

White-tailed Deer Adult Sex Ratio: What Does It Mean to You?

By *Kevin McKinstry*

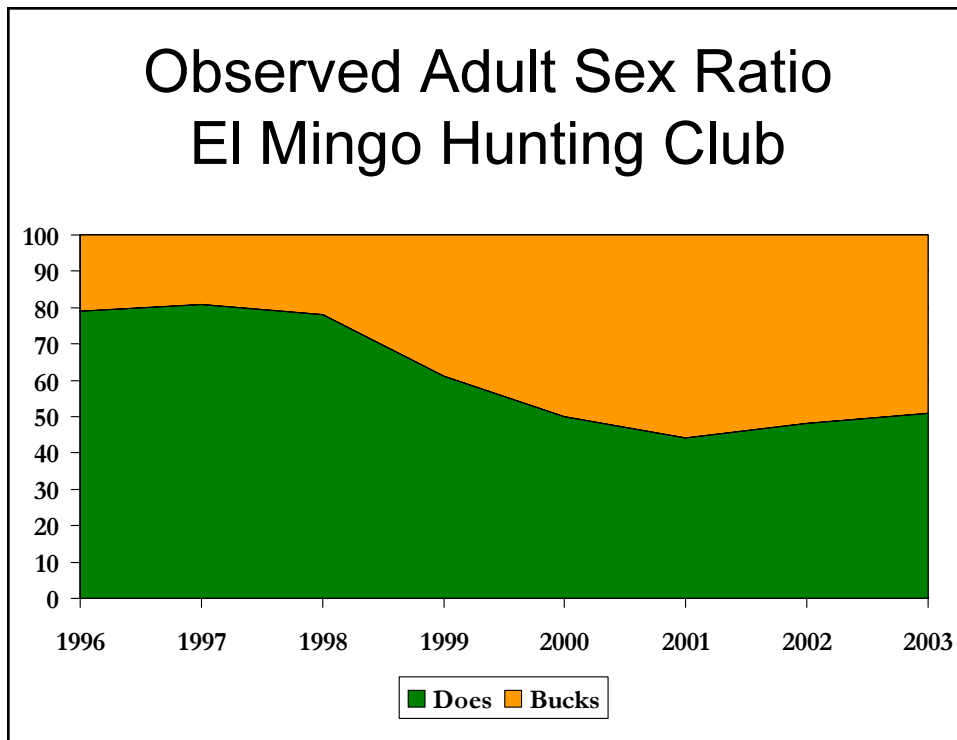
Most deer hunters and landowners have heard wildlife biologists and researchers speak about the importance of “balancing the adult sex ratio of white-tailed deer.” Consequently, many State Wildlife Agencies have in recent years implemented more liberal regulations for antlerless deer harvest to provide opportunity to balance the adult sex ratio. But why is this an important issue, why should you care?

Sex ratio is simply a measurement of the number of adult bucks in relation to the number of adult does that exist on a given property. Properties that have a history of significant buck harvest and limited doe harvest can have a sex ratio skewed heavily towards females. Likewise, properties that have pro-

tected the majority of bucks from harvest and harvested effective numbers of does can have a “balanced sex ratio” or an even number of adult bucks and does. Historical data from natural deer herds that have been virtually protected from human hunters indicates that a deer herd would naturally have a “balanced adult sex ratio”, close to one buck per one doe. The most significant controlling influence on adult sex ratio is the hunter’s bullet or arrow. Every time a deer is removed from the herd, the adult sex ratio can be impacted in favor of males or females.

The primary benefit of recovering a balanced adult sex ratio in a deer herd is that it enables deer to breed and function as nature intended. However, if there is an over abundance of adult females in the herd,

the breeding bucks cannot service enough does on the first estrous cycle (1 to 2 days). The does that “missed” breeding on the first cycle will cycle in again 30 days later. Does that miss that second estrous cycle can cycle in another 30 days, and so on, and so on. Under these conditions there is no well defined rut period. Many landowners will feel like the rut is “late”



We have significantly enhanced our buck observations and sex ratio.

or simply non-existent on their property. Hunting quality also suffers, since an intense rut is often the best opportunity to actually see a mature buck. But perhaps more devastating is the biological consequences of late born buck fawns that can become undesirable (antler quality) adult bucks at maturity. The environmental and nutritional conditions that fawn bucks are exposed to early in life can continue to impact them into maturity. To balance an adult sex ratio and provide opportunity for the majority of does to conceive on first estrous, fawning should take place under optimum conditions.

In “deer society”, during most of the year there are two basic family groups: 1) doe or family groups (matriarch doe, fawns and sometimes a female yearling doe), 2) buck or bachelor groups (groups of bucks, usually with different age groups). Dominance is determined for each group type, but during the most nutritionally critical times of the summer, matriarch does rule the woods. Prior to fawning, dominant does will forcibly drive buck fawns from the previous year away (dispersal). Matriarchs defend these fawning areas and on many properties they are often in the best quality habitat available. Properties that support large proportions of adult female deer will leave few (if any) quality areas for yearling and adult bucks to congregate. In many situations yearling bucks will disperse to adjoining lands and never return. Bucks that do remain on your property may have to grow antlers and body mass under extremely poor conditions. We have collected data that suggests that even a deer herd with an adult sex ratio of 1 buck to 4 does, can suffer from a significant buck dispersal problem. Many properties suffer from sex ratios of 1 buck to 6 or more doe’s. Certainly, dispersal can also lead to increased opportunities for a buck’s demise through legal and illegal harvest, fatal vehicle collisions, etc.

Balancing the adult sex ratio will slow the

rate of yearling buck dispersal and perhaps allow bachelor groups opportunity to share in the quality habitat. Additionally, deer herds with balanced adult sex ratios and a more natural proportion of mature bucks tend to have earlier conception dates as well as a more intense breeding season (rut). Not only is an intensive rut more fun for deer hunters, earlier conception results in an earlier fawn drop. Getting fawns on the ground in May, June or July allows their mother access to better quality forages to produce milk than later born fawns. Fawn predation is also reduced when all fawns are born in a short period of time, instead of a long drawn out fawning cycle. Predators such as coyotes simply have less opportunity to take advantage of helpless newborns when they are all born within a few weeks. Yearling antler



Buck chasing. Photo by Jeff Shaw.

quality and body mass are also usually better for earlier born buck fawns.

Measuring or estimating the adult sex ratio on your property is not difficult. An infrared triggered camera census or spotlight count will provide estimates of the numbers of adult doe's and bucks. Recording hunting observations will also provide an estimate of the ratio of adult bucks and doe's. However, hunting observations can be influenced by hunting pressure and your choice of hunting spots. It is best to use the census estimates of adult sex ratio as "trend data". By charting consecutive years of data, you can monitor the success of your deer management program and determine whether or not it is influencing the adult sex ratio.



Buck scraping. Photo by Jeff Shaw.

If the deer herd on your property suffers from a female dominant sex ratio, the cure sounds like a simple one: aggressive harvest of female deer and eliminating the harvest of immature bucks. Aggressive Doe Harvest defined: (*harvest as many does as you possibly can*). Deer management plans should be designed for specific properties. Primary issues that can influence deer management strategies include soil quality, which will strongly influence deer quality and reproductive potential. Prior to implementing an aggressive doe harvest, some idea of the potential fawn production on a given property should be known. Properties that have limited fertile soils typically have low fawn production rates and over aggressive doe harvest could ultimately significantly reduce the number of deer. However, on some properties with fertile/quality soils, we have had to harvest as many as one doe/16 acres while protecting all bucks younger than 3 1/2 years old to effectively change the adult sex ratio. For many landowners it is simply not possible for them to harvest does at such an aggressive rate, due to limited time to hunt. Under these circumstances professional guns may need to be used to harvest effective numbers of does.

When implementing a doe harvest program, quantity is not necessarily always better than quality. Without first properly educating the "doe hunters" on your property, good intentions can result in significant numbers of "mistakes", i.e. killing buck fawns and small antlered yearling bucks. Doe hunters should always have a good pair of binoculars to study deer before pulling the trigger. Dawn and dusk are poor times to evaluate deer, especially doe deer. To reduce "mistakes" hunters should learn to field judge deer on the hoof before making the decision to shoot. Good rules of thumb for a quality doe harvest include:

- Do not shoot lone antlerless deer. Many times lone deer are orphaned buck

- fawns or small antlered yearling bucks
- Look for antlerless deer with long noses, long necks and square backs. Fawns will have a rounded skull, with short noses.
- When in doubt, do not shoot. You cannot take back a careless mistake.

There is a delicate stability between the proper biological balance of a deer herd and at the same time maintaining good hunting quality. If aggressive doe harvest is consistently applied on areas such as foodplots or deer feeders, the remaining deer will soon learn to avoid these areas. If you continue to hunt these same pressured areas you could soon be wondering if you have any deer on your property at all. It is best to spread hunting pressure across your entire landscape: clearcuts, wooded drains and corridors, interior roads, etc are typically areas we find that are usually under hunted and are better choices to apply aggressive doe harvest.

Balancing sex ratios sounds easy, but ultimately it will be hard work. To successfully implement this type of deer program education is critical. Confidence in your deer management program is essential and is gained through knowledge. Knowledge comes from data collection, analysis and interpretation. We recommend complete deer harvest data and hunting observation data as a minimum. An annual infrared triggered camera census and collecting deer reproductive data would provide additional insight to the success of your deer program.

Contact Kevin McKinstry if you would like more information on Westervelt Wildlife Services white-tailed deer consulting program 800-281-7991

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