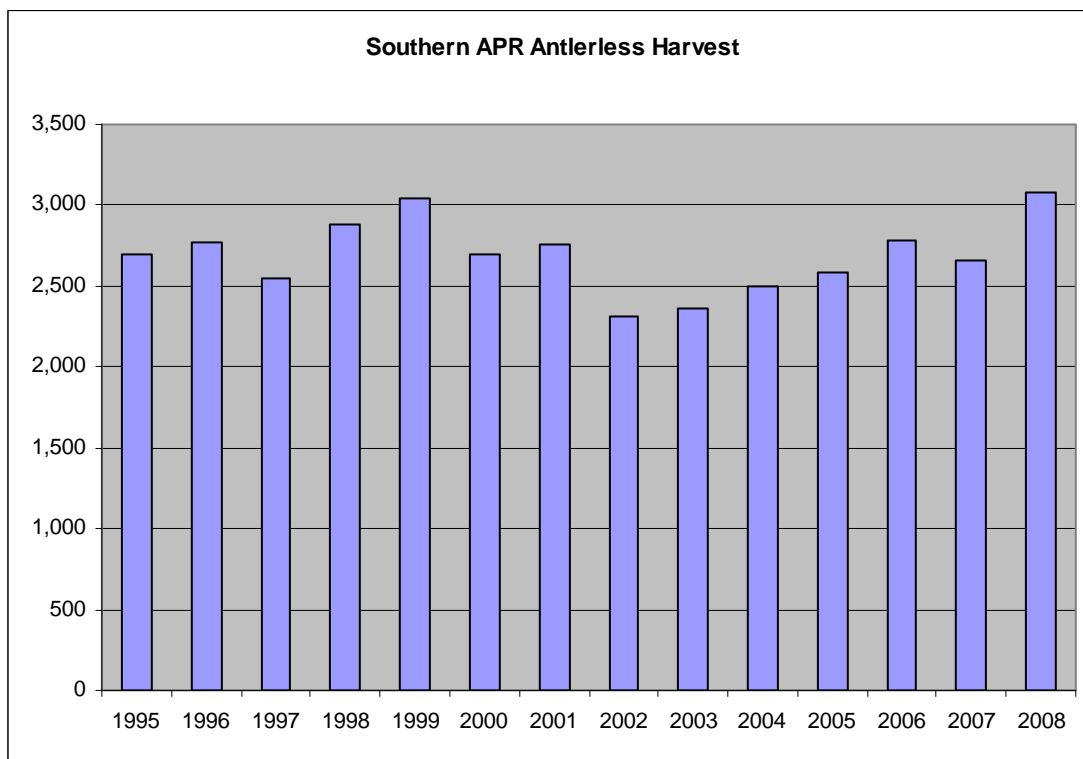
ANSWER: Cars, refugia, smarter!

On 361 square miles of deer range that these 4 APR zones comprise, our “missing” 598 yearlings translates into 1.7 bucks per square mile, many of which could be easily attributable to deer-vehicle collisions.

Older animals are smarter animals and may seek refuge on lands closed to hunting during the season. Older bucks are also much more difficult to bag because they are that much smarter (except during the rut!).

SOUTH APR ZONES ANTLERLESS HARVEST

Figure 3.



The pre- and post-APR average antlerless harvest were virtually unchanged, going from a yearly average of 2,785 before to 2,637 afterwards.

**EXISTING APR ZONES INDIVIDUAL DATA**

**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     |

Zone 27 saves an average of 188 yearlings from harvest each year and gains 36 older age class bucks.

152 yearlings saved do not show up in the harvest as older age class bucks, which translates into 1.5 bucks per square mile.

Zone 27 has had a 29% decline in the antlered harvest due to 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     |

Zone 29 saves an average of 215 yearlings from harvest each year and gains an average of 47 older age class bucks.

168 yearlings saved from harvest do not show up as older age class bucks, which translates into 2.5 bucks per square mile.

Zone 29 has had a 29% decline in the antlered harvest due to 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     |

Zone 35 saves an average of 237 yearlings from harvest each year, and gains 16 older age class bucks.

258 deer saved from harvest do not show up as older age class bucks, which translates into 1.5 bucks per square mile.

Zone 35 has had a 31% decline in the antlered harvest due to 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     |

Zone 63 saves an average of 111 yearlings from harvest each year, and gains 6 older age class bucks.

105 yearlings saved from harvest do not show up as older age class bucks, which translates into 1.5 bucks per square mile.

Zone 35 has had a 37% decline in the antlered harvest due to APR.

**Will Antler Point Restrictions Produce Trophy Bucks?**

As seen in NJ's data as well as data from other APR states, APR results in savings a large percentage of yearling bucks from harvest, with increases in the 2.5 year old age class and very modest increases in the 3.5+ year old age classes. So predominantly you will get a slightly older, larger buck, but trophy bucks will probably not be the result for the following reasons:

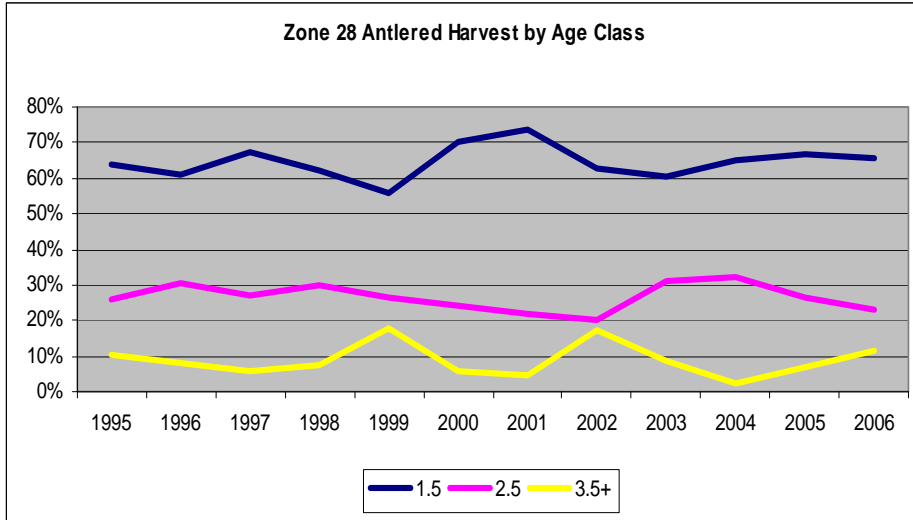
1 – Age at Maturity. Bucks mature (maximum body weight and antler mass) at 5.5 to 7.5 years of age. Properties with high hunting pressure, especially public lands, will not allow for bucks to reach that age and stage of development.

2 – “High-Grading”. A term taken from the timber industry which means to take the best and leave the second-rate. When we do antler point or spread restrictions, we protect the worst of that age class and harvest the best of that age class. A study in Mississippi after 10 years of a 4-point

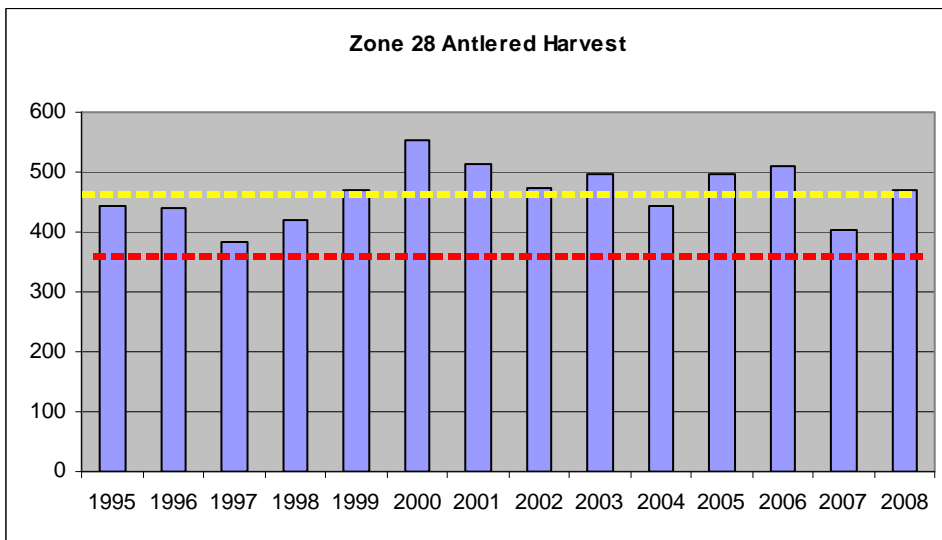
restriction showed a decrease in the gross Boone & Crockett scores of 5 to 9 inches for 2.5 year olds, and 10 to 17 inches for 3.5+ year olds.

**Proposed APR Zones**

**Zone 28**



Zone 28 exhibits a typical buck age class structure for a zone with no APR: a high percentage of yearlings, with a smaller percentage of 2.5 yr olds, and fewer 3.5+ yr olds harvested each year.



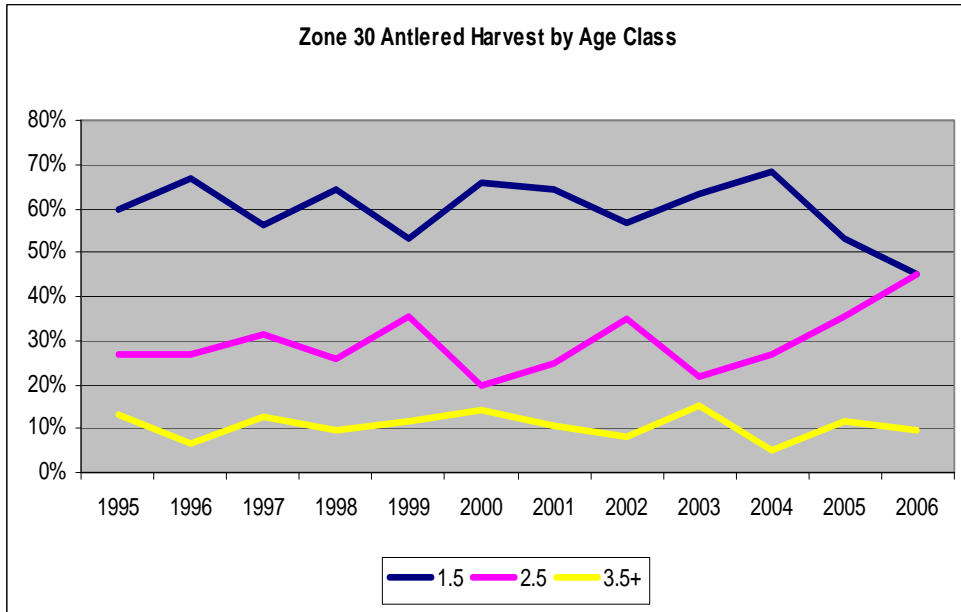
The current average annual buck harvest in Zone 28 is 465.

The predicted annual buck harvest if APR is added is 321.

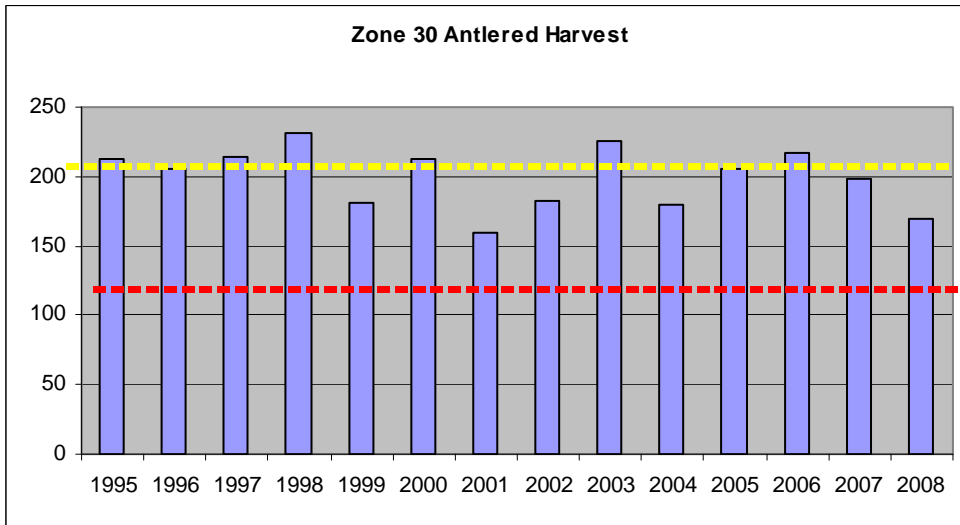
If APR is added, we would expect to save ~144 yearlings from harvest per year, and see a net gain of ~23 older age class bucks per year.



## Zone 30



Since 2004, Zone 30 shows a decrease in the yearling segment of the antlered harvest, and an increase in the percentages of older age classes. Since this is not regulation-driven, it is indicative of poor antler development in the yearling age class of the herd.

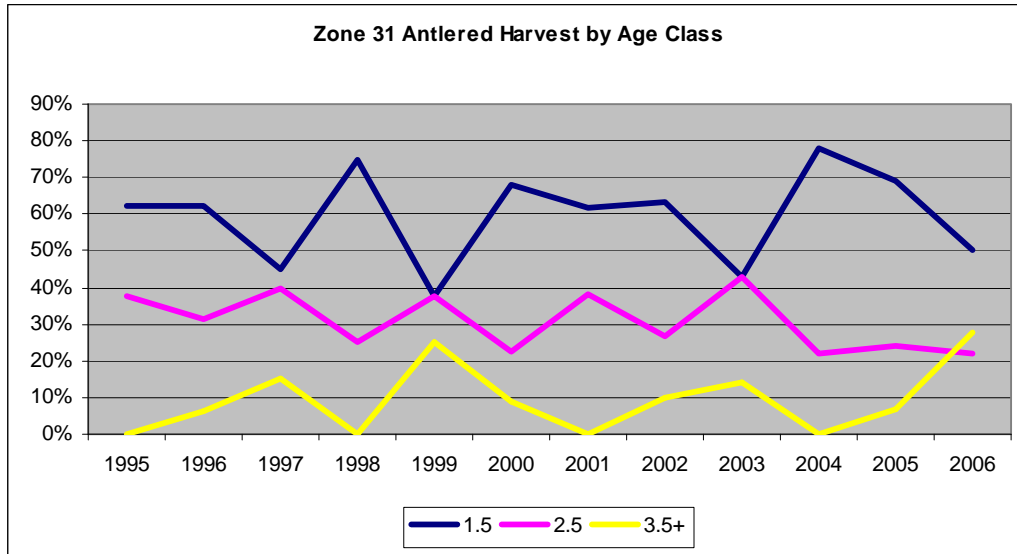


The current average annual buck harvest in Zone 30 is 200.

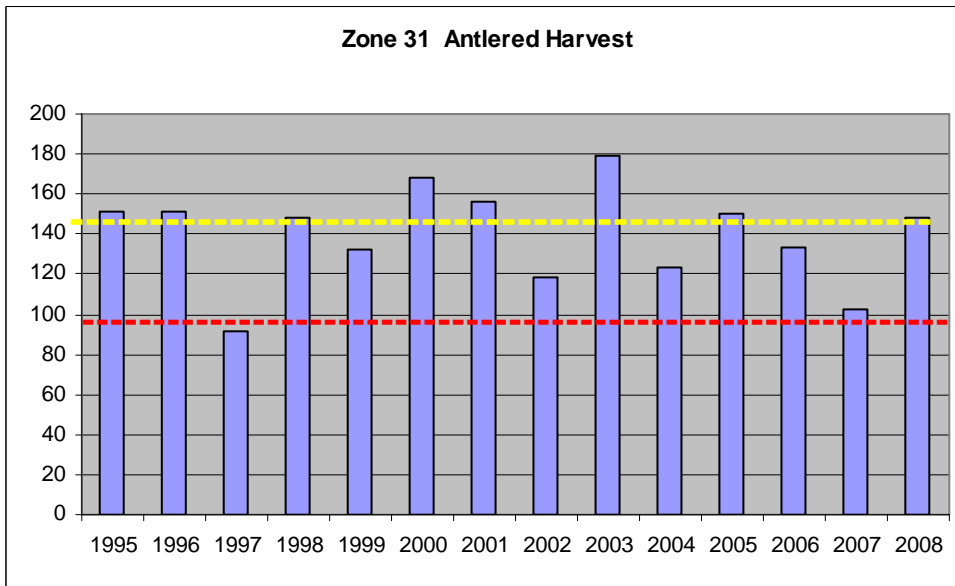
The predicted annual buck harvest with APR is 138.

If APR is added we would expect to save ~62 yearlings from harvest per year, and see a net gain of ~10 older age class bucks per year.

## Zone 31



Zone 31 continues to show erratic antler development in the yearling segment of the buck population, as indicated by the fluctuating blue line.

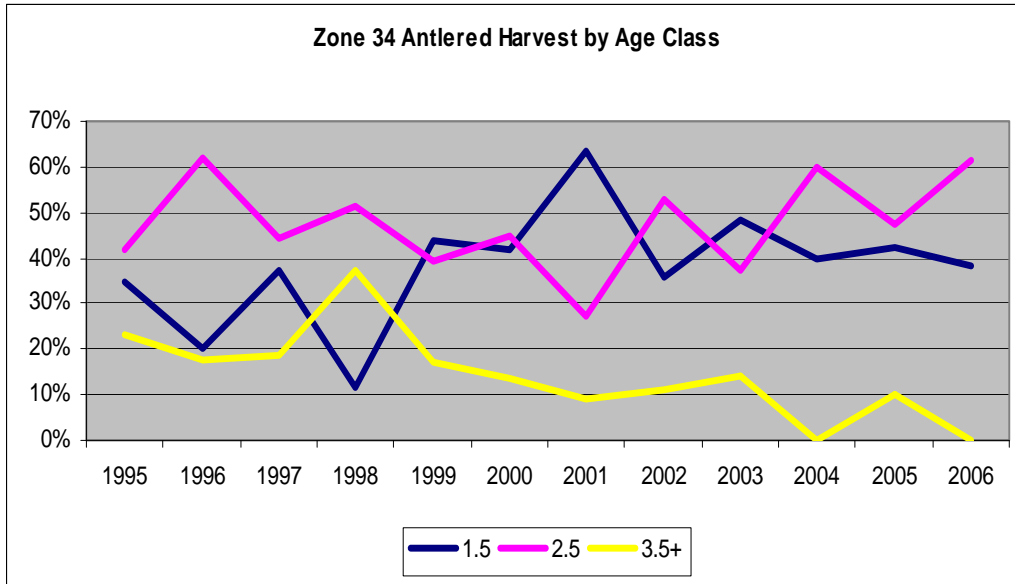


The current average annual buck harvest in Zone 31 is 139.

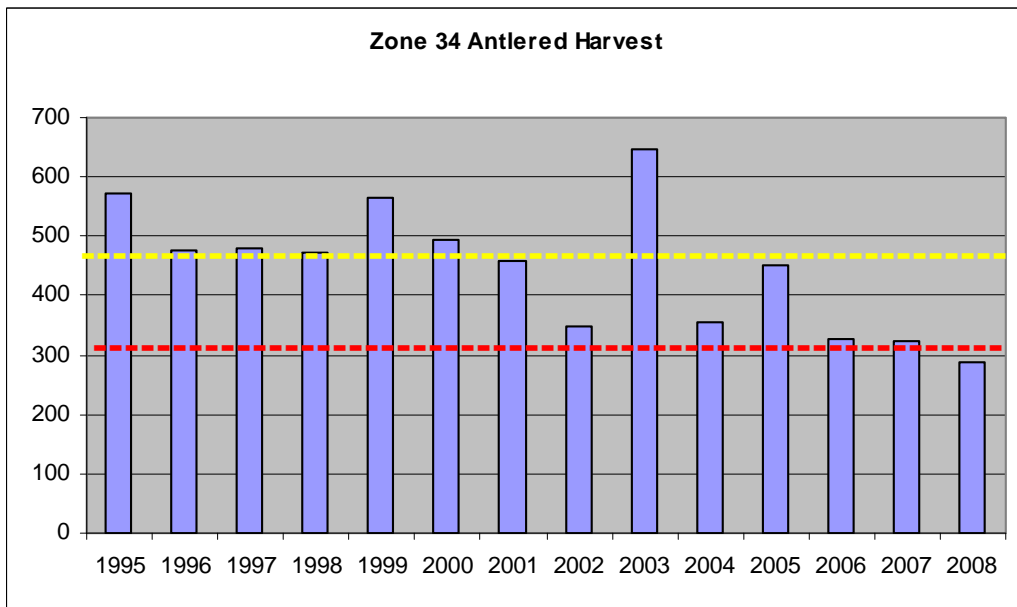
The predicted annual buck harvest with APR is 96.

If APR is added we would expect to save ~43 yearlings from harvest per year, and see a net gain of ~7 older age class bucks per year.

## Zone 34



The percentages of age class buck harvests in Zone 34 is indicative of very poor years of antler development, as shown by the graph fluctuations.

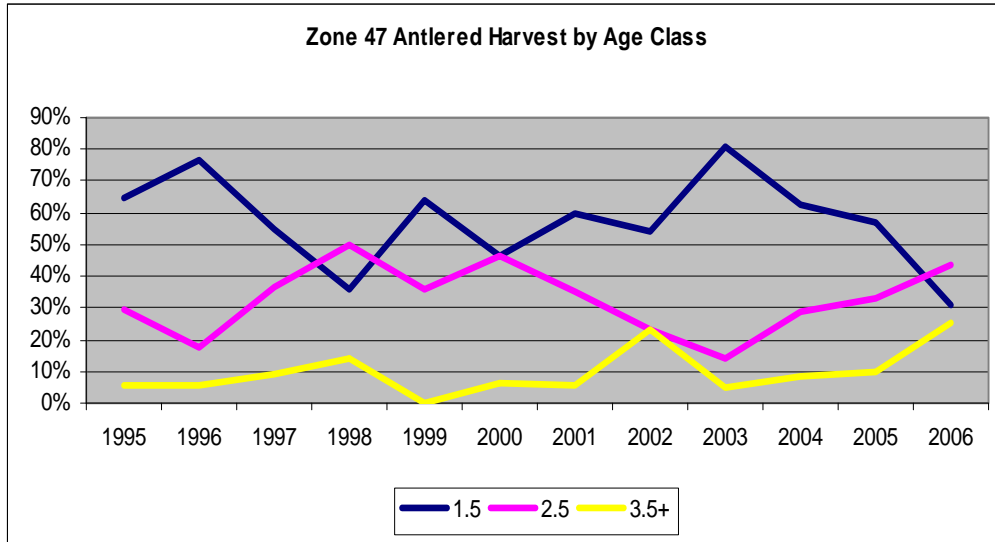


The current average annual buck harvest in Zone 34 is 447.

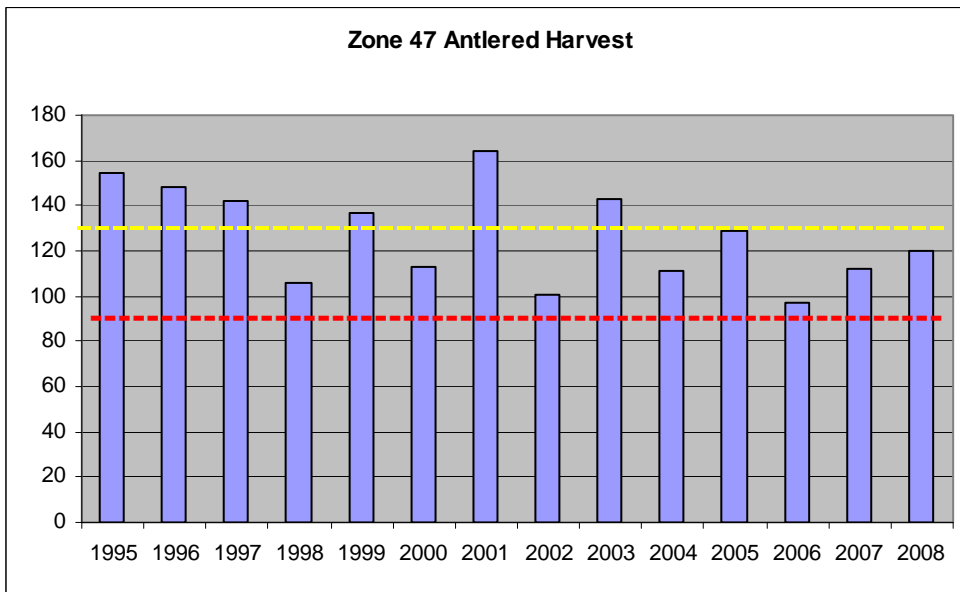
The predicted annual buck harvest with APR is 308.

If APR is added we would expect to save ~139 yearlings from harvest per year, and see a net gain of ~22 older age class bucks per year.

## Zone 47



Zone 47's yearling percentage of the harvest indicated years of very poor antler development, as indicated by the low percent of harvest of that age class.



The current average annual buck harvest in Zone 47 is 127.

The predicted annual buck harvest with APR is 88.

If APR is added we would expect to save ~39 yearlings from harvest per year, and see a net gain of ~6 older age class bucks per year.

The poor antler development in Zones 30, 31, 34 and 47 is attributable to a mast-dependent herd on average to poor habitat. The following parameters are used to determine overall herd health and habitat condition, based on yearling antler beam measurements in millimeters. Habitat best suited to an Antler Point restriction program are rated above- or substantially above standard.

| Yearling antler beam diameter | Condition rating             |
|-------------------------------|------------------------------|
| <15.0                         | below standard               |
| >15.0<17.0                    | standard                     |
| >17.0<19.0                    | above standard               |
| >19.0                         | substantially above standard |

*Aaron Moen*

| <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   |

Of the five proposed zones, only Zone 28 has habitat that truly meets this criteria (see table on left).

The existing APR zones (table on right) all have habitat that is rated substantially above standard.

*In Conclusion:*

The Division of Fish and Wildlife supports Antler Point Restrictions on private lands where bucks have a chance of reaching a significantly older age because of limited hunting pressure, and where supported by quality habitat suitable to producing annual antler growth in yearling bucks.

The Division encourages private landowners and managers to work cooperatively on a regional basis to meet these goals, but does not see a biological or management imperative to impose APR on all hunters.