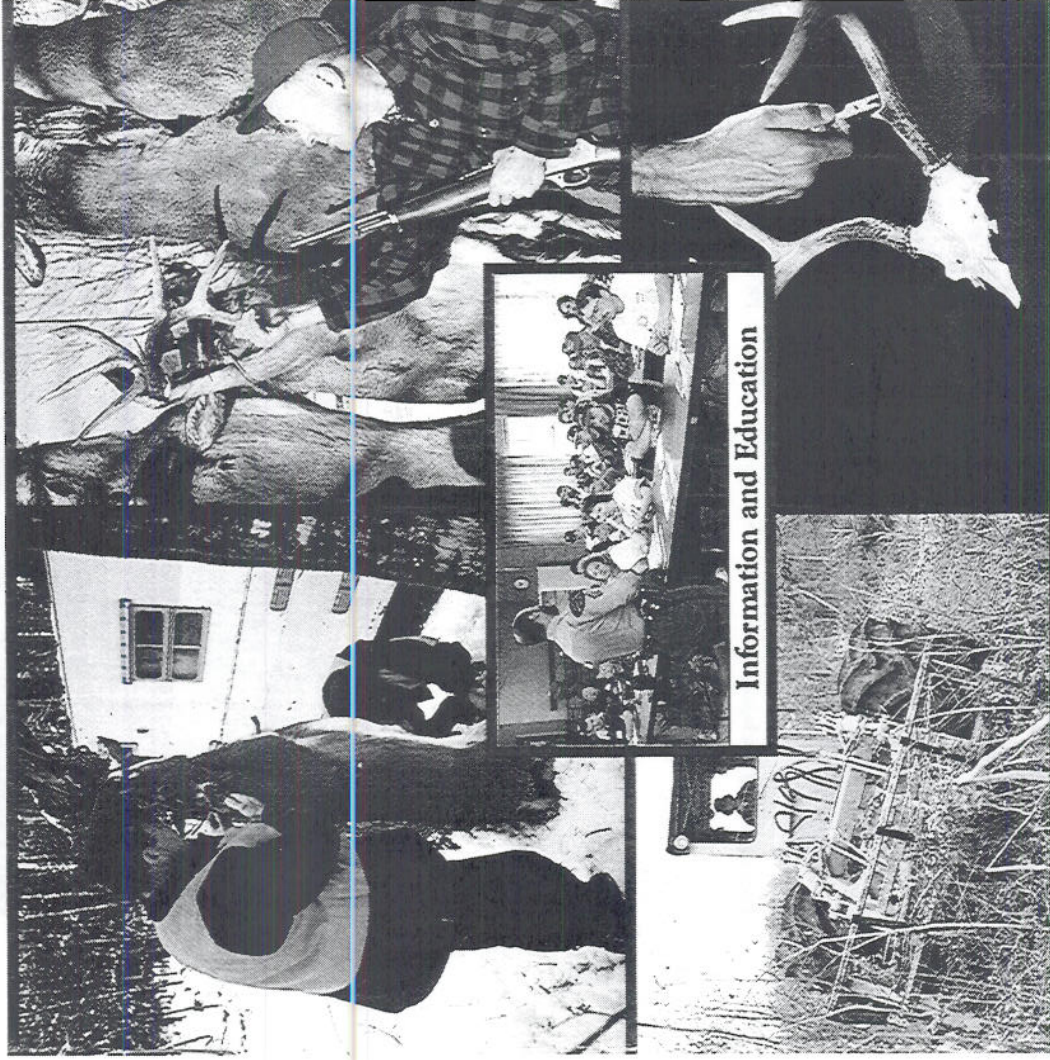


100 YEARS OF DEER MANAGEMENT IN MICHIGAN

Law Enforcement

Population Management



Information and Education

Habitat Management

Research and Surveys



Commemorating 100 Years of Licensed
Deer Hunting in Michigan

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Since 1994 is the 100th deer season for the licensed hunter, it is timely to consider the past, the present, and the future of deer management.

ELIMINATION OF MARKET HUNTING

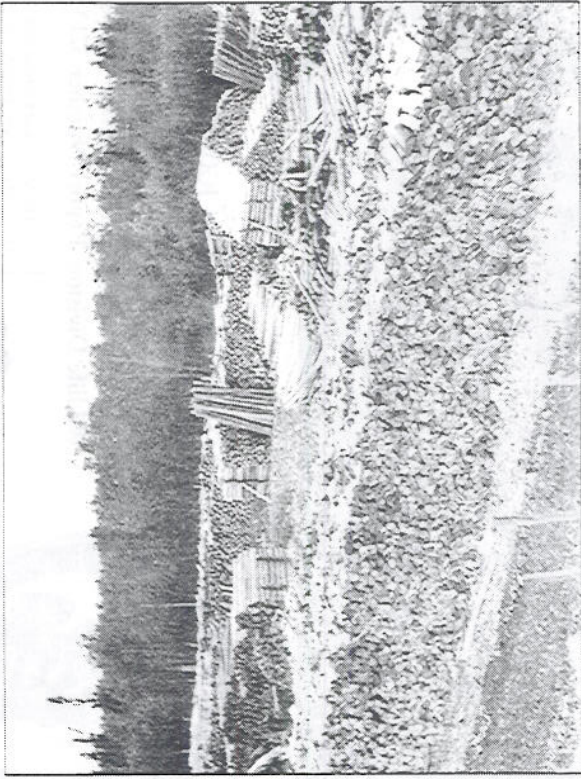
Prior to settlement, Michigan had an abundant deer herd in the south. The mixture of hardwoods, wetlands, bogs and forest openings was perfect for deer. There were few deer in the virgin forests of the north, which were inhabited mostly by elk and moose. The mature trees were so dense that sunlight could not reach the forest floor. Little deer food was available in these virgin forests.



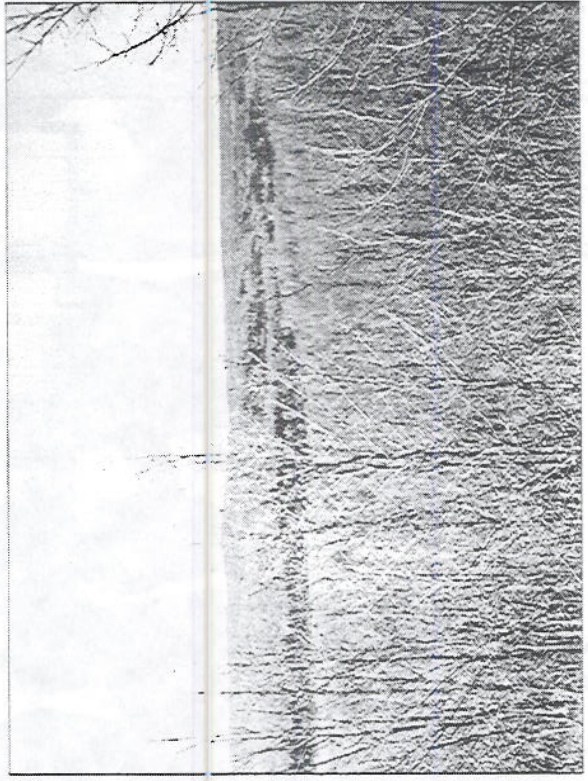
Few deer were found in the pre-settlement forests of northern Michigan.

As farmers and settlers moved into southern Michigan, deer were exterminated by removal of cover and by unregulated shooting. Deer were mostly gone by 1870. Logging of forests in the north produced an opposite effect—more openings, brush, and young forests. As the northern herd climbed to estimated 1 million deer in the 1880s, the abundance fostered a public attitude that this resource was inexhaustible.

Logging camps of 100 to 200 men used venison as the primary source of meat for months at a time. Railroads that had been developed to facilitate the timber market also provided transportation of game meat to Eastern markets. Railroads also provided access for hunters into the wilderness. Market hunters slaughtered hundreds of thousands of deer for the sale of venison. Usually, the hindquarters and legs (saddles) were shipped during the fall of the year with the



The economy of Michigan was dominated by logging from 1860 to 1900.



Logging stimulated the production of deer food.

rest of the deer discarded. In summer, market hunters sometimes killed deer for just the hides. Hunting methods commonly involved the use of dog packs, the killing of deer at night by shining (deer are momentarily blinded with lights), and the shooting of deer while they were swimming in the water.



Recreational hunters formed lobby groups to successfully eliminate market hunting

Early measures to control market hunting were not very successful. The first deer law of 1859 eliminated year-round killing and set a seven-month season for taking deer. However, there was no bag limit or restriction of the method of take. Sporting clubs became outraged at the slaughter of game by the market hunting industry. They realized the need to form a statewide group with sufficient membership to lobby against commercial hunting interests. In 1875, the first meeting of the Michigan Sportsmen's Association (MSA) was held in Detroit.

The MSA lobbied for a bill to make it illegal to sell game out of state, as modeled after a bill in Illinois. Debate from commercial hunting interests was intense. The Legislature sided with industry against the "kid-gloved sportsmen." The formal legislative conclusion was that there was insufficient data on the extent of market hunting to document a need for legislation. Mr. Roney, Secretary of the MSA, spent the next three years collecting data from hunters, railroads, and restaurants. He reported in 1880 that 70,000 deer were killed in Michigan. Sportsmen took a reported 4,000, compared to 66,000 by market hunters. About half of the venison (an estimated 5 million pounds) was shipped out of state. As a result of this analysis, a bill restricting sale of Michigan game meat in other states became law in 1881.

The MSA had other successes in affecting game policies and laws by working with state government. The length of the hunting season was shortened to five months in 1881, at which time it was also made illegal to kill deer in the red or spotted coat or while in water. It was also unlawful to use pits, pitfalls, or traps in the taking of deer. In 1887, a law was passed making it illegal to use dogs or lights for taking deer. Also, the state's first game warden was hired in 1887.

Legislative activity to control market hunting culminated with an 1895 law, which really marked the beginning of deer management in Michigan. The open deer hunting season was established to be November 1 through 25. A bag limit of five deer was set. A license was also required to hunt deer.

Probably more important than the law itself was the public demand for regulation and conservation of deer. Public compliance with regulation was enhanced with better laws and better prosecution of game violators. The attitude that people could work through their state government to conserve deer led to many rule changes decreasing the bag limit and indiscriminate hunting methods. Ultimately, though, it took a federal law (the Lacey Act of 1900) to put an end to the market hunting industry by making it a federal violation to ship game across state lines.

PROTECTION

An early approach to deer regulation was complete closure of specific counties to deer hunting for a period of three to ten years. This extreme method of increasing deer numbers was common in the late 1890s until the early 1920s, at which time deer hunting was illegal in almost 1/3 of Michigan counties. One can imagine the legislative debates about closing of a county to deer hunting for several years.

There was also a reduction in the number of days that hunters could take deer. Season dates were changed several times until 1925, when November 15 through 30 was determined to be the best time for hunting deer. It is interesting to note that except for failed experiments with Saturday openers and split seasons between 1962 and 1967, the firearm season of November 15 through 30 has remained the same for more than half a century.

Although there were few deer hunters at the turn of the century (from 14,499 licenses sold in 1895 to 21,239 in 1915), many of these hunters were very efficient at taking deer. The deer harvest during these years averaged about 12,000. Thus, there was interest in reducing the bag limit of successful hunters as a method to manage deer. The Legislature reduced the bag limit from five deer in 1895 to three in 1901, two in 1905, and to one deer in 1915. But then, there was a serious debate over the Department recommendation that hunters should be allowed to take only one buck. Game Commissioner William R. Oates argued that a "buck law" was needed because the deer herd was not increasing even with the elimination of market hunting. The Commissioner estimated that there were only 45,000 deer in Michigan in 1914. Rather than provide for complete county closures to deer hunting for up to ten years, it was recommended that regulations be

changed so that only antlered deer could be taken by hunters.

Mr. George Shiras III, a wildlife expert of the times, wrote an article supporting the "buck law" which appeared in the Marquette Mining Journal. Regardless of the opinions of Commissioner Oates or Deer Biologist Shiras, the Legislature did not, at first, accept the recommendation for a "buck law." The decade-long debate continued until the "buck law" became effective in 1921. As we shall see, the Department sold the "buck law" so well that it would result in the destruction of deer range and create serious deer population and public education problems for many years to come.

ADVENT OF SCIENTIFIC DEER MANAGEMENT

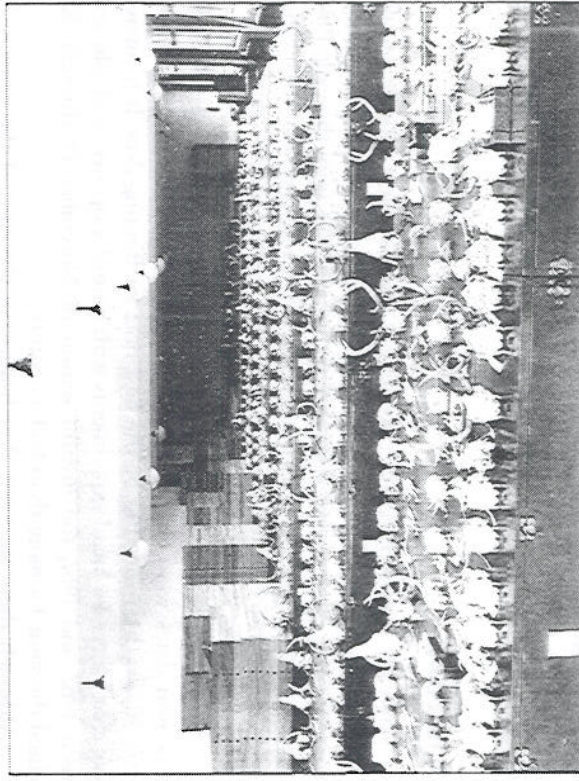
Hunters in Michigan had also lobbied for discretionary authority to be provided to the Public Domain Commission (precursor to the DNR) by the Legislature. The lack of a timely response to the serious drop in ruffed grouse in the Upper Peninsula was used as a case study to show the need for discretionary authority. The Michigan Legislature did even more than provide discretionary authority. Act 17, P.A. 1921, created a State Department of Conservation to include the former Michigan State Parks Commission, Board of Geological Survey, State Board of Fish Commissioners, State Game, Fish, and Forest Fire Commission, and the Public Domain Commission.



This photograph was published widely in 1915 and 1916 by the Public Domain Commission with a normal caption of "One day's transit of Upper Peninsula deer across the straits—two-thirds of these deer are does. A 'buck law' would protect the mother deer and preserve this medium of food and recreation for many years."

In 1928, the Game Division was established within the Department of Conservation. With technical personnel in a special organization, scientific data began to form much of the basis for decision-making. Our basic knowledge of the white-tailed deer and its habitat expanded as Michigan made a major contribution to the scientific literature on deer.

Studies were begun on conducting drives to census deer. Sighting rates of bucks, does, and fawns seen per 100 hours were recorded by conservation officers while on patrol in deer territory. Studies were completed to correlate skull and antler characteristics with age of deer. Browse surveys were done in deer yards to estimate winter food and cover. Diseases and parasitism were researched to monitor herd health. Hunter surveys were started to obtain better data on the annual harvest.

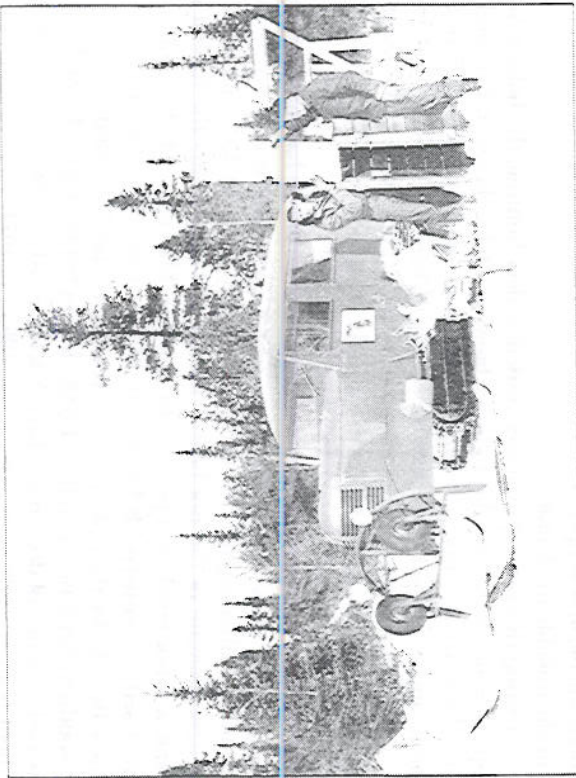


One of the first deer research studies was done at the University of Michigan in 1930 to determine if antlers or teeth could be used to age deer.

Scientific game management expanded even more in 1937 with the passage of the Pittman-Robertson Act for Federal Aid in Wildlife Restoration. This act collected a federal excise tax on hunting arms and ammunition to be returned to the state for research, land acquisition, and habitat development. Full-time wildlife research biologists were hired by the Department and housed at research stations. Some of these researchers, like Mr. Louis J. Verme and Mr. John J. Ozoga, became international experts in the nutrition, physiology, and behavior of white-tailed deer.

At the same time scientific studies were being done, the deer herd began to rebound. Some of the increase was due to habitat changes as logged-over areas produced deer browse. Shrubs and other deer foods developed in many areas that had been cleared for agriculture but abandoned. There was also an impact of the

no-dog rule, the "buck law," and what was known to hunters as the "Shiras gun law" (this law prohibited the carrying of firearms in deer territory during the closed season.)



A major research study was conducted to determine movement patterns of whitetails in northern Michigan.

By 1930, the abundance of deer was recognized. The first discussion of deer-vehicle accidents began. Hunters complained that the "woods was full of dry does," and that maybe the "buck law" should be changed. There was also a significant amount of winter starvation and overbrowsing in cedar swamps where field investigators reported a shortage of food and cover for the growing herd. By 1936, hunters were complaining about low buck-to-doe ratios.

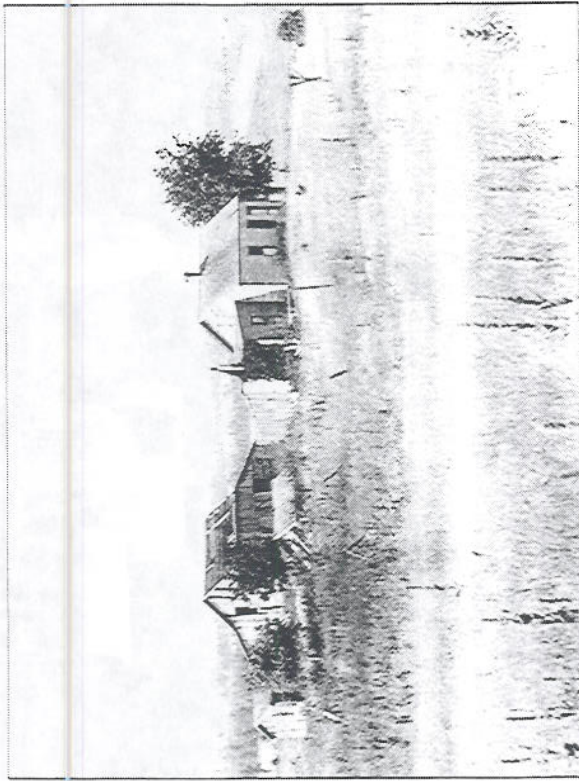
A crop damage committee was formed in the late 1930s to include representatives of hunting and agricultural groups. Mr. Ilo Bartlett, the state's first deer biologist, reported that there were 1.125 million deer in the state in 1937 (about 1/3 of which were in the Upper Peninsula and 2/3 in the northern Lower Peninsula—only a very few deer were present in southern Michigan). He began to talk about the "Deer Problem."

DEER HABITAT ACQUISITION

The Department of Conservation recognized that there were two solutions to the deer problem of the late 1930s: (1) reduce deer numbers to balance the herd with the range, and (2) provide more and better deer range to sustain habitat on a long-range basis. There were many discussions about changing the "buck law"

and also about ways to provide more hunting lands for deer. In 1931 a law was passed to earmark \$1.50 for land acquisition from each deer license sold. These funds were often used to purchase tax-reverted lands because of farming failures or hardships of the Great Depression. About 700,000 of the 3.8 million acres of state forest lands were purchased with funds from hunting licenses. In the early years of the Pittman-Robertson Program, a large share of federal aid money was used to purchase game lands in southern Michigan.

Despite the state's attempt to provide more hunting lands and to place more deer habitat in public ownership, the deer problem continued until the herd peaked at about 1.5 million deer in the late 1940s.



Deer hunting license fees were used to purchase many tax-reverted lands that were abandoned in areas where the soils were too "light" to sustain farming.

REINSTATEMENT OF ANTLERLESS DEER HUNTING

A decade of carrying more than 1 million animals with bucks-only hunting severely damaged the habitat. Deeryards became death traps for deer, where they came for cover but had no food. The reproductive rate of nutritionally stressed does was poor, as was the survival rate of fawns born in late May and early June.

In 1941, for the first time since the "buck law" of 1921, antlerless deer were taken in an experimental hunt in a 37-square-mile parcel in Allegan County after the regular season. Hunters were selected by drawing.

Also in 1941, the camp deer license was liberalized. Before that time, four or more hunters could apply to take an extra buck for use as camp meat. The 1941 rule allowed that camp deer be either sex. The number of camp deer taken

increased from several hundred to 17,100 in 1941. Sportsmen and nonhunters reacted so negatively that the either-sex camp deer law was repealed.

Small antlerless hunts were also held after the regular seasons in a few deer damage areas in 1949, 1950, and 1951. A major antlerless season was held in 1952 in the northern Lower Peninsula north of Highway M-20. No permit was required. Any licensed hunter could take a deer of either sex during the last three days of the season (November 28 through 30). A total of 95,810 antlerless deer was taken, which many hunters considered to be too many. There is still talk in northern Lower Peninsula deer camps about the "slaughter of 1952." It was reported that a truckload of letters came to Lansing, one of which was signed in doe blood.

After the public reaction, the Department changed to an area and quota system to take antlerless deer, which has been maintained today. For example, in 1956, Deer Management Unit 2 included parts of Mason, Lake, and Newaygo counties. A total of 4,270 Hunter's Choice (either sex) permits was issued in Unit 2 for use during the regular November 15 through 30 season. The Department and public liked the idea of focusing the antlerless harvest by specific numbers of permits issued for specific units, rather than the open season for any hunter across the entire region, as was done in 1952. In 1956, the first antlerless deer hunting since 1920 was opened in the Upper Peninsula in four small deer management units. Mr. David A. Arnold and Mr. Joseph E. Vogt, deer management experts with the Department, worked diligently to gain support for antlerless deer hunting. By 1965, almost all of the land in the Upper and northern Lower peninsulas and about 1/3 of the land in southern Michigan was open to antlerless deer hunting. A total of 227,314 permits was made available in 58 units.

During this time of increased antlerless deer hunting, the habitat for deer collapsed. Some of this was due to heavy browsing of deer between 1940 and 1960. Most habitat deterioration was due to heavy succession. Mature stands of timber began to appear on lands that had been formerly logged. The heavy leaf cover in the canopies of the mature trees prevented sunlight from reaching the forest floor. Thus, there was little food for deer to eat in the mature forests. Also, there was not much logging to produce browse for deer.

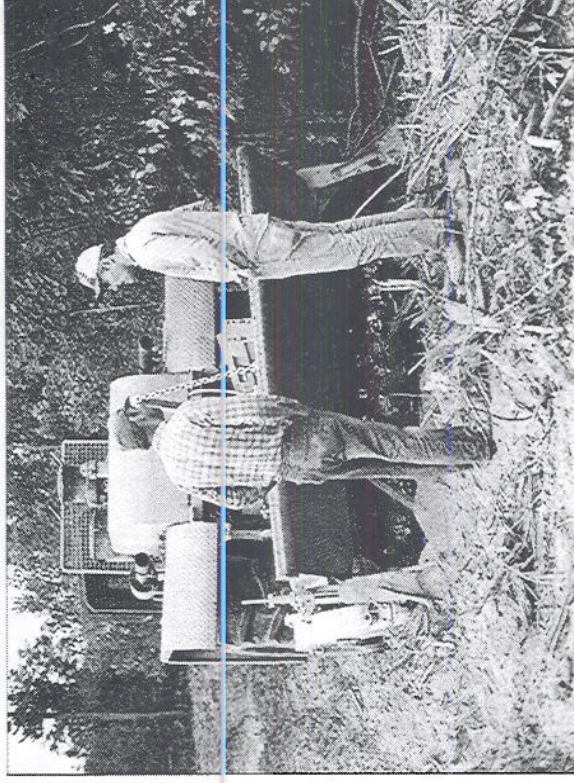
This combination of decreasing deer numbers due to habitat change, along with significant antlerless deer harvests, sent a confusing message to the public. Many individuals attributed the decreasing herd to the antlerless hunting because they were unaware or did not believe information concerning the habitat crash. Habitat was not much of a problem in southern Michigan. All deer hunting had been closed in southern Michigan from 1930 to 1941, when Allegan County was opened. By 1943, for the first time in 70 years, deer could be found in every county. The southern herd increased from 15,000 deer in 1949 to 85,000 by 1972. Even the increased presence of deer in southern Michigan did not affect a major decline in the herd from 1.5 million in 1949 to 0.5 million in 1972. Two generations of deer hunters reacted as they had been taught by the Department—return to a "buck law." A few hunters, however, understood the real problem in the 1970s and pursued a more important solution.

DEER RANGE IMPROVEMENT

Due to the leadership skills of Wildlife Division Chief Merrill (Pete) Petoskey and the technical knowledge of Staff Biologist John Byelich, the Department of Conservation developed a Deer Range Improvement Program (DRIP). Act 106, P.A. 1971, provided that \$1.50 be earmarked from each deer hunting license "for the purpose of improving and maintaining habitat for deer, for the acquisition of land required for an effective program of deer habitat management, and for payment of ad valorem taxes on lands acquired under this section." A goal of 1 million deer was established for spring 1981.

Priority townships were identified with the most potential for deer habitat improvement. Forest cover guidelines were established to outline ideal mixtures of tree species, age classes of trees, forest openings, and winter cover. At first, the Department invested heavily in bulldozers and field personnel to complete on-the-ground projects because the timber market was weak in most areas. With the increased opportunity to complete deer range work through commercial forestry, more Department money was provided for salaries of wildlife personnel to work with state and federal foresters to plan forest treatments.

About \$20 million was invested in habitat improvements for deer from 1972 to 1987. Specific impacts included the creation, seeding, cultivation, and maintenance of more than 70,000 acres of forest openings. A total of 5,113 acres of critical deer range was purchased with DRIP funds. More than 137,292 acres of land were improved through direct cuttings or residual treatments of timber stands to benefit deer and other species. Wildlife personnel evaluated and planned forest treatments on more than 550,000 acres during this time.



Michigan began an aggressive deer range improvement program in 1972.

Deer range improvement was also accelerated by an increase in the timber market in northern Michigan and increased agriculture in deer territory. A series of mild winters in the 1980s and artificial feeding of deer by the public further propelled the herd to a new peak of 2 million deer in 1989. Signs of distress in the herd appeared again. The percentage of spikes among yearling bucks in the Upper Peninsula exceeded 50 percent. Many yearling bucks had dressed-weights of less than 100 pounds. Survivorship of fawns from June to October was as low as 40 percent in some areas. A hard winter of 1985/86 resulted in the winter loss of an estimated 125,000 deer. Deer-vehicle accidents exceeded 40,000 per year with an average of 5 people killed and 1,500 injured each year. Crop damage reappeared, and an ad hoc committee of agricultural and hunting interests was formed once again. Also, hunters once again began complaining about the low buck-to-doe ratio.

A SMALLER DEER HERD WITH A HIGHER PERCENTAGE OF BUCKS

In the late 1980s, the Department of Natural Resources reaffirmed its goal of 1.3 million deer in the fall herd (which was biologically the same as the 1971 goal of 1 million deer in the spring herd). However, a new dimension was added by specifying that 35 percent of this fall herd should ideally be antlered bucks. Increased hunting of antlerless deer was encouraged by quota and area to thin adult doe herds. In 1989, the Hunter's Choice license was changed to a bonus Antlerless-only license. The number of antlerless deer hunting licenses was increased from the tens of thousands issued annually in the 1970s to a peak of 322,890 in 1990. The

herd responded as was intended—there were 20 percent fewer deer in fall 1993 as there were in 1989.

The heightened opportunity to take antlerless deer reduced the hunting pressure exclusively devoted to bucks. Thinning the herd also increased fawn survival so that more 1½-year-old bucks were recruited into the fall herd in the 1990s, compared to the 1960s. In 1991, the bag limit for bucks was reduced from four (two in archery plus two in firearm or muzzleloading seasons) to two bucks in all seasons combined. Many hunters thought that the buck harvest should be restricted even more, and proposals were developed to drop the second buck license or to make it illegal to tag a spikehorn with a buck license. There was much discussion about application of “quality deer management” from the Southeastern states to Michigan.

Some tough choices are ahead if we continue to aspire to a herd with 35 percent antlered bucks in the fall population. We have reached the point where further increases in antlerless deer harvest will not have much impact on the buck-to-doe ratio. To further improve the percentage of bucks in the fall herd, we will have to find acceptable ways to reduce the buck harvest.

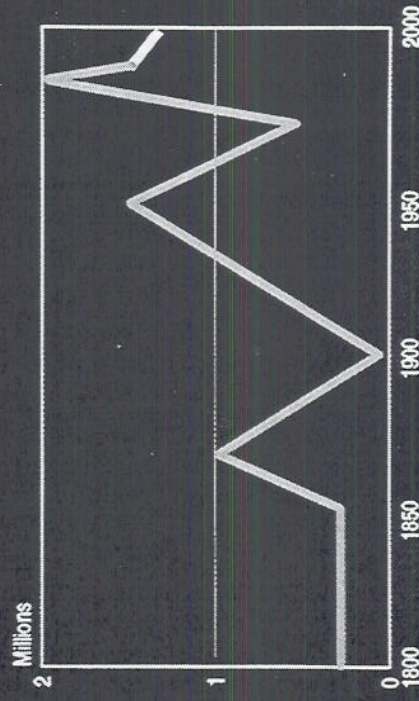
Continued bucks-only hunting to rebuild herds may complicate the problem by placing all of the hunting pressure on antlered deer. That will decrease the buck-to-doe ratio and eventually return us to the situation where we started in the mid-1980s. Now, we should evaluate regulations that will allow the careful taking of specified numbers of antlerless deer in areas with smaller herds. We need to consider the advantages and disadvantages of regulations to reduce buck harvest in ways that are acceptable to hunters and landowners.

Methods of handling deer crop damage were also changed in the late 1980s as a result of recommendations from Department field personnel and from the Ad Hoc Deer Damage Committee. The Legislature and Commission have repeatedly concluded that the best solution to crop damage is recreational hunting, rather than trapping, compensation, or birth control.

In keeping with this policy, a “block permit program” was tested in 1987 and initiated statewide in 1989. This program allowed landowners, with a history of significant deer damage documented by the Department, to receive Antlerless-only licenses for distribution to licensed hunters. Thus, nuisance deer could be taken during the regular season from areas with known crop damage instead of from anywhere within a deer management unit of several hundred square miles.

Out-of-season killing of deer, illegal kill, and “gut shooting” were reduced by providing opportunities to take deer with block permits during the regular season. Block permits also allowed the state to have more deer in problem areas instead of reducing the herd in a large deer management unit. Problem “hot spots” could be handled with block permits. Although the number of deer taken on these licenses was small (10,000 to 15,000 annually) from a statewide perspective, landowners with damage were pleased with the ability to control local economic losses from deer. Block permits were used to encourage hunting in some metropolitan areas and nature centers where it was difficult to obtain enough antlerless licenses at specific sites.

Number of White-tailed Deer in Michigan



There have been three peaks and two valleys in the growth of Michigan's deer herd. The current goal is a fall population of 1.3 million deer.

The 1980s and 1990s have also provided some new technologies and new policy issues for deer range improvement. The reduction of thermal cover in cedar and hemlock deer yards, especially on private land in the Upper Peninsula, increased winter losses of deer and reduced deer numbers in several local sites. The Department initiated a lowland conifer regeneration program in 1991 to encourage regeneration in yards where deer were scarce, but the yard once held large numbers of deer. An inventory of lowland conifers was completed in 1994 by the Department, through a contract with Maclean Consultants Ltd. This work involved mapping of deer thermal cover by satellite imagery on all lands (private, state, and federal) in the Upper Peninsula. This information will provide direction for deer habitat improvements during the next decade.



Potential deer yarding areas in the Upper Peninsula were inventoried with satellite imagery in 1994.

Completion of state forest plans in the Escanaba and Pere Marquette forests and for the three federal forests in Michigan also provided some new opportunities to place deer range improvement in a larger context of landscape planning, conservation of biodiversity, and ecosystem management. The Department's experience in deer range improvement during the past 20 years has taught us the importance of managing vegetative communities, rather than just deer. Deer management has also taught us that the hardest species to include in ecosystem management is *Homo sapiens*. The recreationist and concerned citizen must not be excluded from the landscape planning process.

The build-up of deer in urban and suburban areas had also been a challenge in the past decade. These deer herds were often in places like airports or golf

courses or subdivisions where lethal control was unpopular. The constituents who got involved in these issues were often subdivision residents or others with little hunting experience. As a result, local decision-makers often ignored the problem or selected trapping, birth control, or other nonlethal solutions to pursue. Other than fencing, these nonlethal control methods were usually unsuccessful or impractical, and lethal controls were eventually applied. Management of deer in urban and suburban settings will provide many future opportunities for public education and involvement.

One final issue of the past decade has involved the management of social conflicts between hunting groups with different characteristics, hunting methods, or values. For example, deer hunters that do not bowhunt expressed a concern about the fairness of allocation in the harvest. Deer hunters that do bait complained about the territoriality of baiters or ethics of baiting or the image of hunting being tarnished by those using that method. Muzzleloaders questioned the use of scopes on firearms that they felt should be primitive. Hunters without access to private land complained about the increased opportunities that some hunters had to take antlerless deer or large bucks.

These kinds of social issues were by no means new in deer management. What was new, though, was the attitudes of people that state government should intervene in matters beyond the biology of deer or management of habitat. To date, there is a feeling in the Department that hunters need to discuss and resolve these issues among themselves and then ask their government to act accordingly. However, biological and ecological issues are perceived differently. State government has a legal mandate and moral responsibility to act, even if contrary to public will, where the integrity of the resource is threatened. Thus, the real challenge of the next 100 years of deer management will be to carefully sort out the social from biological, to respond to the will of the public for the former, and to take leadership, even if unpopular, for the latter.

SUMMARY

This brochure has shown the dedication of Michigan hunters in supporting deer management during the past century.

Michigan hunters have supplied millions of dollars for the development of hunting regulations based on scientific data. They have also provided funds to enforce those rules in the field. Millions of dollars have been contributed for the acquisition of land and for the improvement of deer habitat on those lands. In many cases, legislative action to protect deer, acquire land, and improve deer range has been initiated by hunters themselves. This partnership among the Michigan deer hunter, the Department of Natural Resources, and the Michigan Legislature speaks well of our ability as citizens to work together through state government to manage wildlife. There is no question that the Michigan deer herd will generate considerable discussion and debate in the future. Such debate is essential to develop management procedures to keep our deer herd and deer range in good condition.