

## State Deer Biologists have a difficult task

Let me point out that I am not writing this article to generate sympathy for state deer biologists. I am simply trying to explain the difficult task that they have in coming up with statewide estimates each season for their state deer population and how many deer were harvested. Many states try to come up with an estimate of the state's deer population. Many states also try to estimate how many deer were harvested during the hunting season both Bucks and Does. They also have to establish the hunting dates and the daily and/or season bag limits which may be changed periodically. They have to estimate and determine many things but I'm going to focus on the things that I mentioned above. I have always been pretty good at math and statistics and let me assure you that coming up with the information that they need is pretty difficult. Let me clarify that and say that coming up with accurate estimates can be pretty difficult. As with any formula the results are only as accurate as the factors that are entered into it. In my own formula where I estimate our deer population I must be able to come up with a good estimate of how many individual/different Bucks we have on our property. Fortunately through my use of trail cameras I can do this but if I was not able to come up with a good estimate of our individual Bucks then my formula would not give me a good estimate of our deer population.

There are various formulas that can be used to come up with an estimated deer population and let's make sure that we emphasize the word **"estimated"**. Some of the methods that can be used for estimating a deer population include doing a pellet count survey, track counts, spotlight counts, aerial surveys, observation counts, formulas based on deer harvested and more recently camera surveys. Most of these methods can't be used for an extremely large area though. Can you imagine doing a pellet count for a large area (like an entire state) or several large areas within a state? How about track counts or a spotlight count? Maybe you could use these methods on a smaller area but forget about trying it on a large area. An aerial survey might work if you are surveying open areas but then you have the problem of making sure that you cover a large enough area and enough different areas to come up with representative results. With the dense woods that we have on our property an aerial survey would not work. Field observation can help you establish Doe to Buck ratios and Fawn Recruitment Rates (# of fawns per Doe) but it is important to get observation data from throughout the entire state and/or region. As you can imagine this could be very difficult because one region or DMU for example could be hundreds of square miles in size. Getting enough observation data from enough different areas is difficult at best. Remember that even though we have an approximate Doe to Buck ratio of 1.3 to 1 (1.3 Does to 1 Buck) on our property, ten miles away they could have closer to a 2.5 to 1 Doe to Buck ratio. The Fawn Recruitment Rate can also vary from area to area. This can make establishing an accurate state average very difficult. Next there are formulas that depend on having a good estimate of how many deer were harvested both Bucks and Does. One of the problems with this is with more and more hunters practicing selective harvest this might make a formula that utilizes Buck and Doe harvests less accurate. Twenty or more years ago before most people were practicing selective harvest you could assume that most Bucks harvested were yearling (1 ½ year old) Bucks. In some areas today that remains true but each year more and more hunters are gaining an interest in letting yearling Bucks walk. In our particular case we usually don't harvest any yearling Bucks (on purpose) but we may harvest a couple of yearling Does because we failed to identify them as yearlings or we just needed to meet our own specific Doe quota. This may skew some formulas. For example if the formula tries to calculate a Doe to Buck ratio by using the yearling Does and yearling Bucks harvested then this will really be skewed if some people are protecting yearling Bucks. It's impossible to determine *exactly* how many Does and Bucks were harvested in an entire state. They just try to come up with the best estimate possible. I believe that trail camera surveys are going to become more popular each year but again this can work well on smaller properties but would be impossible for an entire state unless the state was able to have a large number of

individual properties do a survey for them. If they were then able to pool all of the results they might be able to establish regional estimates for Doe to Buck ratios and Fawn Recruitment Rates. This still would not give them an estimate of the number of individual Bucks or the total number of deer throughout the state.

Some states have an online, telephone or mail in check in process. This is a good thing but some people don't do the check-in process. Some states require that every deer harvested be brought to a check-in station so the harvest data can be recorded. This will help them come up with an estimate of the number of Bucks and Does harvested statewide and possibly by region. This also allows them to record some important information about the deer harvested such as age and weight. They can also check the condition of the deer as well. I think this is a good thing but again the problem is that some people don't bring their deer to the check-in station which means the state may have to come up with a factor to allow for these deer that weren't checked in. This is just another factor that is difficult to estimate accurately. But they have to do this if they are trying to establish an estimate of the total number of deer harvested for the season. So if your state requires that all deer be checked in please do this so they can come up with more accurate results/estimates. In some formulas this total deer harvested is then used to estimate their deer population. As you can imagine the number of deer harvested could be affected by bad weather or good weather, selective harvest, timing of the rut and other things. Let me just say that the biologists do the best that they can in gathering the data that they need to enter into their formulas to come up with their estimates. The reality is that no state and no individual property can know exactly how many deer are on their property. The objective is to just come up with the best estimate possible. The states that require that each deer be checked in can at least compare the reported harvests season by season to see if the reported harvests are increasing, decreasing or remaining about the same. Even though an entire state may not know exactly how many deer were harvested you as a hunting group do know how many deer you shoot each season and should keep records of this.

The thing that affects us hunters the most is the hunting dates and the bag limits that are established by the state. The state can manipulate the hunting dates in order to increase or decrease deer harvests if they feel that this is necessary. The bag limit that they establish may be too restrictive for one property while the same bag limit may not be restrictive enough for another property. For the properties that may have a higher deer density they need the bag limit to be liberal enough so they can harvest enough deer to keep their deer population at a desired level. On the other hand for the properties that may have a lower deer density they need the bag limit to be restrictive enough so too many deer are not harvested. This may sound silly to some of you but this is happening in more places than you think. This is where the state gets into a no win situation. The bottom line is that each property needs to establish their own harvest quotas based on their own deer populations and we hunters just need enough flexibility in the bag limits so we can establish our own harvest guidelines. Some hunters may be satisfied with the bag limits that are established while other hunters may be totally upset with the bag limits. In Georgia the season bag limit is 2 Bucks (where the 2<sup>nd</sup> Buck must have 4 points on a side) and 10 Does. Yes, I said 10 Does. Many hunters think that 10 Does is too high of a bag limit. I agree with them but we establish our own harvest guidelines for Does which is based on our own deer population. By keeping records we are able to establish our own harvest quotas for Bucks and Does. Because the bag limit is 10 Does that doesn't mean that we are going to try to shoot 10 Does each. The problem of course is your neighbors who go out and shoot as many deer as they can and totally disregard the status of their/your deer population. Please read my deer management articles where I review how we monitor our deer population and how we have become teammates with our neighbors instead of competitors. Many hunters will be willing to try something if they feel that their hunting experience may improve a few years down the road.

Now here is my perspective. Not to sound selfish but do I care how many deer there are in the entire state. (Georgia in my case) Not really. What I care about is how many deer there is on our property. Let me use a

640 acre tract as an example. This may be your tract alone or a combination of a few neighbors. Your state may have a million deer but if you only have approximately 20 deer on your 640 acres then you have a lower deer density and you need to establish your own harvest criteria based on your own specific situation. On the other hand if you have approximately 70 deer on your 640 acres then you have a higher deer density. You will obviously establish different harvest guidelines than the property with the lower deer density. Of course your own guidelines have to stay within the state regulations regarding bag limits. Your guideline might be to allow each member a certain number of Does and Bucks or your guideline might be if it's brown it's down. (No guideline) This simply points to the fact that I am trying to make in many of my articles. We landowners and hunters need to monitor and manage our own deer populations and not expect a biologist or a deer manager to randomly tell us how many deer we have and how many deer we should be shooting. With some simple record keeping you can keep track of how many Does and Bucks have been harvested season by season on your own property. If you can also track the ages and weights of those deer harvested then that's even better. If you can do a trail camera survey and/or record your observation counts you can then track this season by season. **No more guessing or assuming.** If we can provide the biologist with certain information about our own deer population then they can gain a better understanding of our own individual properties. Let's be realistic though, if you have a 50 acre tract of hunting land it's impossible to estimate your deer population because the deer are obviously spending a lot of time off of your property. In order to analyze your deer population ratios you should try to come up with about 1000 acres or more. This may mean that you need to round up 10 or maybe even 20 neighbors in order to have enough property to analyze. If the biologist or deer manager asks you and your hunting group how many Does and Bucks have been harvested over the last five seasons by each season then you should be able to provide that information to them. If you can also provide the estimated age and weight of each deer that you harvest then the biologist and/or you can gain an even better insight into your deer population. If you keep records but are unsure how to decipher them many state deer biologists will be glad to review your information with you. If you use our software then you will have the information that you need to track your deer harvests and even your trail camera counts or sightings season by season. If we could get enough landowners and hunters to keep records then we would be able to provide our state biologists meaningful information that will allow them to analyze the status of the deer populations on various properties within the state or region. We should each be able to provide the biologist with our own estimated Doe to Buck ratios and our own estimated fawn recruitment rates season by season by doing a trail camera survey or observation counts. Remember to try to have 1000 or more acres if you wish to estimate a Doe to Buck Ratio and a fawn recruitment rate. The more information you can provide this biologist the better the analysis will be. These men and women don't have a magic ball that they look into.

In summary, we deer hunters and landowners need to own up to our responsibility for our own deer populations. Some hunters spend hundreds of dollars, some spend thousands of dollars and some spend tens of thousands of dollars on their deer hunting so why would you not at least keep some basic records to prove the status of your deer population. (Many years ago I would have responded to this remark by saying "**I know how many deer I'm seeing each season and I don't need to keep no records**"). *We were humbled once we started keeping records.* If you can show your own hunt group, your neighbors or one of these biologists some actual documentation of your deer population and how it has progressed or how it has regressed then maybe you can make some headway by working with your state biologists and/or **your neighbors**. Many state biologists that I have corresponded with seem very willing to work with landowners and hunters regarding their individual properties. Just remember, try to have 1000 acres or more if possible so the harvest and trail camera/sightings data will be more representative of your deer population. If you have smaller acreage the biologist may still be

willing to assist you. Don't expect the biologist to drop what they're doing and come right over but if you can come up with a mutually convenient time and place to meet then they will probably be willing to meet with you and review your data. If they are able to actually come to your property then in addition to analyzing your harvest and trail camera/sightings data they may also be able to review and analyze the habitat on your property as well. Habitat management can definitely influence your deer population so maybe with a couple of changes to your landscaping you might be able to hold a few more deer on your property. My focus thus far has been for all of us to keep track of our sightings and harvests so we can get a feel for what's happening with our own deer populations. I haven't gotten into habitat management yet and that's not because it's not important. It is very important since habitat can strongly influence whether deer will stay on or at least visit your property. Food, cover and water can definitely affect your deer population as well as the health of the deer so if you have an opportunity to have a biologist make recommendations to improve your habitat then please take advantage of that.