



**WHITETAILS
UNLIMITED**

A closer look at

Traditional Deer Management



Booklet cover photo
by Donald M. Jones



**BEFORE 1953, WISCONSIN
HAD NO MANDATORY
REGISTRATION PROGRAM.**

Photos by H.C. "Herb" Reynolds.
Courtesy of the Door County
Historical Society Archives

gun licenses may be liberalized to “hunters choice” (any-deer). The number of any-deer authorizations in each unit will depend on the number of permits necessary to achieve the antlerless harvest prescription. Bonus antlerless permits may be authorized if available permits exceed the number of applicants for any-deer authorization.

A feature of this season framework is that it allows unlimited numbers of both gun and bow hunters to (1) hunt every year (2) hunt for the entire season, (3) hunt in the area of their choice, and (4) have a good chance of bagging a deer. These freedoms are of paramount importance to the 700,000 deer hunters in the state of Wisconsin.

WHAT IS TRADITIONAL DEER MANAGEMENT?

Depending on where one lives this may mean different things, including some very poor or evolving management systems. This article is based mainly on my experience in the Upper Midwest and draws heavily on the Wisconsin experience. Also, in the context of this 3-part series (Trophy, Quality, Traditional) there may be an implicit assumption that “traditional” management produces neither “quality” nor “trophy” deer. I disagree. Rather than traditional, I would characterize Wisconsin’s system as *Public Trust* deer management.

Wisconsin is an average-sized state of 56,000 square miles with a human population of 5.2 million. However, it has the third highest number of both gun and bow deer hunters in America. Only Pennsylvania and Michigan sell more deer licenses.

Modern deer management began in Wisconsin in about 1962. This birth followed a long and occasionally bloody gestation period during which many heroes played significant roles — including nationally prominent folks like Ernie Swift and Aldo Leopold. This gestation included the “deer wars” of the 1940s; establishment of mandatory harvest registration (1953); definition of deer management units (implemented in 1959); development of a refined deer

population monitoring system (1961); definition of unit-specific deer population goals (1962); and authorization to prescribe unit-specific antlerless harvests (1962). Thus, traditional deer management as described here for Wisconsin dates back 40 years, and continues to evolve.

Our archery season, as in many other states, is long (about 83 days) and allows each licensee a separate bag limit of one deer of either sex anywhere in the state (plus bonus antlerless deer by unit when available). Gun hunters can hunt antlered bucks (>3-inch antler) anywhere in the state with a bag limit of one. By lottery,

**ADHERENCE TO THE
PUBLIC TRUST DOCTRINE**

Each state has trusteeship of all wild life, waters, and public lands within its borders. This is rooted in Common Law that dates back to the Romans. Most hunters, and certainly most fisherman, recognize and value that navigable waters are held in public trust. Regrettably, from time to time states have permitted much of the public trust to slip from their control. This is not new as it was occurring early in the 1900s. Earth Day, 1970

**WTU’s COMPREHENSIVE DEER MANAGEMENT (CDM) PROGRAM
IS AIMED AT PROVIDING DEER HUNTERS WITH:**

- ◆ a background on the history of whitetail deer management
- ◆ a basic understanding of white-tailed deer ecology and their habitats
- ◆ a general overview of deer management principles
- ◆ a variety of strategies and techniques to improve wildlife habitat on both public and private land. Whitetails Unlimited’s CDM Program focuses on the white-tailed deer, and its intent is to encompass aspects of traditional, quality and trophy deer management strategies.

This publication focuses on Traditional Deer Management and the pros and cons of its place in whitetail deer management.

was a renaissance as citizens began to demand that the Public Trust be restored to the citizens. At that time, we began reclaiming the “free goods” that were being exploited and destroyed by commerce and industries. We fought for clean air, clean water, endangered species, and an environmental policy act. But even today, pressures continue to erode the public trust.

Missing from much of this emphasis was huntable wildlife. All wildlife are to be held in public trust and managed by the states for the benefit of all its citizens. Material benefits (meat, hides, furs) are to be allocated on the basis of law rather than social status, wealth, or land ownership. Upon review, we see that most states have permitted game animals to be used in private commerce (game farms and shooting preserves). More and more landowners are *de facto* privatizing wildlife, especially deer, by limiting hunting access to few or paying individuals. Often deer are attracted, concentrated, and held on private lands by feeding-baiting practices causing these deer to be unavailable to other hunters and proper harvest management. Landowners are being encouraged by private organizations to “manage **their own deer** (whose?!) as they see fit.” All of this undermines professional wildlife management and open public hunting, free-by-permission on private lands.

Should privatization succeed, it will undermine the popular support that heretofore has sustained all of American wildlife conservation. Folks will be less willing to be taxed and pay other fees so that wildlife and habitats can be protected and managed. Wildlife and hunting might be looked upon with a level of disdain and as symbolic of the privileged class (as is occurring in Europe). We, as hunters, must seek to avoid this.

Private deer management is not the best wildlife management. Usually it has a single purpose with limited ecological perspective (ignores bio-diversity values, endangered and migratory species, retention of predators, etc.). Too often deer are husbanded as domestic animals and deer become a commodity where hobbies, profits, and markets tempt manipulation — even hybridization. High fences, canned hunts, and disease problems are already evident where this has occurred. Some scientists claim that the red deer of Europe was reduced to “genetic wreck-

age” as a result of the history of selective breeding and culling by well-meaning privatized deer management. And in Europe, the shift from public to private ownership of wildlife has led to disarming the citizens.

Traditional deer management as described here has as its foundation the Public Trust Doctrine. Another foundation stone is the “Roosevelt Doctrine” which calls for the scientific management of wildlife. Hunters, citizens, universities and regulatory agencies should be holding fast to these doctrines as they evaluate public policy and promulgate rules affecting wildlife.

POPULATION GOALS AND MONITORING SYSTEM

Proper deer population goals are extremely important to any deer management program. Populations at or near maximum carrying capacity (KCC)

will manifest all sorts of symptoms of stress: poor fawn production, poor body weights, high disease/parasite incidence, low harvestable surplus, and poor antler development.

In Wisconsin, our highest goals relative to KCC occur in our northern forest area and average about 70% of KCC. This is a compromise with hunters who would rather **see** more deer than shoot more or bigger animals. **Seeing** deer is important to hunters because KCC is rather low in this forested area, averaging fewer than 30 deer/sq.mi (square mile) with over-winter goals averaging about 20. Furthermore, it is extremely difficult to convince hunters that fewer deer (lower goals) could produce a higher sustained harvest of larger deer (a counter-intuitive biological reality).

In the primary farmlands of Wisconsin KCC is very high. However, human tolerance for deer dictates that overwinter goals be no more than about 25 deer/sq.mi of deer range (permanent cover



Photo by Donald M. Jones

ALL WILDLIFE ARE TO BE HELD IN PUBLIC TRUST AND MANAGED BY THE STATES FOR THE BENEFIT OF ALL IF ITS CITIZENS.



Photo by © John Mielcarek

BIOLOGY OF TRADITIONAL DEER MANAGEMENT

What does a deer herd look like under Wisconsin's tradition of harvest management; a state with very high hunting pressure?

Productivity

With responsible deer population goals, virtually all adult does in the state are bred and most will produce twin fawns. In any herd, consistent fawn breeding (>10%) suggests that the herd is below 60% of KCC. Maximum sustained harvests probably occur near this density. In southern Wisconsin, about half of fawns will be bred in their first fall. Few fawns breed in the northern quarter of Wisconsin, as slower body growth does not permit them to achieve puberty.

Sex Ratios

Despite periodic heavy harvest of adult bucks, prehunt adult sex ratios are rarely more than 2 does per buck so long as "normal" recruitment of fawns occurs. Despite unrestricted antlered buck seasons, mortality rate for adult bucks is only twice as high as for adult does. Since bucks and does are born in about equal numbers (slightly more males), the prehunt adult sex ratio hovers near 2 does per buck. During the current over-abun-

dance of deer in Wisconsin, fall sex ratios of adult deer in farmland areas are more nearly 1.5 does per buck. One should note that unhunted, "natural" herds have female biased adult sex ratios.

Badly skewed sex ratios (>2:1) as reported elsewhere can only occur with high buck harvest **and** low productivity. Low productivity, as may occur with over-stocked herds, means fewer fawns to serve as replacement bucks the next year.

Adult Doe Age Structure

Age structure of does is determined by the productivity of the herd. The more productive the herd, the younger the herd will be. In northern Wisconsin where goals are near 70% of KCC, productivity (recruitment) is lower and yearlings typically comprise 28-30% of adult does. In central Wisconsin forest, yearlings comprise about 35% of adults does, and in southern farmland will exceed 40%. Only about 5% of adult does live beyond age 5. Life expectancy is limited by both harvest and tooth wear. The average age of ALL female deer by mid-November is about 2.3 years.

Adult Buck Age Structure

Age structure of bucks is determined primarily by mortality rate. Heavy hunting pressure and a heavy harvest results in a younger age structure, assuming bucks are shot proportionally across all ages. The oldest buck age structures

ESTIMATING DEER NUMBERS IS A FORMIDABLE PROBLEM FOR THOSE WHO WISH TO MANAGE DEER ON SMALL PARCELS OF LAND.

plus a 100-meter buffer extending into active agricultural fields). In most cases, this may only be 20-40% of KCC. Clearly, this low "relative-density" (density relative to KCC) results in "quality" deer as they are fully capable of manifesting their genetic potential for productivity and growth. This contributes to Wisconsin being a national leader in the number of B&C and P&Y entries (See Graph 1).

Paramount to all of this is a herd monitoring system that will tell wildlife managers where they are relative to goals. Reliable information (large sample sizes) on fawn breeding, yearling doe recruitment, or yearling antler development can provide yearly indexes relative to variable annual carrying capacity. However, it may be inadequate to define where the herd is relative to a population goal (e.g., 20 deer/sq.mi). Estimating deer numbers is a formidable problem for those who wish to manage deer on small parcels of land.

Wisconsin has been highly quantitative in its management. While the population estimates for the entire unit enable prescriptions of antlerless harvests with predictable results, densities of deer throughout the unit may vary considerably. This causes some hunters to question the monitoring system despite 40 years of tested performance. However, someone is shooting a lot of deer. The combined harvest in 2000 and 2001 exceeded a million deer.



Photo by George R. Cassidy

SINCE BUCKS AND DOES ARE BORN IN ABOUT EQUAL NUMBERS (SLIGHTLY MORE MALES), THE PREHUNT ADULT SEX RATIO HOVERS NEAR TWO DOES PER BUCK.



Photo by Kevin R. Spatt

AS THE THIRD LARGEST HUNTING STATE, WISCONSIN HAS PLACED CONSIDERABLE PRESSURE ON ITS BUCK POPULATIONS.

would occur at KCC in the absence of hunting where chronic mortality (starvation, poor survival) is focused on the youngest animals.

As the third largest deer hunting state, Wisconsin has put considerable pressure on its buck populations. With almost 1,000,000 deer licenses sold (gun and bow) and a sustainable harvest at goals of fewer than 350,000 deer, there is competition for venison. Antlered bucks get the pressure as there is no limit on them. In some easily hunted farm woodlot country, it was common from 1970-1990 that 85% of the bucks would die each year. This resulted in only about 2% surviving to be harvested as 3.5-year-olds.

In the contiguous forest of the northern third of the state, buck mortality has always been much lower. On average, about 20% of bucks survive to 3.5 and older. This is a fairly old age structure when one considers that prime age bucks are among the most vulnerable deer to

winter loss as fat reserves are depleted during the rut.

Since 1990, mortality has fallen for all bucks, especially those in Wisconsin farmland. A succession of mild winters coupled with obscene amounts of baiting and feeding of deer has resulted in a period of over-abundant deer. Formerly restrictive bag limits of one deer per license have been liberalized in most units so that hunters could theoretically shoot 2 deer per day during an 83-day bow season plus 9+ days of gun hunting. However, only one deer per license could be antlered.

This has seemingly resulted in many hunters meeting their venison needs with antlerless deer while holding their “buck” tags for a monster buck. If the “schlaupus” didn’t show, they shot no bucks. This has caused buck mortality rates to fall since 1990 from near 85% to the upper 60% range. Other factors are also contributing to this decline in buck mortality. Hunting practices have

changed. Deer drives were commonplace, but now most hunters sit or stand. Land ownership changes and residential sprawl have created refuge-like areas. And, some landowners are attempting to practice so-called QDM where younger bucks are protected.

Antler Development

Antler development on yearling deer serves as an excellent index to herd welfare as it correlates well with a host of other physical conditions (e.g., body size, productivity, etc.) of male and female deer of all ages. With fairly high deer densities relative to carrying capacity, as in northern Wisconsin, about 45% of yearlings will carry spike antlers. In southern Wisconsin, deer densities are kept much lower relative to carrying capacity and less than 5% of yearlings will have spikes.

There is yet no scientific evidence indicating that Wisconsin’s so-called



Photo by Mark Romanack

Antler Restrictions

All Western states have tried antler restrictions in an effort to increase the number of mature male mule deer and bull elk. All have now discontinued them as statewide rules for two primary reasons. First, antler restrictions focused mortality so heavily on mature animals that they were virtually extirpated. Better age structures were found where harvests were spread across all age and antler classes. Secondly, states experienced an unacceptable level of accidental-illegal kill of animals with wrong antler condition. E.g. - spikes were regularly shot in Wisconsin prior to 1956 when only forked-bucks were legal.

A third problem with antler restrictions is that there is no easy way to define an antler condition that will protect most young bucks without the best-antlered yearlings still being harvested. Point restrictions tend to protect only the smallest-antlered deer.

A fourth problem with mandated antler restrictions is, what type of fine should be imposed on, say, a 14-year-old that shoots a deer of sub-legal condition?

Finally, the age structure resulting from antler restrictions is far from “natural,” if that is a goal. This would be especially true in heavily hunted states like Wisconsin. To produce a “natural” sex and age structure in any deer herd one should “open the hunting season within 2 weeks of the peak of fawning and then shoot 40-80% of the current year’s fawns — that is how Nature did it” (the late Dr. Tony Bubenik). While biologically sound, few of us would be enthused with this type of hunt.

BETTER AGE STRUCTURES ARE FOUND WHEN HARVESTS ARE SPREAD ACROSS ALL AGE AND ANTLER CLASSES.

traditional (Public Trust) deer management is adversely affecting deer herds. The paramount concern for producing “healthy, quality” deer is maintaining responsible numbers of deer.

TRADITIONAL HABITAT MANAGEMENT

Traditional habitat management values deer as wild, free-ranging animals in a “natural” environment. Clearly, this “natural” environment is severely altered in human-dominated landscapes such as

TWEAKING TRADITIONAL HARVEST MANAGEMENT

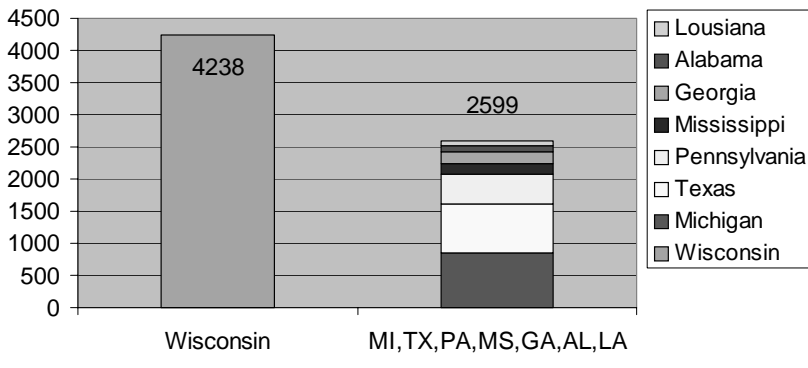
Wisconsin is among the top states for the number of Boone & Crocket bucks entered in the record books. In recent years, we have recorded about 10-12 B&C per year and about 220 Pope & Young entries per year (See Graph 1). Despite this, “monster buck mania” tempts folks to try almost anything to get a head in the record books. In some cases they are trying to grow their own trophies through some form of “privatized deer management” or else pressuring state wildlife agencies to alter their harvest management strategies.

Self-interest often causes these folks to overlook the consequences of changing harvest strategies. Most times they are looking to alter sex ratios and increase buck ages by reducing buck harvest rates. This goal becomes difficult as it requires reducing hunting opportunity or mandating antler restrictions. Few hunters want less hunting opportunity, plus antler restrictions bring with them undesirable baggage.



FEW HUNTERS WANT LESS HUNTING OPPORTUNITY, PLUS ANTLER RESTRICTIONS BRING WITH THEM UNDESIRABLE BAGGAGE.

Typical White-tailed Deer Trophies Recorded by Pope and Young Club. Wisconsin vs. Selected Other States



GRAPH 1 - NUMBERS OF POPE & YOUNG TYPICALS RECORDED FOR WISCONSIN AND SELECTED OTHER STATES.

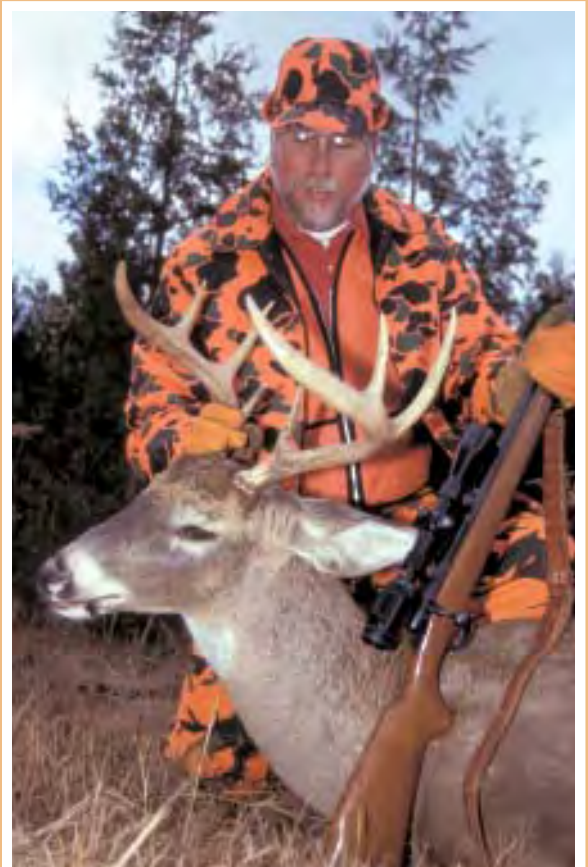


Photo by Mark Romanack

TRADITIONAL DEER MANAGEMENT ALLOWS MAXIMUM FREEDOM FOR HUNTERS, AND THEY MUST WEIGH THE COST OF CHANGING HARVEST STRATEGIES.

the prime farmlands of the Midwest. However, deliberate habitat management for deer in these farmlands is not warranted or even advisable. Winters are short, growing seasons long, and foods are abundant. Soil amendments added to crop fields also increase the nutrition of

deer. Biological carrying capacity of most farmlands greatly exceeds human tolerance for deer. The only habitat need is preserving permanent cover.

However, this does not prevent commercial interests from promoting, and private landowners from planting food plots or other so-called “improvements.” Boutique seed mixes are offered nationwide that promise bigger bucks, or bigger “horns,” or cures for whatever ails you. Fishing lures are often designed more to catch fishermen (their money) than to catch fish. So too, deer blocks and dedicated seed mixes. Most food plots in farm country are not truly designed to appreciably increase

deer carrying capacity but are planned to attract, concentrate, and hold (privatize?) a group of deer to make it easier for the landowner to cull a deer of choice.

In forested habitats, carrying capacity is much lower than in farm country. Some forest types are much more favorable to deer and other game production than are other types. Early-succession forests, such as those regenerated by clearcutting, are far more productive of deer than late-succession forests. The latter forests are usually comprised of longer-lived trees and tend to replace early succession trees. Many states deliberately maintain a good representation of early succession forest as part of their deer management programs.

Again, statewide traditional deer management programs treat deer as natural products of the land. The application of domestic animal husbandry (feeds, food plots, and supplements) to artificially increase deer populations is discouraged. Such practices often foster disease risks to free-ranging deer that cannot be managed as is the case with domestic stock. Natural processes have shaped the whitetail into a marvelous animal. Humans should seek to avoid converting deer into semi-domesticated donkeys.

Also, Aldo Leopold indicated that the satisfaction of a hunt was inversely related to the artificiality of what produced the game.

SUMMARY

Traditional (Public Trust) deer management as practiced in Wisconsin has served hunters and resources well, and produces both “quality” and “trophy” deer. To date, there is no scientific evidence compelling a change in harvest management strategies. Traditional management allows maximum freedom for hunters, and they must weigh the cost of changing harvest strategies. There are those in Wisconsin that chafe at the “competition” that 700,000 hunters present. But, they should also be celebrating the political power that this represents to preserve the hunting tradition and gun ownership. Large antlers fascinate us all, but they must be kept in perspective. The general public strongly supports hunting for the purpose of meat and managing herds. We must be cautious that our collective focus does not drift far from these motivations, as anything else is likely to be viewed by non-hunters as an ego-trip and as frivolous use of wildlife.



Photo by Donald M. Jones



Since our beginning in 1982, *Whitetails Unlimited* has remained true to its mission and has made great strides in the field of conservation. We have gained the reputation of being the nation's premier organization dedicating its resources to the betterment of the white-tailed deer and its environment.

In keeping with tradition, Whitetails Unlimited will continue to design and implement programs based on the best information research has to offer, yet routinely assess the quality of WTU's existing programs.



*A National Organization
"Working For An American Tradition"*

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Keith McCaffery is a native of Stanley, Wis. He attended St. Olaf College and the University of Minnesota (Masters is forest-wildlife management). Began as a deer biologist for the Wisconsin DNR in 1963 and served as Research Group Leader from 1991-1996. He was a principal consultant within the state and region on deer herd and habitat management. He retired in 2000 but is a "retirement failure" as he continues as a full-time volunteer to the State deer program. He "suffers" a life-long commitment to deer hunting and responsible deer management. He is past-president of the Wis. Chapter of The Wildlife Society and continues to serve on a national wildlife committee of the American Archery Council.