


MAKING SENSE of State Game Management

By Thomas J. Ryder
B&C Professional Member



I'll wager that every reader of this magazine has picked up a new set of hunting regulations for his or her state, noted changes from previous years, and asked "Now why in heck did they do *that*?" Maybe you discovered a shortened buck season, or an increase in doe permits, or that your favorite area had changed to a limited-entry hunt. From where you sit, these changes may appear arbitrary or even ill-advised.

Having spent my professional career in big game management for a state agency, I can assure you of two things: none of this is arbitrary, and it's more complex than you think!

All of you reading this article are avid sportsmen and women who care deeply about the wild things you pursue in the field. What you may not realize, however, is just how much field biology and social science are used by state wildlife agencies in setting the hunting seasons you enjoy so much each year.

I certainly had no clue as a kid majoring in wildlife management. I listened in rapt attention to my college professors elaborating on the virtues and pitfalls of various wildlife management techniques, not realizing how complicated working with wildlife in the real world would actually be. In the first-ever textbook on the subject, Aldo Leopold (1933) defined the practice of wildlife management as simply, "...the art of making land produce sustained annual crops of wild game for recreational use." Although state wildlife managers have tried to inject a healthy dose of science into the equation over the past 80 years, this definition is still basically accurate today.

The modern challenge is to blend the science and management principles we've gathered since Leopold's time with ever-changing public desires. Many sportsmen and women today are well-educated and have very strong opinions on how to improve their hunting experience. These opinions are bolstered by shelves of different hunting magazines espousing one management technique over another as the solution for everything from hunter crowding to low buck numbers. State wildlife agencies operate under tenants of the North American Model of Wildlife Conservation, so the challenge is to incorporate both public desires and scientific principles in the management of these resources. How is that done? I will answer that question below, using management of mule deer as an example.

Determining What's Out There

Early each winter, wildlife biologists and conservation officers in many western state agencies conduct helicopter surveys of mule deer on winter ranges. During these surveys, the sex and age of every observed animal is recorded. Although helicopter surveys are relatively expensive, state personnel can cover winter ranges more rapidly and thoroughly from the air. Subsequently, we tend to see more buck deer, classify larger numbers of animals (making the information more reflective of the entire population) and finish surveys relatively quickly (minimizing disturbance to wintering animals). In other words, it's the most efficient way and time of year to collect these data.

These types of composition surveys are used to determine age and sex ratios for a given population of animals. Age ratios, or the number of fawns per 100 does, give us an estimate of yearly fawn survival. In the simplest terms, high fawn-to-doe ratios generally mean good survival and reflect good habitat conditions, while low ratios reflect poor fawn survival and inadequate habitat conditions. Sex ratios, or the number of bucks per 100 does, help us gauge hunter satisfaction. In general, most hunters prefer to harvest a male deer. Thus, if buck-to-doe ratios are high, hunters see lots of bucks and most are pleased with their hunting experience. If this ratio is low, hunters can become unhappy real fast!

Formulating Management Strategies

Mule deer herds historically have been managed using a variety of strategies to address hunter satisfaction while ensuring long-term biological persistence of a given population. One such strategy employs the use of a general license scenario. Under this scenario, there are no limits on numbers of licenses made available to hunters each year. Since hunter numbers are not regulated, annual harvest levels depend primarily on when seasons are held in fall, how long they are, and what types of restrictions a state agency puts on the sex of animal a hunter may take.

This is where the winter herd data come in. When fawn survival is high and deer are abundant, hunters may be allowed to take animals of either sex and seasons run for longer periods of time. If fawn survival is low and populations are depressed, seasons are shortened and harvest may be restricted to antlered deer only. When both deer numbers and buck-to-doe ratios are down, antler-point restrictions may be instituted to

further restrict harvest in the area.

Another way states manage deer harvest is through limited-quota hunting licenses. Under this scenario, hunter numbers are regulated by the number of licenses, or quota, issued for a given area. Hunters must apply for these limited licenses and drawing success is often low. Thus, the overall opportunity to hunt each year is reduced. However, since hunter numbers are restricted by the license quota, hunting seasons are usually longer and limits on take can be less restrictive. Thus while fewer hunters may be able to go afield, those lucky enough to have that opportunity are likely to have a better experience.

Adding Hunter Characteristics to the Equation

Public opinion as to which of these season structures is preferred varies with the last person you talk to. Often, more experi-

The modern challenge is to blend the science and management principles we've gathered since Leopold's time with ever-changing public desires. Many sportsmen and women today are well-educated and have very strong opinions on how to improve their hunting experience.

enced hunters prefer limited-quota strategies because they want to harvest a trophy buck and believe this season structure gives them the best chance to do so. They don't necessarily care if they hunt every year, as long as they have a shot at that big guy once in a while. Conversely, younger hunters just want to hunt each year and general license hunting gives them that opportunity. Although they like harvesting an animal, it doesn't matter as much if it's a big buck. They just want to be outside experiencing the thrill of the chase and bring some meat home for the family.

As you are likely aware, recent demographic data indicate hunters are getting older and numbers are declining in most states. As a result, many state agencies are hearing predominantly from older hunters who pine for the good old days and complain about declining quality of their hunting experience. These vocal sportsmen push for

more restrictive deer seasons to reduce hunter crowding and provide more trophy hunting opportunities. However, the trend in hunter demographics suggests that states actually need to do everything possible to recruit young hunters into the sport and become less, not more, restrictive in providing young people the opportunity to hunt each year.

In my view, the best way to accomplish both objectives is to provide a diversity of hunting opportunities. My home state of Wyoming has developed criteria to provide for this type of diversity. Each of the Wyoming Game and Fish Department's eight wildlife regions offers both limited quota and general license opportunities for deer hunters. Department biologists and game wardens, working in concert with hunters, landowners, federal land management agencies, and non-government organizations (NGOs), have established population targets to ensure long-term biological viability for the resource.

However, Wyoming also has established goals for its deer populations with buck-to-doe ratios. In some hunt areas, deer are managed under a recreational management plan. These areas generally have lower buck-to-doe ratios through time, but hunter participation is maximized using general license seasons. Since license sales are not restricted, younger hunters can readily purchase a deer license over the counter and hunt in a myriad of areas close to home.

In other hunt areas, deer are managed for higher buck-to-doe ratios. These special management areas utilize limited quota season structures to restrict hunter participation. While these areas are tougher to draw, those who do draw have a reasonably good chance of harvesting a mature buck.

As our society becomes more urbanized, it is essential that state wildlife agencies, as the statutory entity responsible for managing big game resources, continue to work with sportsmen and women to provide the maximum number of fair chase hunting opportunities possible. By sincerely listening to the folks who own and utilize the nation's game resources, state agencies will maintain strong public support for our wildlife and wild places.

It is all part of the important and complex business of state game management, upon which the future of wildlife and hunting depend. ■

Tom Ryder is a past president of The Wildlife Society and recently retired after a 35-year career with the Wyoming Game and Fish Department.