A HISTORY OF THE
White-tailed Deer
IN MAINE

Game Division Bulletin No. 8

STATE OF MAINE
DEPARTMENT OF
INLAND FISHERIES AND GAME
A HISTORY OF THE WHITE-TAILED DEER IN MAINE

by

Don C. Stanton

Submitted to

RONALD T. SPEERS
Commissioner

KENNETH W. HODGDON
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Department of Inland Fisheries and Game
Augusta, Maine

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Report of a Portion of Federal Aid
to Wildlife Restoration Project W-37-R
Figure 1. Deer—A longstanding Maine resource.
FOREWORD

In presenting this bulletin on the history of deer in Maine, the Department is bringing out all available facts on a subject about which there has been much speculation. The compiling of this information was difficult because historical records of game abundance are sketchy at best. It is, of course, possible that new information will be found in future years which will further amplify this subject. A brief summary of this information appears in Game Division Bulletin No. 6, “Deer in Maine,” but herein is the complete story as we know it.

Sincerely,

RONALD T. SPEERS
Commissioner
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ACKNOWLEDGMENTS

The information presented here has largely been obtained by reviewing historical literature. Various items have been given to the author in correspondence and conversation with private individuals and are acknowledged as they are quoted or referred to throughout the text. Most of the published material has been obtained from the University of Maine Library and the Bangor Public Library. Some material was obtained in the Portland Public Library, the Goodall Library of Sanford, the Maine State Library, and the files of the Department of Inland Fisheries and Game. The writer wishes to thank the staffs of these libraries and the other employees of the Department, particularly Mr. Henry Carson, who have cooperated generously in helping to make this information available. Former Commissioner George J. Stobie also provided much interesting and valuable information from the store of data collected during his term. William Robinson, Ass't Leader and Howard Mendall, Leader of the Maine Cooperative Wildlife Research Unit, made helpful criticisms in editing the manuscript.

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INTRODUCTION

The white-tailed deer (*Odocoileus virginianus borealis* Miller) is one of the great natural assets with which the State of Maine has been endowed. Probably no animal in the State generates greater interest and controversy among more people. "Buck fever" is one of the most prevalent maladies to be found in Maine, and one for which medical science has found no cure! Yet with all this interest, few people realize that the white-tail is not an old settler over most of the state, and that its numbers have fluctuated violently during historic times. Because the white-tail is of interest and importance to so many of us in Maine, this account has been compiled to help acquaint its many friends with what is known of its history, as well as how, when and why its ups and downs have occurred.

Some of the material collected in the preparation of this bulletin has already been presented in condensed form as a part of another Department bulletin "Deer in Maine," by Chester Banasiak (Game Division Bull. No. 6). However, it is felt that many readers will be interested in a more detailed account of white-tail history than was given in Banasiak's bulletin.

Any Story of this kind necessarily deals with factors other than deer, for the white-tail is not master of its own destiny. It will be necessary at certain places to present data concerned primarily with people, forests, agriculture, and political and economic history. This is essential in order to provide a background for understanding the rise and fall of the deer population.

For purposes of this report, five periods of history will be considered:

1. Pre-colonial times (prior to about 1605).
2. The colonial period to the time of statehood (1605-1820).
3. The era of logging and agricultural expansion (1820-1880).
5. The recent past (since 1920).

Each of these periods represents a separate era of importance for the deer herds of Maine, as each roughly corresponds to the existence of different factors which have affected deer numbers. These factors are considered to be hunting by both primitive and modern human population, lumbering and forest fires, land clearing associated with both urban settlement and agriculture, type and intensity of agriculture, climate and predation.
THE PRE-COLONIAL PERIOD
(Prior to About 1605)

The Primeval Forest

Probably the most striking characteristic of what is now Maine was the forest which covered a large portion of the land surface. Its character largely determined the type of animal life present and greatly influenced the numbers of individual animals which it sustained. It is necessary to consider this early forest in relation to deer.

The primeval forest was composed of extensive, but not unbroken, stands of large trees, comprised mostly of species later prized by the lumberman. What low growth occurred as an understory was of fair quality as deer browse. The forest did not remain unchanged except in the overall situation. Several factors operated to produce breaks in the cover of mature forests so that new growth had some chance to start. Mature forest is not good deer habitat, producing little food and often providing inadequate shelter from the deep snows and cold winds of northern winters. Along the coast and up the major river valleys a more open type of cover prevailed as a result of climate and the activities of the aboriginal inhabitants. From all indications this more open cover provided the best and principal deer range of what is now the State of Maine.

Figure 2. The pre-colonial forest was mostly mature growth

Photo courtesy of Harvard University Museum
Wilkins states, "The original forests of Maine were largely a mixture of the finest quality of hardwoods and softwoods." (84) Pre-eminent was the northern white pine which flourished on the better sites throughout the state. The better upland soils supported hemlock and red spruce as well as the white pine and various hardwoods such as sugar maple, beech, yellow birch, and in certain areas some oaks, ash, hickory, and in southern Maine, some chestnut. The poorer sites supported larch or hackmatack, northern white cedar, balsam fir, white and black spruces, and such hardwoods as red maple, striped maple or moosewood and the elms. Following natural catastrophies the usual pioneer species occurred. These were poplar, gray birch, fire cherry, and on the most sterile sites in southern Maine, the pitch pine.

Some of the trees, particularly the white pines, reached enormous size, as recorded in several of the histories of Maine forests and lumbering (77), (84) and (87). Trees which sometimes reached five feet in diameter and 150 feet or more in height took considerable growing space and when occurring in extensive pure stands, as sometimes happened, did not leave a great deal of room for the smaller vegetation upon which deer depend. However, Silver (73) quotes Richards as stating that what understory occurred in New Hampshire frequently consisted of tolerant species which are good deer browse, such as witch hobble, mountain maple, striped maple, and blueberry. This condition would have been common to portions of Maine.

It should not be supposed, however, that the forest was an unbroken tract of large trees stretching from horizon to horizon. Various influences were more or less constantly at work to prevent this. Then, as now, wind and fire occasionally destroyed tracts of timber, creating openings and giving new successions a chance to start. Native insects, old age, and disease went hand in hand with fire and wind. The beaver occurred universally throughout what is now Maine; their dams and lodges were found on practically every stream. They killed small patches of timber from time to time and so created openings where new growth might start.

Fire probably was a more serious menace to the forest before the coming of the white man than it is now. Lightning fires must have been common, with many exceptionally tall trees offering good targets for lightning to strike. There is some indication that the Indians made deliberate use of fire to clear land, although this presumably occurred only in southwestern Maine where some agriculture was practiced. It is well known that further south this was a common practice, but ac-
The Aborigines and Deer

The earliest humans of Maine of which anything is known were the so-called "Red Paint People." Little is known of them beyond their
artifacts which have been unearthed and their curious habit of burying their dead with quantities of red ochre, from whence come their commonly used name. Their remains have been found principally along the coast and in the Penobscot Valley. The lower strata of the extensive shell heaps along the coast in Hancock County have been attributed to these people (88). Deer are the animals most commonly represented among the remains found in kitchen middens and articles fashioned from deer bones and antlers have also been discovered, both here and in some of their burial grounds, particularly those at Veazie, near Bangor (88, 66, and 74).

Several tribes of Indians occupied the territory of the state for several centuries prior to the coming of the white man. All were of Algonquin stock and lived chiefly by hunting and fishing, although some agriculture was practiced.

Figure 4. Deer bones from pre-colonial Indian shell heaps, now in the Portland Society of Natural History collection.
Use of the Deer by the Indians

Speck (76), although writing primarily about the Penobscots of later times, probably very accurately described the circumstances of all the early-day tribes of Maine. He states that “The hunt had an inconceivably prominent place in native life of the region. . . . No other regular activity occupied spirit, mind, and body so incessantly. It furnished the dominant food supply. Moose, deer, caribou, beaver, bear, muskrat, hare, porcupine, partridge were sought in the forest, seal and wildfowl on the coast, of importance in the order given.”

John Josselyn, one of the earliest writers to leave accounts of the natives and the wildlife of Maine, is quoted by Norton (67) as describing the diet of the Indians of southwestern Maine in the mid 1600’s as “. . . Fish, Fowl, Bear, Wild-cat, Rattoon, and Deer; dry’d Oysters, Lobsters, roasted or dry’d in smoak, Lamprys and dry’d Moose-tongues. . . .”

In addition to the importance of deer as a source of food, their skins were much used in the daily lives of the Indians. Rossier described the dress of the people whom he saw at the mouth of St. George’s River in 1605. “Their clothing is Beavers skins, or Deares skins, cast over them like a mantle. . . .” Most of the other writers of the period described like costumes. Although the Indians soon adopted cloth garments when they became available from European traders, they were almost entirely dependent on skins of various animals for their clothing at an earlier date. The Penobsents sometimes lined their winter quarters with deerskins for added warmth. Their beds were composed of mats of boughs, covered with skins. Various implements were made of deer bones and antlers, and the hides were used for making bindings and thongs (76).

Indian Hunting Methods

Various methods were used by the Indians to kill and capture deer and other large animals. The capture of such animals represented a livelihood with the early Indians. Probably there was little sport involved as such, although successful hunts were the occasion for general rejoicing, games, and celebrations. Since hunting represented the principal means of obtaining food, Indians used the most effective and easiest methods known to them. Some of the methods might be considered unsporting by present day standards, but they fitted the needs, circumstances, and ethics of the Indians.

Most deer hunting was probably carried on here as an individual pursuit. Day (23) in commenting on the use of fire, stated that the
art of stalking and still hunting practiced by Maine Indians, was one of the reasons for the lack of incentive for burning. This is also in accordance with Indian tradition.

Dogs were used for hunting deer, probably, as in later years, being employed to drive them into water during the warmer months and for running them down on the crust during the winter. Josselyn says that Indians kept and trained dogs (which he believed to be a wolf-fox hybrid) for deer hunting. When they were able to obtain European dogs for hunting, they used them in preference to the native strains (67).

The same writer states that Indians used traps for taking deer, but unfortunately, no descriptions are given. They undoubtedly were familiar with various forms of snares and deadfalls.

Further to the south and west, drives were conducted using large numbers of men and sometimes fires, to drive quantities of animals into prepared traps, over cliffs, or into water. This may have been done at times in Maine, as Williamson (85) stated that deer hunting was carried out by groups of two to three hundred men who surrounded an area and then set fire to the vegetation in such a way as to drive the deer to a point of land or to a river, where waiting hunters would kill them.

Figure 5. Maine Indians used individual pursuit to hunt deer.
This must have been the exception rather than the rule, for there is little in the traditions and legends of the Maine Indians to support a belief that this kind of hunting was widely practiced.

### Hunting Seasons

Seasons were reckoned by the various hunting and fishing activities characteristic of each. Winter was the time for taking furs and still hunting deer and moose. Maine Indians were adept at making and using snowshoes and were skillful at hunting down deer and moose in the deep snows. This type of hunting was carried on from about the first of February until the spring break-up. Other principal hunting times were the period of “still hunting at night in canoe” in the late summer and early fall, and the “moose calling time” in October and November (76).

### Effects of the Indians on Deer

There is no doubt that deer were extremely important to the Indians. The influence of Indians upon the deer was another matter, however. Various estimates have been made of the Indian population of pre-colonial Maine; those which are most widely accepted place the population at only two to three thousand around 1600 A.D. Most of them were concentrated along the coastal belt and in the larger river valleys where the climate was milder and fish and game more readily available than in the deep interior. Even so, the population density was very low on the coast. Norton (67) quotes Champlain as stating that so far as he could observe, “the savages who live on these shores are very few in number.” He was referring to the coastal area between the Saco and Penobscot Rivers.

It is problematical how much influence so small a human population might have had on deer numbers. When we consider that moose, bear, possibly caribou (whose status during pre-colonial times is uncertain) small animals, birds, and aquatic life, as well as deer, were all utilized by Indians, it is quite probable that the effects were negligible. Very likely factors other than the Indian population exerted the controlling influences on the deer herd.
COLONIAL TIMES (1605-1820)

It is difficult, if not impossible, to make any clear separation between pre-colonial times and the early colonial years, so far as deer and their environment are concerned. Much that was expressed in the preceding section about deer abundance and distribution, the forests, and the Indians, pertains equally well to this section; some that will be said in this section applies to the pre-colonial period as well. Much of our knowledge of the game, forests, and Indians, prior to the time of the first settlements is based on knowledge of conditions as the first explorers and colonizers found and recorded them. There is, in fact, no great amount of recorded material concerning deer in the early annals of northern New England history. Much of the information which we have is of a negative nature.

Accounts by the Early Explorers

Sir Ferdinando Gorges founded the first English colony in what is now the State of Maine in 1607. This was located at Popham Beach at the mouth of the Kennebec River. Gorges described the prospects of his new colony in glowing terms, probably exaggerating its riches in order to attract others to his support. Williamson (85) cites Belknap’s “American Biography” which in turn quotes Gorges as saying that

Figure 6. Deer were present when Sir Ferdinando Gorges landed at Popham in 1607.
“over the declivities and through the meadows might be killed multitudes of deer, beaver, and other game.” Gorges is also quoted by Allen (1) that “at our first discovery of those coasts, we found it very populous... the country plentiful in grain and other fruits besides deer of all sorts and other animals for food.”

John Josselyn left what is probably the best early accounts of the natural history of the region. He made two trips to Maine, staying from mid-summer, 1638, until early autumn, 1639, and returning in mid-year, 1663, and staying until the summer of 1671. During these two periods he resided in what is now the town of Scarboro, in Cumberland County. In his “Two Voyages” (1674) he stated of deer “... here they are innumerable... there are but few slain by the English.

“The Indians who shoot them, and take of them with toyls bring them in with their suet, and the bones that grow upon Stags-Hearts.”

Other early accounts note the presence of deer but are largely devoted to the Indians and their customs. George E. Street’s (79) “Mount Desert, A History” states that Indians hunted deer and moose on that island in 1676. However, the same work recounts the sufferings of the company of the ship “Grand Design” which was shipwrecked on the island in 1740. These people nearly starved during the winter, even though they were plentifully supplied with trade goods with which they should have been able to obtain food from the natives, had it been available.

Little note seems to have been made of game by the English colonists, for they had no tradition of hunting, but subsisted instead by agriculture, fishing, and trade with (or plunder of) the Indians. Probably most of the wild meat they consumed was obtained from the natives. Even in hard times, which were frequent in the early days, the colonists did not turn to wild meat in any quantity. The literature of the period speaks of the use of wild plants at times, and of much suffering. But the taking or use of deer or other animals for food purposes is seldom mentioned.

Early Colonial Settlements

The time and place of early settlements are important mainly because they introduced factors which changed the environment for deer. Not being hunters, the early settlers exerted only an indirect influence on deer through lumbering and agricultural activities. Through trade they also brought firearms to the Indians, but this probably had no great effect during early times.
The first Europeans to winter near the coast of Maine, of whom we have positive knowledge, were a party of French under DeMonts, who spent the winter of 1604-1605 on an island near the mouth of the St. Croix River. Samuel deChamplain, chronicler of the expedition, recorded that the party suffered severe outbreaks of scurvy during the winter due to a diet of salt meat. The next spring at a council with nearby Indians, the French party was fed with bear meat. From this it can be assumed that deer were absent or scarce in this region at the time (12).

The first English settlement was at Popham established in 1607 at the mouth of the Kennebec and failed within a year because of the severity of the winter and Indian troubles; and the colonists returned to England.

Sir Ferdinando Gorges and John Mason obtained a charter from the Council of New England in 1622 and between that date and 1629 settlements were established at what are now York, Wells, Cape Porpoise, Berwick, and Saco, all within the present bounds of York County; and at Falmouth, Westbrook, and Brunswick in the present Cumberland County. A settlement was also made during this period at Arrowsic (now Sagadahoc, Cumberland County) further up the coast. In 1633 the first settlement in Portland was made, and in 1640 Damariscotta and in 1664, Bath, were first settled. By 1719 settlements extended to Rockland and Thomaston in Knox County and in 1725, Bowdoin, Bowdoinham, Lisbon, and Richmond were settled (15).

The settlement of inland portions of Maine, following the early establishments on the coast, did not make rapid progress until France was driven from the North American continent with the fall of Quebec in 1759. Maine was the northern frontier of New England and Indians of the area were largely under French influence. Outpost settlements were frequently attacked by Indians and settlement was greatly restricted in its inland and eastward spread. Under these conditions there was little effective change in either deer habitat or deer numbers except locally around the larger villages where there was usually a sawmill and some lumbering activity, as well as some land clearing for agricultural pursuits.

**Hunting During the Colonial Period**

Hunting probably did not play a very important part in influencing deer numbers throughout the Province of Maine during the early part of the Colonial period. Both whites and Indians together did not con-
stitute a very large population. Most of the whites were not hunters, despite popular belief to the contrary, and the Indians, even with firearms were few in numbers, and were gradually driven from what was deer territory to what was essentially moose country.

Toward the latter part of the period, hunting probably combined with unfavorable land use practices to reduce deer numbers to a mere remnant in southwestern Maine. The white population was now expanding rapidly and the use of wild game for food was becoming more common.

**Predation**

The timber wolf had combined its destructiveness with deep snows and lack of suitable habitat to reduce the original distribution of deer in Maine; it is likely that it also retarded the spread of deer into the frontier areas of the State after the mature forests were opened up and more favorable habitat developed. The panther, lynx, and bobcat had their effects, but none of the cats were as efficient predators as the pack-hunting wolf.

Reference to wolves are numerous in the accounts written by the early explorers and settlers. Norton quotes various early writers, all to the effect that wolves were common in the area which now comprises York and Cumberland counties. They were troublesome to the early settlers, and several of the towns accordingly enacted bounties in attempts to protect their cattle and sheep. An early General Court at Saco ordered that 12 pence should be collected from each family between Kennebunk and Sagadahoc and be paid for each wolf killed in the jurisdiction. Scarboro paid a bounty of four pounds per wolf starting in 1730, but wolves remained plentiful until late in the century. Falmouth enacted a bounty of unstated amount in 1734. In 1743 the town records show that ten pounds were paid out in wolf bounties. Wolves are said to have become scarce there about 1774. Around Brunswick wolves were plentiful as late as the 1780's. South Berwick paid wolf bounties until 1780. As late as 1815 Gorham paid $20 per head for wolves killed in the township. Norton (67) quotes Williamson that "Till the separation (1820) a bounty of four pounds currency was provided by law for every one killed."

**Farming and Its Influence on Deer**

From the beginning of white settlement there was some agriculture practiced. As settlements progressed inland from the coast, farming was the principal occupation of most of the people, and each family
usually cleared its own plot of land. Unfortunately, reliable and detailed statistics are practically non-existent for the early days. Probably the best descriptions of early New England agriculture are Wolcott's "Husbandry in Colonial New England" (86), and Day's "History of Maine Agriculture" (22). The pattern of land use was at first similar to that which prevailed in medieval Europe, with the people living together in the villages, and farming the surrounding lands. Livestock was grazed together in the "commons," while each family had its own plot for growing corn and other staples of the day. The commons were nothing more than the surrounding woods. Thus, each village became the center of an "island" of grazed and cultivated land in the wilderness. As more towns were established and as they increased in size, the "islands" gradually merged.

The common grazing of stock in the woodlands probably had the most direct effect on deer of any of the agricultural practices of the day. Cattle, grazing in the woodlands, competed directly with deer by destroying the reproduction of plant species upon which deer depended. By the time settlement was dense enough that the common grazing grounds of neighboring towns were beginning to abut each other, much deer habitat was gone. This condition probably was reached earlier and was more widespread in southern New England than in Maine, because, in early days, agriculture was practiced less here than further south.

**Figure 7. Early Maine settlers cleared land for agriculture.**

Photo courtesy of Harvard University Museum
As Indians became less of a menace following the defeat of the French at Quebec in 1759, farmers began to move into the wilderness and clear small patches of ground for themselves. The patchwork of small clearings, together with the crops which they ultimately supported, probably did more to increase the deer population than did the settlers to decrease it. By this time the whites had taken up hunting to a much greater degree than at the time of the first settlements. The new settlers on the frontier took deer, along with whatever else they could obtain for food and for the hides which found many uses on the frontier. However, the deep woods still harbored few deer. This scarcity can be illustrated by the case of the town of Buckfield, Oxford County, which was first settled in 1776 by a party of hunters seeking bear, catamount, and beaver. No mention is made of deer being either sought or found. The settlers nearly starved in the autumn of 1778 due to a crop failure, yet they were hunters who presumably would have taken any wild game if it had been available (21).

**Lumbering and Fires**

If early agriculture had a mixed effect on the white-tail, another activity of the early settlers can be credited with laying the foundation for future deer prosperity in Maine. The lumberman's axe and the fires which frequently followed in its wake, cleared away the great ma-
ture forests and made it possible for new plant communities to come along. These new plant communities, comprised in part of browse species which deer relished, combined with the eventual eradication of the wolf to build a favorable environment for the white-tail.

Lumbering developed into an important industry in Maine, becoming the backbone of the economy, and the chief motive for many of the new settlements of the Province (28). Historians are not in agreement as to the location or date of the first sawmill, but wherever it was, Maine can probably claim the honor of having had the first mill in that part of the United States which was settled by English-speaking peoples. The mill was located in the southern part of York County, probably in the vicinity of South Berwick around 1634. Other early mills were located on the Saco River, Great Works Stream, Mousam Falls and Josias River. By 1682 there were 24 mills in the District of Maine (84). By the time of the Revolutionary War, there were mills on all of the principal rivers and streams of southern Maine, at least as far east as the Machias River.

The nature of early lumbering activities is of particular importance as it indicates the effect which lumbering had on deer habitat. Much of the first lumbering was for masts for export to the English shipyards. This took the finest, straight old-growth white pine and undoubtedly resulted in thinning some of the readily accessible stands. Where the cut was heavy, some growing space was afforded for browse plants; where it was light, it probably only served to release some of the smaller understory trees which already existed. Either case would have been beneficial for the deer habitat, but the effects of early lumbering were for many years probably only of local importance.

As trade with the West Indies expanded, a demand for cooperage developed. Here more general cutting was the rule, as many trees were suitable for cooperage which would not have made good masts. Still thinning was practiced, and for a long while cutting was restricted to the readily accessible stands, and those which lent themselves to the desired products.

Wilkins (84) states:

"In the early days pine logging was confined to the coast and navigable streams. It was the common practice to log all timber within easy access of the river or mill. When it was not profitable for oxen to haul timber the operator would move to another place.

"It was not long before the best timber was heavily culled along the accessible water fronts and it became necessary to go further inland and up the less known rivers in search of pine timber. This situation brought about a decided change in the methods of logging and lumbering of Maine
timber. It marked the beginning of a period of established log yards, river landings, log driving, rafting, towing, and booming. And still later there was a further development in getting out the more distant timber by the construction of splash dams and sluice gates, logging railroads, canals, tramways, trestles, log chutes and slides, and good haul roads.

"This new departure in logging timber came at a time when the vast forest areas along the Androscoggin, Kennebec, and Penobscot Rivers, and their tributaries were just beginning to be exploited. . . ."

In the settled areas the demand for firewood, the universal fuel of the day, took much of what the mast cutters and other early lumbermen left. Before 1800 the coast was suffering from a firewood shortage. Belfast and Medumcook (near Waldoboro) were complaining that the lumber was all gone and that cordwood was scarce. At the latter place cordwood was bringing three shillings per cord and it took a man and four oxen two days to get a cord of fuelwood to market (27).

The axe was not alone in destroying the colonial woodlands. Fires were becoming a serious menace, although little is known about fire history outside the settled areas. The earliest recorded fire of consequence started in New Hampshire in July, 1761, crossed into Maine, burned through the town of Lebanon (in York County) and northeastward as far as Scarboro, Gorham, and New Casco in Cumberland County. The fire burned for several weeks until it was finally extinguished by heavy rains in late August. The following year another fire burned over this same and a wider area, doing further damage. Ex-

Figure 9. Fires changed coniferous forests into hardwood brush land. Compare left and right side of photo.
plorers, attempting to map the extent of the great fires of 1825, came across evidences of much earlier fires of great size. One, estimated to have occurred about 1795, burned over nearly 130,000 acres south of Mt. Katahdin. These fires undoubtedly resulted in the ultimate growth of much good deer habitat. Deer probably never became really numerous in their wake, however, due to wolves which were still a prominent part of the fauna of Maine (85 and 13).

**Spread of Human Population and Its Effect on Deer**

Probably the best indication of the spread of deer from their original coastal range into the new frontier can be obtained from data on the spread of the human population. The white-tail followed in the wake of the lumberman's axe and around the settler's clearings, particularly where the wolves were also thinned out. At the same time, however, deer were disappearing from the old settlements as the country lost its frontier character and became intensively farmed and cut over. The deer could find little of the food and cover which had greeted the first adventurers and settlers in the coastal region of the Province of Maine.

Little is known of the total human population prior to the mid-1700's, but it could not have been very large, for it numbered only twelve thousand in 1742 (75). After the defeat of France in 1759, the population grew rapidly. By 1790, the year of the first known census, 96,540 persons lived in the District of Maine (20 and 80). By the time statehood came in 1820 the population had mushroomed to nearly 300,000 persons, and the entire southern part of the State from the New Hampshire border to the Penobscot River was fully settled. The coastal area from Penobscot Bay to Eastport was also settled to a lesser degree. Settlement of the interior did not progress rapidly, although it had reached as far north as Houlton by 1805. Acadian exiles from Canada had also entered and settled in the St. John valley of upper Aroostook County (28).

Clearing land for farming was extremely arduous and little was done to make land available to settlers on attractive terms. In the years 1815-1817 unusually cold weather caused consistent crop failures throughout New England and many of the struggling frontier farmers caught "Ohio Fever" and abandoned their hard-won farms for the better lands and less rugged climate of the mid-west. About 15,000 persons are believed to have migrated from Maine during these years (28 and 38).

The net results, insofar as deer were concerned, were extermination or near-extinction in the coastal region and a gradual spread into
interior Maine. Sullivan (80) states, “In all parts, there were formerly numerous flocks of deer, ... but in the western part of the district they are nearly all cut off.” In the town of Wells (York County) deer

Figure 10. The spread of human population in Maine.
and moose reeves, an early form of warden force, were elected annually, starting very early in the 1700's. The position was discontinued near the end of the century as there were no longer any deer or moose in the area to protect (70). Reeves were elected annually on Mt. Desert Island starting in 1790, but were discontinued by 1817 (34). Massachusetts placed a closed season on deer in 1698, possibly the earliest American attempt to give protection to game. Presumably this law was in force in the District of Maine (73).

Status of Deer at the End of the Colonial Era

The status of deer in Maine by 1820 has been summarized in the preceding sections. Agriculture and commerce, with practically unrestricted hunting had virtually wiped out the white-tail from old and by now well-settled sections of Maine. The lumberman had not yet taken his giant strides into central and northern Maine (although he was on the verge of doing so) and the wolf still held back the deer from making important gains in those areas which were beginning to be opened up. The heyday of the white-tail was still many years away.
THE ERA OF LOGGING, AGRICULTURAL EXPANSION, AND SETTLEMENT (1820-1880)

The history of Maine during this period is the history of the great lumbering days, and to a lesser extent, the growth of agriculture, accompanied by the spreading of the State's human population into a pattern similar to its present distribution. All of these factors had far reaching effects on the white-tail, as well as on the State's economy and sociology. Other factors also played their parts in the white-tail story during this era. Except in far-northern Maine, the wolf became extinct during this period, thus eliminating by far the most effective predator with which the deer had had to cope. The first serious attempts were made to regulate the killing of deer through legislation. A now well-recognized phenomenon in deer management was first seen during these years; the build-up and decline of deer on cut-over areas. Market hunting also reached its peak at this time.

Some of the timber prospectors and lumbermen wrote of what they saw and what they did, or told their stories to others who put them on paper. During the latter part of the period, particularly after the Civil War, hunting and fishing for sport began to be commonplace and accepted as respectable leisure-time activities, at least for the well-to-do. Travellers entering the Maine woods specifically in pursuit of fish and game frequently recorded details of their trips and their bags. During this period our knowledge of deer is based more on positive accounts and less on inference and negative evidence.

Expansion of Lumbering Activities

A look at the extent of lumbering activities and their spread throughout Maine will help in understanding the progress of the white-tail between 1820 and 1880. About 1820 the lumbering industry underwent a decided change in its organization and methods of operation. Prior to this time, lumbering had been characterized by individual enterprise and little investment of capital; and cutting operations centered near the numerous small mills which dotted the coastal streams. But now the easily accessible timber along the coast and the major rivers was almost completely gone, while most of interior Maine with its vast tracts of pine and spruce was still untouched by the lumberman. This timber was almost entirely inaccessible under the methods of logging which had been in vogue prior to about 1820; nevertheless, the demands of a growing population and industry, and a prosperous export trade were
causing operators to look further and further afield for new sources of supply. Now more capital was needed, specialization of labor became profitable, and it was necessary to move the logs relatively long distances from the cutting sites to the mills. Camps were established deep in the wilderness, the use of log yards, rafting, towing, and booming was instituted, and improved methods of logging were born. These methods made it possible to harvest practically any stand of timber in the State.

At the start of the period lumbering was still more important in southern Maine than further north. York, Lincoln, Kennebec, and Cumberland counties were the principal timber producing areas of the State. By 1840 Penobscot County had climbed to first place among the counties in timber production, while Kennebec was the only one of the earlier leaders which still maintained an important position in the industry. By 1848 the Penobscot drainage produced lumber valued at nearly $3,000,000, the Kennebec drainage about $1,000,000 worth, the St. Croix $600,000, the Machias $355,600, the Union $128,000, and the Presumpscot was last with a production valued at only about $30,000. Lumbering on the Saco was practically a thing of the past.

The destruction of the old forests went steadily ahead. The pre-Civil War peak was reached in 1848 when 213,015,235 board feet of lumber were cut. The immense old white pine continued to be the

Figure 11. The abundant white pine was the choice lumber species.

Photo courtesy of Maine Forest Service
principal item cut, but the time was approaching when the supply would run out. The timber surveyors were having to range further and further into the remote areas of northern and eastern Maine to locate stands of pine. By 1861 the pine of the Penobscot drainage was almost entirely gone as far north as Medway. As the pine became more difficult to find the lumbermen turned to the spruce which had been largely by-passed in the early cuts. The afore-mentioned year of 1861 saw spruce exceed pine for the first time in the total cut. Although pine made somewhat of a comeback after the Civil War, it never regained its former paramount position.

Another species deserves brief mention here, for it was found throughout Maine. Hemlock was the universal source of tannin, used by the tanneries which were found in almost every town in New England during this period. Crews were kept busy for many years felling and debarking hemlocks; the logs were seldom salvaged and usually rotted in the woods, resulting in a great waste. In 1840 there were 395 tanneries in Maine (84). The peak production of hemlock was not reached until 1872, when over twenty-three million board feet were cut (87).

The total cut continued to increase after the Civil War, even though Maine was losing ground in relation to other states. The year 1872 saw Penobscot County alone produce the astounding total of 246,453,649 board feet of lumber (84).

Figure 12. A 1911 logging operation.

Photo courtesy of Henry Carson, Ashland, Maine
The interested reader may find much more detailed accounts of the growth and spread of lumbering in some of the excellent published historical studies of the industry. The old methods probably failed to increase the white-tail numbers to any marked degree. By 1820 nature had already provided good deer environment in the coastal area, and this part of the State was largely settled by people who had now learned to hunt and to whom the deer was a prized species. However, the new areas which were opened to lumbering in interior Maine presented a different picture. The great forests were largely devoid of good deer habitat, and unpopulated except for the “cut and get out” lumbermen and a few Indians and pioneer farmers. The cutting of these forests initiated the growth of prime deer range. As this developed, the only serious check on the deer was the wolf which still persisted in the wilder areas.

Forest Fires

Hand in hand with the lumberman’s axe went the forest’s number one enemy, fire. Slash disposal was unknown, there was no widespread philosophy or practice of forest fire prevention, no appreciation of the damage that fires can do to soils and watershed values. Carelessness was rife, resulting in wholesale destruction such as has seldom been equalled elsewhere.

Springer (77) stated, “Vast tracts of timberland have already been destroyed by fire on this river [the St. Croix] as the blanched trunks of standing trees, and barren hill country surrounding Baileyville, Baring, Calais, and St. Stephens most painfully indicate.”

The greatest fire in Maine history occurred in October, 1825, when 832,000 acres burned in an area extending from Old Town to Mayfield on the Kennebec, and from Harmony to Katahdin Iron Works. The fire developed from numerous small ones which were being used to clear land. The season was exceptionally dry and the fires were fanned by high winds.

Another great fire started on Seboeis River in 1837 and destroyed over 150,000 acres of the State’s best pine lands. It burned part of Patten, swept westward to the East Branch of the Penobscot, and north through T8R6. This fire was actually set by official order of the State Land Agent, in order to destroy hay which had been cut and stacked by poachers who were stealing timber in great quantities from State lands. This is an indication of the general attitude of officials and public towards resource values at the time (13).
These were the most spectacular of the fires, but smaller ones occurred in great numbers throughout the period. The great fires mentioned above were probably as disastrous for deer as they were for

Figure 13. Maine's largest forest fire, occurring in October, 1825, burned over 832,000 acres.
everything else in their path. The smaller ones were, on the whole, undoubtedly beneficial, for they resulted in the regeneration of young brushy growth of species which make some of the best deer feed.

**Agricultural Expansion**

Another factor was changing the face of Maine during this same period. Although agricultural development was retarded by land speculation and lack of a settled policy for disposal of the public domain, farming was gradually gaining ground in the interior of the State. The data in Table I from the U. S. Censuses of 1850 and 1880, illustrate the growth of farming during these times.

<table>
<thead>
<tr>
<th>Year</th>
<th>No. of Farms</th>
<th>Total Area of Farms</th>
<th>Total Improved Lands</th>
<th>Average Improved Area per Farm</th>
<th>Average Unimproved Area per Farm</th>
</tr>
</thead>
<tbody>
<tr>
<td>1850</td>
<td>46,720</td>
<td>4,555,393 acres</td>
<td>2,039,596 acres</td>
<td>43.6 acres</td>
<td>53.8 acres</td>
</tr>
<tr>
<td>1880</td>
<td>64,309</td>
<td>6,552,578 acres</td>
<td>3,484,615 acres</td>
<td>54.2 acres</td>
<td>47.7 acres</td>
</tr>
</tbody>
</table>

*U. S. Census data

Much land was still cleared by burning, particularly during the earlier part of the era. Toward the end of the period more modern methods were coming into vogue as reflected in the greater percentage of improved lands found by 1880. The pioneer farms which helped to open up the wilderness frontiers undoubtedly were good for deer for they established greater variety in the environment and provided nutritious food supplies to supplement the deer’s natural diet. By the time an area lost its frontier flavor and became an old settled farming region, the effect was quite the opposite. The principal agricultural output of the State by 1880 consisted of beef, pork, wool, cheese, butter, wheat, corn, and potatoes (40). The animal products in the list were, to a large extent, produced on the unimproved lands; cattle and sheep in the woodlots are hardly compatible with deer. Accounts of deer in the agricultural areas of the State during the sixty years between 1820 and 1880 are very scarce.

**Predation—the Wolf**

The part played by the timber wolf in restricting the original distribution of deer was mentioned in the last chapter, as were the early attempts to curb it by means of local bounties. After 1820 the wolf soon became a thing of the past in southwestern Maine. The last bounty
paid in Cumberland County, of which there is a known record, was in 1833 for two wolves taken in the town of Otisfield (67).

In other areas of the State wolves remained common until a much later date. The famous author and traveller, Thoreau, mentions wolves along the Penobscot at the time of his “Ktaadn” trip of 1846. He cites the record of a settler near the Grand Falls who had lost nine sheep just prior to the time that he (Thoreau) became acquainted with him. Deer were uncommon this far north at that time, although moose were frequently met (81). Wolves were common in eastern Maine about 1845-1850, and persisted there for some time. Phillips (69) stated that at one time, following a snow storm, “the tracks of wolves were as abundant as those of rabbits are now,” within three miles of Ellsworth post office, and “deer were out around the fields and settlements everywhere, driven there by the beasts. . . .” Another writer stated “In 1844 or ’45 the first wolf was seen on this river [the Machias]. They seemed to come from the north, appearing at the head of the river.

![Figure 14. Wolf predation on deer ended in the 1860's.](image)

They increased very rapidly, thinning out the deer. They reigned for some twenty or twenty-five years and then left and there has not been one seen or heard since.” (35) Other writers refer to wolves in central and north-central Maine (Penobscot and Piscataquis counties) in the 1860’s and up until about 1870 (19, 82, and 24). In Aroostook County the scourge remained until late in the nineteenth century.

There are no records which indicate that deer were ever very abundant anywhere in central or northern Maine until the wolf became rela-
tively scarce. In eastern Maine the wolf, after being locally absent or rare, apparently made somewhat of a comeback at the time that deer first became really plentiful there. There have been occasional reports of timber wolves since the dates referred to above. Probably there were not enough of them anywhere in Maine, with the possible exception of Aroostook County, after the Civil War, to have much effect on deer populations. From the evidence of some earlier deer eruptions (or rapid deer herd increases) it is probable that they had ceased to exert a strong influence on white-tail numbers at a much earlier date. The demise of the timber wolf deserves credit with the clearing of the old mature forests for the spread of deer throughout the non-agricultural areas of the State during the mid-nineteenth century.

**Market Hunting**

During the 1850’s market hunting was a profitable occupation and accounts of hunters’ activities are fairly commonplace. These stories form an interesting chapter on the history of the white-tail and belong in any historical account of the deer.

The earliest reference which the writer has seen mentions a large Boston warehouse, “packed solid full” of deer carcasses said to have come from Maine (71).

Hiram Leonard, well known Maine inventor and hunter of that day, spent the winter of 1856-1857 with three companions in the woods

**Figure 15. Market hunting of deer was profitable during the 1850’s.**

Photo courtesy of Henry Carson, Ashland, Maine
above Mattawamkeag. The four men killed 131 deer during the winter, which were sold to Adams and Chapman of Boston for “a good price.” (24)

David Libbey, in later years a resident of Newport, hunted extensively in the country along the East Branch of the Penobscot River during the 1850's. He was a careful record keeper and in later years wrote prolifically of his experiences. In 1859, Libbey, hunting with three other men, took 45 deer in slightly over five weeks. Between January 1 and January 7, 1860, he took two moose and five deer on the East Branch, above the mountain known as “The Traveller.” His accounts for the winter of 1859-1860 show the following proceeds:

```
“For venison killed in Nov. and Dec., ten saddles $ 56.26
2 moose, Jan. 9 43.00
9 venison saddles 35.22
1/3 of twelve moose hides 12.00
Total $146.48 (26)
```

Hide hunting was commonplace. It was easily done during the late winter when deer were weakened and unable to travel freely, due to deep snows or crusts, which would support dogs or men on snowshoes but not deer. Allen (1) mentions a record of a hayrack load of hides, taken on the crust, being driven into Bangor during this period.

Market hunting was legal at this time and considered to be a respectable occupation. The very general disregard in which the game laws of the time were held may be seen, however, by considering that during the period from 1853 to 1870, a closed season was in effect from January 15 until September 1. Although the only specific dates quoted in the previous data fall within the open period, it is obvious that market hunting was commonly carried on throughout the winter, closed season or not.

The effects of this activity are difficult to evaluate accurately. It is widely believed today that market hunting “wiped out” deer at various times and places in the nineteenth century. Possibly this may have happened in some local areas. Considering the habits of deer, as well as those of men, however, it is difficult to believe that market hunters could have exterminated deer over any great areas. Market hunting was an occupation, and a hard one, and was worked at with the intent of making a profit. When deer became too scarce in any area it would have been profitable to move to some other area, rather than to stay and hunt down with difficulty the few remaining animals. Probably the market hunters merely skimmed off the great excesses which frequently existed in those days of vast unpopulated, largely inaccessible, territories.
During this period (1820-1880) the first state-wide game laws (except for the early Massachusetts ordinances) were enacted. Prior to 1830 Maine had only occasional local acts and the old Massachusetts edicts to protect deer. In 1830 a closed season was enacted, effective from January 1 to August 31, each year. This remained in effect until 1840, when the regulations were changed to provide for a closed period in the months of July through October. From 1848 to 1853 protection was extended to include the spring months from March 1 until June 30, inclusive. Between 1853 and 1870 the taking of deer was prohibited from January 15 until September 1 each year; and from 1870 through 1873 the closure was extended through the month of September, but did not go into effect until February 1 each year. The year 1873 witnessed the first bag limit ever placed on deer in the State. Prior to this time, an unlimited number of deer could be taken during the open season. Now, however, a limit of three deer per year was imposed, and the open time was restricted to the period from October 1 to December 31 of each calendar year. These regulations were in force until 1893. The decline in deer numbers in some areas, and the virtual extermination of deer in the heavily populated southwestern coastal area, were undoubtedly responsible for the enactment and amendment of these restrictions. However, without enforcement, the laws were well-intentioned but virtually meaningless. Although State "moose wardens" were appointed as early as 1830, there was no warden force even remotely worthy of the name until late in the century. From all indications, local officials seldom made any serious attempts to enforce the game laws. There was also little or no understanding of the factors that were controlling the deer populations, so the over-all effect of the regulations was practically nil.

Deer Distribution and Abundance

As we have seen, there were far-reaching changes taking place on the face and in the economy of the State of Maine between 1820 and 1880. These changes had profound effects on deer habitat and deer numbers.

As the timber surveyors and homesteaders pushed into eastern, central, and later, northern Maine, the large animals they saw were moose, bear, and rarely the white-tailed deer. The deer followed in the wake of these men, but it was not until the 1840's that references to deer become fairly common in the writings of the period. By this time lumbering operations had extended over almost all of southern and eastern Maine and far into the interior along the major rivers. Farming had pushed well up into Oxford, Kennebec, southern Somerset, Penobscot,
Firearms Season Notes

1893 Cumberland, Knox, Lincoln, Waldo, and York counties—
no open season.

1895 Androscoggin and Kennebec added to the above no open
season list.

1900 Open season in Androscoggin, Kennebec and Waldo coun-
ties.

1901 Open season in Knox and Lincoln counties.
Firearms Season Notes (continued)

1903  Open season in remaining closed counties.
1907-1908  1 Buck only in Cumberland and York counties.
1909-1910  1 Deer only in Cumberland and York counties.
1911  Waldo county added to 1 deer only list.
       Nov. 1 to Nov. 30—1 deer: Androscoggin, Cumberland, Kennebec, Knox, Lincoln, Sagadahoc, Waldo, and York counties.
1921  Oct. 1 to Nov. 30—Aroostook, Franklin, Oxford, Penobscot, Piscataquis, and Somerset—2 deer but only 1 may be antlerless.
       Oct. 15 to Dec. 15—Hancock and Washington—2 deer but only 1 may be antlerless (Residents of the counties only from Dec. 1 to Dec. 15).
1925  1 Deer limit statewide.
1927  Hancock and Washington counties—Nov. 1 to Dec. 15.
1931  Penobscot, Somerset, Piscataquis, Franklin, and Oxford counties added to Nov. 1 to Dec. 15 season.
1933  Penobscot, Somerset, Piscataquis, Franklin, and Oxford counties return to Oct. 16 to Nov. 30 season.
1935  York County—Nov. 11 to Nov. 30.
1937  York County—Nov. 1 to Nov. 30.
1939  Androscoggin, Cumberland, Hancock, Kennebec, Knox, Lincoln, Sagadahoc, Waldo, Washington and York counties—Nov. 1 to Nov. 30.
       Aroostook, Penobscot, Somerset, Piscataquis, Franklin, and Oxford counties, Oct. 21 to Nov. 30.
1951  All Oxford county—Nov. 1-Nov. 30.
1959  State Divided into 3 Zones:
       Zone 1 (Southern and Central)—Nov. 1-Nov. 30.
       Zone 2 (Eastern)—Oct. 27-Nov. 30.
       Zone 3 (Northern)—Oct. 15-Nov. 30.
1961  Zone 2 changed to Nov. 1 to Dec. 5.

Archery Season Notes

1951  First Bow and Arrow season—Franklin and Oxford counties—Oct. 1 to Oct. 15.
1953  All counties except Southern Piscataquis and Waldo—1st Monday in Oct. for 15 days.
1955  All counties except Southern Piscataquis—1st Monday in Oct. to 2nd Saturday thereafter.
1961  Zone 1—Month of October.
southern Piscataquis, and Hancock and coastal Washington counties. Some settlement had started in Aroostook County.

Williamson (85) mentioned that deer “are still plenty in this state, and have very lately been seen near the head of tide in Penobscot River.” The statement was published in 1839 and presumably refers to the Bangor area.

The famous artist and naturalist, John J. Audubon, visited eastern Maine and New Brunswick in 1832 and 1833. During his travels he met a Mr. Gillis of Old Town, a timber prospector, late in the summer of 1832. The latter had just returned from a prospecting trip to the Allagash and St. John headwaters and reported seeing “only a few birds and quadrupeds, the latter principally porcupines.” In the spring of 1833 Audubon made a trip into what is now Washington County, visiting the region around what was then known as Schoodic and Musquash lakes (East Grand Lake or Schoodic in the Spednic chain and Musquash Lake near Topsfield, respectively). In his description of the trip, Audubon stated that “in that wild and secluded part of the country, seldom visited but by the Indians, the Common Deer were without number, and it was with great difficulty that we kept the dogs with us, as they were continually meeting with ‘beats.’” (16)

By all accounts, deer were very plentiful in Hancock and southern Washington counties by about 1845. An instance has already been cited concerning deer and wolves near Ellsworth. Another writer said, “The deer in my young days were not very plenty. They increased so that about 1845 they were quite plenty and kept so for about 20 years.” The country referred to is the Machias River drainage (37).

Elsewhere in the logged-over areas deer were becoming more abundant where the wolves were becoming scarcer, but they had not yet penetrated far into the northern part of the State. Mr. J. B. Rich (71), stated that deer were plentiful in the eastern part of the State in 1850, particularly so in Penobscot County, but that moose were still more prevalent than deer in Oxford, Franklin, and Somerset counties. Early descriptions of the Rangeley country fail to mention deer although moose appear to have been very common (72).

Jack Darling, one of the best known guides and hunters of the period, stated that there were no deer at all in the Seboeis region in the years about 1850, but that moose and caribou were common (1). Thoreau mentions that moose were common around “Ktaadn” at the time of his trip there in 1846, but fails to make any mention of deer. Describing his Chesuncook trip in 1853, he specifically stated that deer were
absent in that area, but that they were more common further south around Bangor and the other settlements on the middle reaches of the Penobscot. Four years later, in 1857, Thoreau made a third trip to the Allagash and the East Branch of the Penobscot. There were still few or no deer in the northern areas, but he mentioned that on Sunkhaze Stream above Old Town, which he and his Indian companion passed on their trip, "there is supposed to be some of the best deer ground in Maine." Thoreau made common mention of lumbering in the areas where he travelled, although the big pines were mostly gone from the readily accessible stretches along the principal lakes and rivers. However, there apparently was much lumbering not far distant for Thoreau frequently encountered timber prospectors, indications of recent drives, and other signs of current operations (81).

Springer (77) states that deer and moose were commonly seen during timber explorations and were sometimes hunted for recreation during the winter months when deep snow made them easy prey. The use of venison as camp meat in the lumber camps was not yet as common as it became in later years; large quantities of salt beef and salt pork were freighted to the camps and made up the staple diet of the loggers, although deer, moose, and even bear meat were all eaten when they were available. During this period there was no stigma attached to the use of wild meat by loggers, so while Springer's work is obviously over-romanticized in places, there is no reason to doubt his statements on these points; he had nothing to conceal by the standards of the mid-1800's.

There is some disagreement as to how far northward the deer had spread by the late 1850's and the early 1860's. The sixth annual report of the Secretary of the Maine Board of Agriculture (39) stated that both deer and moose were "generally abundant" then in the vicinity of Eagle, Chamberlain, and Churchill lakes. This is the only reference which the writer has seen which would indicate that deer were to be found in numbers so far north at this early date, and the source of the information is not stated. On the other hand, Manly Hardy of Brewer has left an account (30) of several fur hunting trips into the Chesuncook and Caucomgomac country during the late 1850's. He states, "... there were extremely few deer above Katahdin. In 1857 and 1858 we saw only two tracks, and this year (1859) we did not see one. ..." Lumbering was going on in the area at the time, and Hardy alludes to older operations, such as tote roads, camp remains, etc.

White-tails became fairly common in the 1860's in western Maine. Several were "started" in 1862 in the area between Richardson's Lake
and the Magalloway River. They were first seen in the Rangeley region in 1865 (1).

By the time of the Civil War the deer population had built up to large proportions over most of the State south of the Mt. Katahdin area, except for the long settled coastal belt. The first great wave of pine lumbering had swept over the country in the 1830's and 1840's. The wolves were nearly gone, except in the far north. The new forest growth and the release from predation had created favorable conditions for deer and no other element in the environment had replaced the wolf as a direct control on deer numbers. There were still very few people throughout most of interior Maine above Bangor, and sport hunting was not yet widely practiced. Those who hunted for the market, while their individual bags were impressive, were comparatively few in number. In addition, many of the able-bodied men of Maine had gone off to war between 1861 and 1865. The young growth which followed the heavy cuts and fires of the 30's and 40's would have largely grown out of reach of deer by the early 1860's. The resulting die-off was inevitable under these circumstances.

While there are vague references to an early large scale die-off, possibly in the 1830's (9), the first well-documented great die-off of deer in Maine took place about 1864 and 1865. Writings of contemporary

Figure 17. A sporting camp at Spectacle Lake, Aroostook County, in 1896, was one of northern Maine's first.

Photo courtesy of Henry Carson, Ashland, Maine
woodsmen ascribed the die-off either to wolves or were vague about the causes, but they left no doubt that it occurred and that it was nearly complete over much of the inhabited deer range of eastern and north-central Maine.

The disappearance of deer is mentioned in two articles. In one, published in “The Maine Sportsman” in April, 1907 (24), the author stated that “deer left the country [Penobscot County] about forty years ago.” In another article published in the same periodical in November, 1907 (25), describing early days and hunting in the town of Greenbush, he stated that deer and moose were plentiful, but left about 1864.

The noted anthropologist, Frank Speck, carried on a study of the life and traditions of the Penobscot tribe between the years 1907-1914. A section of his work, not published until 1940 (76), deals with Penobscot hunting activities and beliefs and traditions concerning game. “Three times in the life of one old man did he remember the caribou leaving the region. Another remembered how, forty years before, the deer left and for four or five years hardly any were seen. The wolves also left the country, it was supposed, going north to Canada. Then, after a few years, deer tracks were found heading southward, and the deer soon became plentiful again, but the wolves never returned with them, and are not now found in Maine.” Based on the time that Speck collected his information, this period of scarcity would have occurred during the late 1860’s and early 1870’s. The territory in question was the upper Penobscot country.

Another writer, previously quoted, stated that deer were quite plentiful along the Machias River for a twenty-year period following about 1845, which would bring the time of decrease about 1865, which is in agreement with other sources (37).

Still another writer wrote about an experience which took place around 1870 in the region of Second Lake, Grand Lake, Trout Brook Farm, and Telos, the country immediately above the present Baxter State Park. “During the whole winter we saw no deer and but few moose. . . .” (82).

During the balance of the period covered by this chapter, there were no startling changes in the deer picture. Deer were becoming more numerous in western Maine. An account of the experiences of two trappers who spent the winter of 1876-1877 in the wilderness above Parmachenee Lake stated that deer were plentiful in that area, although moose and caribou were more frequently mentioned (17). It appears that moose and caribou were much more important throughout most
of Maine during the late 1860's and the 1870's. Deer were making a recovery during the latter part of the period in the area where the great die-off of the mid '60's had taken place. The changes in the laws in 1870 and 1873, particularly in the latter year when the first bag limit was imposed, were probably made in response to the scarcity of deer. After the Civil War another great wave of lumbering swept over the forested areas of the State as spruce became the number one item of the lumber trade. In the agricultural areas, land clearing was approaching its peak.

Three new elements were soon to make their appearances—elements which were to have great effects on the story of the white-tail. These were the emergence of the pulp and paper industry as the principal producer and consumer of forest products, the beginnings of effective law enforcement, and the social changes which made hunting a sport enjoyed by many people. Along with the last element came the birth of Maine's great recreation industry.
The forty years between 1880 and 1920 saw profound changes in the deer situation in Maine and in the factors which controlled the deer populations. The period marked a change from an essentially old-time era to a relatively modern one in agriculture, woods operations, transportation, and organization of the economy. Great changes have occurred since 1920 but they have generally followed a pattern already defined by that time.

Legislation as a Factor in the Deer Harvest

By 1880, following a period when deer were very scarce, the people of Maine were coming to believe that steps would have to be taken to preserve their wildlife for the future. The first place to turn seemed to be the State Legislature. (The belief was widely held that a supply which would probably dwindle out anyway could be rationed so that it would last longer. There was little or no thought that it could be saved indefinitely, or even be increased.)

The three deer per person bag limit which had been enacted in 1873 was in effect until 1893, when deer were again present in good numbers over much of the State. Meanwhile, however, other aspects of hunting were coming in for attention. Market hunting, the use of venison in

Figure 18. A 1905 hunter with a season’s limit of deer.

Photo courtesy of Henry Carson, Ashland, Maine
lumber camps, and the very common practice of hunting deer with dogs were all attracting attention, much of which was unfavorable. The laws which resulted were not always practicable or enforceable, even had an effective enforcement body been available.

The 1882 report of the Commissioners of Fisheries and Game stated that a law in force at that time provided a penalty of $40.00 for every deer or caribou killed or destroyed when hunting with dogs. There was no penalty for hunting with dogs, as such. By 1886 hunting with dogs had in itself been outlawed, and the Commissioners' Report for that year credited this fact, plus the three deer bag limit, for a "wonderful increase in the numbers of our deer. . . ." In the next breath, however, the report recommended a prohibition against killing deer in the water, which was the usual result when hunting with dogs during the summer and fall months. It would appear that the dog law was not really as effective as might have been desired. There was still little effective enforcement and it is almost certain that the "wonderful increase" was due to natural factors, rather than to laws which were still openly and widely flaunted (42 and 44).

The Commissioners' Report for 1883 stated that the past Legislature had enacted a law limiting marketmen to the handling and selling of only three deer each, annually. This was reported to have led to larger local sales, whereas most of the deer had previously been exported, a practice which was now outlawed. The 1883 Report stated that all big game was increasing greatly, particularly "where the laws against dog hunting have been enforced." (43)

Effective in 1893, the deer season, previously open in all counties of the State, was completely closed in Cumberland, Knox, Lincoln, Waldo, and York counties. These were the counties where deer had been extremely scarce since the late colonial period. Now a few deer were being seen again and legal protection was afforded in the hope that they would soon increase. In York county the closure was to extend until October 1, 1899, but was later extended through the year 1902. Effective in 1895, protection in the form of a closed season was extended for five years to Androscoggin and Kennebec counties, and for an eight-year period to Sagadahoc.

Deer were increasing rapidly during this period, but so was hunting pressure in the open season counties, although it must have been extremely light by present day standards. The Commissioners' Report for 1893-1894 estimated that the number of big game hunters was increasing by twenty-five percent, annually. Concern was being expressed in various quarters over the numbers of out-of-state sportsmen
who were coming to Maine each summer and fall. Many were coming in the summer months, ostensibly to fish, but it was believed that many deer were being killed around back-country ponds and lakes by these “fishermen.” Many sportsmen were coming to Maine as a result of the large scale advertising of the State’s resources and recreational advantages which was starting about this time. As a result of this influx of sportsmen, and despite the great and continuing increase in deer, the bag limit was reduced to two deer annually, effective in 1895. This bag limit prevailed in the forested counties of the State through the year 1920 (45 and 46).

Although it was illegal to export deer from the State for market purposes, it was still being done quite openly. The “Maine Sportsman” in March, 1895, carried a report that 90 deer carcasses, weighing 7300 pounds had been shipped from Addison Point to Boston aboard the schooner “Monticello.” They were said to have brought about $8.00 per carcass (5).

In 1899 a law was enacted permitting any person to buy a special license (the fees were $4.00 for residents and $6.00 for non-residents) which would permit the taking of one deer in September. The deer was to be consumed in the locality in which it was taken. This law was not readily enforceable and was highly controversial. Much blame was heaped upon it for poor hunting which was encountered in October during the next year or two. (In the 1900 Commissioners’ Report which discussed the matter, the statement was made that the past two winters had been unusually severe, with five to six feet of snow on the average over much of the State.) Forty-one per cent of the special licenses issued were sold in the Moosehead area (50).

About 1900 a law was enacted requiring the licensing of retail dealers in venison. In 1900, 27 such licenses were issued, but only about one half of the licensed dealers filed the required annual report and they reported handling only 59 deer.

The 1902 Commissioners’ Report devoted considerable space to the need for a licensing system in order to raise funds. It was proposed to license only non-residents; a survey made by the Commissioners showed that 133,000 persons came to Maine in 1902 to vacation, hunt, and fish. It was felt that a modest fee to be charged those who hunted would bring in considerable revenue to provide a larger warden service (51). This proposal met with a storm of opposition from out-of-state sportsmen, and from many Maine camp owners and guides who feared that their businesses would be ruined by any such revolutionary measure. The proposal also had its proponents, and the fight waxed hot and
heavy for some time. The measure was finally enacted in 1906 and almost as promptly proved to be a partial failure. No proof of residence was required, other than the applicant's statement, and few non-residents came forward to buy licenses. Almost invariably they merely claimed residence in another section of the State if they were apprehended and questioned. By 1912 the recommendation was being made that resident hunters should be registered or licensed, in order to control the ready circumvention of the non-resident licensing provisions. This was not done until 1919, however.

During the years immediately after the turn of the century deer were becoming numerous enough in many areas to cause damage to orchards and crops. The Legislature passed a law in 1905 giving a farmer the right to shoot a deer found doing "actual, substantial damage" to cultivated crops. At first, few took advantage of this, preferring instead to collect a monetary compensation. In 1906 the State paid $1,343.35 for deer damages. By 1908, however, the Commissioners reported that the law ... "appears to have been taken advantage of to a considerable extent.

"... We have received reports of the killing of forty deer for this cause this year. One man, A. M. Currier of Seven Islands, on the St. John River, reports killing fourteen deer for this cause. Undoubtedly others have been killed of which we have no reports. ..." The same year, 78 damage claims were filed, asking damages of $1,531.50 (53).

Meanwhile, seasons were again being changed in some areas. In 1899 the closing date in all open counties was changed from December 31 to December 15. In 1900, Androscoggin and Kennebec counties were reopened, the latter for the months of October and November only. In 1901, deer hunting was legalized in Knox, Lincoln, and Waldo counties during the month of October only. Cumberland, York, and
Sagadahoc counties rejoined the list of open areas in 1903. No further changes were made until 1907, when hunters in Cumberland and York counties were restricted to the killing of one buck, and in York county the season was reduced to the month of November. *These regulations remained in effect for two years and are the only instances of “buck laws” in Maine’s deer history.* In 1909 these same two counties were placed on an “any deer” basis, with one deer only being allowed. In 1911 the bag limit was similarly reduced in Waldo county, and a November 15-December 15 season was invoked. In 1913, Androscoggin, Cumberland, Kennebec, Knox, Lincoln, Sagadahoc, Waldo, and York counties were given a uniform season, the months of October and November, with a bag limit of one deer. No further changes were made until 1919 when the season was established as the month of November only in this same group of counties, and all other counties were given a November 30, instead of December 15, closing date. The same year a resident registration system went into effect.

The use of deer as food in lumbering camps had been common for some time. As manners and morals changed, and hunting for sport became common and popular, the sportsmen and some other interests were coming to resent a situation which at first had seemed a natural and rightful use of an available resource. Lumber camps and market hunters were widely blamed whenever deer hunting was poor. As a result, attempts were made at various times to regulate these uses. A law was passed in 1913 restricting camps to only six deer each, annually. By 1916 it was evident that this was unenforceable and the Commissioners’ Report for that year called for the repeal of the law and the complete prohibition of the use of venison in camps. This was done in 1919 and it was now expected that much better deer hunting would prevail for the sportsmen. At the same time a law was passed to prohibit residents from sending deer out of the State. This had previously proved to be a ready means of circumventing the law which prohibited the exporting of deer for market purposes.

By 1920 most of our present legal structure for the protection of the white-tail had been enacted. By this time, also, Maine had a large Warden Service. Most people now realized that it did no good to pass laws if they were not enforced by a resolute and able staff of wardens. The days of dependence on legislative panaceas alone were about at an end. The Warden Service, even if not always enjoying public sympathy, was starting to be respected. A universal licensing system of sorts was in effect. The era of protection and regulation was in full flower.
The changes which took place in farming in the forty years between 1880 and 1920 set a pattern which has had a vast effect on deer populations, particularly in southern and central Maine. The year 1880 marked the high point of land clearing for farming purposes in Maine. Acreages, as indicated by the United States census, showed a steady decline throughout the balance of this period.

TABLE II. THE DECLINE OF AGRICULTURAL LANDS IN MAINE FROM 1880 TO 1920 (from U. S. Census statistics)

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Farms</th>
<th>Total Acres of Agricultural Lands</th>
<th>Total Acres of Improved Farm Lands</th>
</tr>
</thead>
<tbody>
<tr>
<td>1880</td>
<td>64,309</td>
<td>6,552,578</td>
<td>3,484,615</td>
</tr>
<tr>
<td>1900</td>
<td>59,299</td>
<td>6,299,946</td>
<td>2,386,889</td>
</tr>
<tr>
<td>1920</td>
<td>48,227</td>
<td>5,425,968</td>
<td>1,977,329</td>
</tr>
</tbody>
</table>

The decline in improved acreage was relative as well as absolute. In 1880, improved acreage represented about 53 per cent of all farm lands, but by 1920 it was only about 36 per cent of the total.

The change in agriculture was even greater than is indicated by the decline in farm acreages. Products changed greatly during the period. Part I of the Agricultural Survey of Maine (1929) stated “... In 1880, the principal output of our farms was in the form of beef, pork, wool, cheese, butter, wheat, corn and potatoes. In 1920, we were producing principally fluid milk, sweet cream, eggs and poultry products, potatoes, sweet corn, blueberries, apples, and garden truck.” Land used to produce the latter list of commodities can be expected to also produce

Figure 20. Reverting farmlands made good deer range.

Photo courtesy of Harvard University Museum
deer in greater abundance than land which is devoted to items from the former group.

As in the other northeastern states, abandoned agricultural lands were usually not put to any other use and slowly grew up to brush and eventually reverted to woodlands. Such lands, frequently interspersed with farm lands still being worked, became some of the finest of deer range. This regeneration of deer range, together with effective law enforcement has been responsible for the re-birth of deer herds in the agricultural areas of Maine, as well as elsewhere in areas where deer were practically extinct for long periods.

The Growth of the Pulp Industry and Its Effects on Deer

The rise and fall of deer populations in Maine have been closely associated with changes in the character of woods operations as brought about by new forest products. Prior to the latter part of the 19th century, saw logs were the principal product which came from the forests of Maine. After the old mature forests were exploited, remaining timber and the new growth that followed were better suited for pulp production than for lumber. Other areas to the south and west were now starting to take over the markets for lumber which Maine had formerly dominated. With a growing demand for paper products, good shipping facilities, and great water power potential, it was natural that a new industry would develop.

A mill was built at Norway, Maine, in 1854, which produced ground wood pulp. However, the first to manufacture ground wood pulp in substantial quantities was built at Topsham in 1868. In 1872 a soda pulp plant was constructed at Yarmouth. A soda fiber plant was put up at Cumberland Mills in 1880, and in 1889 the first sulphite mill was built at Brewer. From these beginnings grew a great industry. The first mill in operation (1868) produced one ton of pulp per day (84). Some of the modern mills produce up to a thousand times as much pulp in the same period of time.

With the new demand for pulpwood, coupled with what saw timber and other products came from the forests, Maine's total wood production continued to rise. Softwood production reached its peak in 1907 when 1,031,188,000 board feet came from the woods. The year 1909 saw the peak of hardwood production, as well as the peak for all forest products combined. That year 1,111,565,000 board feet were produced. By 1912 the pulp mills of Maine utilized more spruce for pulp than the saw mills cut for lumber. Pulpwood consumption leveled off at about 1½ million cords by 1920, of which about 83 per cent was local produc-
These figures give some idea of the origin and growth of the pulpwood industry. What actually happened in the woods has been of more direct concern to the white-tail. As the great paper companies expanded they acquired large holdings in central, northern, and eastern Maine. Most of this land had once been part of the public domain. With great mills to support, it became mandatory to control the source of supply of raw materials in order to insure a stable supply. This led to large ownerships, and in turn to protection against fires and one form or another of organized management. Fire protection received more attention than any other form of management in the early part of the era and has continued to receive major emphasis in the activities of the paper companies and the Maine Forest Service. As the public has come to appreciate the destruction caused by uncontrolled fires, there have been fewer and fewer fires of truly major proportions.

The growth of the pulp industry resulted in a more stable type of cutting operation than that which prevailed during the heyday of the long lumber boom of the mid-1800's. There has been less of the old "cut-out and get-out" fervor which characterized the great white pine operations. Spruce and fir bolts have replaced the pine logs as the king
pins of the economy, and the pattern of operations has come to be one of recurrent cuts over the same lands. However, the resulting food and cover situation for deer has frequently come to be a feast or famine. The nature of woods operations, particularly during the earlier days of the pulp industry was such that it was more economical to cut over sizeable areas at any given time, taking practically all merchantable material. This often meant that deer yards were wiped clean of their coniferous cover. The period between cuts has also frequently been too long to provide a constant source of new growth for deer food.

Low human populations, absence of wolves, better law enforcement, and lack of access to much of the country allowed deer populations to build up to fantastically high levels at certain times and places during the period, and then to suffer the inevitable consequences of overpopulations. Since cutting operations were of a more scattered nature than formerly, and as hunting was coming to be more of a factor than during the pine logging days, the eruptions and die-offs become somewhat local phenomena. They were scattered in time and space, and hence less noticeable than the great die-off of the 1860’s.

Trends in the Deer Population: 1880-1920

The years following 1880 witnessed a recovery from the great die-off of the 1860’s. They also saw a gradual spreading of the white-tail into

Figure 22. A hunting party at Eagle Lake, Aroostook County, November 1916, with limit of deer.

Photo courtesy of Henry Carson, Ashland, Maine
range which probably had never before been occupied by large numbers of deer, and a re-occupation of the coastal range where deer had been virtually extinct since the late colonial period. Another important factor during this period was the emergence of hunting as a widely followed sport.

Recovery From the Die-off

In eastern Maine, where the die-off had been very severe, the white-tail made a rapid comeback in the late 1870's and 1880's. The Commissioners' Report for 1882 lists shipment of 408 venison saddles by the American Express Company between October 1 and November 23 of that year. Nearly one half of this number came from Washington and Hancock counties, while almost the entire remaining number came from stations in Penobscot County (42). About 2000 deer were shipped out of the State in 1882. On Mt. Desert Island there was an eruption of deer in the early 1880's, but these were largely killed off by an ice storm in 1886, except along the western side of the island, according to Lawrie Holmes (34). Starting about 1883 the deer population in the Nicatous and Great Pond area in Hancock County reached eruptive proportions according to Don McPheters of Northeast Harbor whose father was a hunter in this area. The peak of the eruption occurred about 1886-1887 and was followed by a die-off after a severe blizzard in March of 1888. An account in "Forest and Stream" for August 26, 1886, speaks of great numbers of deer being seen in this area during the spring and summer of that year (89).

Deer were plentiful in central Maine by about 1885, where ten to fifteen years earlier they had been scarce (1). The Commissioners' Report for 1886 stated that "There has been a wonderful increase in the numbers of our deer. . . ." The report stated that deer were well distributed over the entire State. These reports, from 1880 to about 1895, almost without exception, continued to report increases in the deer population (44).

Deer were becoming plentiful in the Millinocket area about this same time. Roger Leonard, later a Representative in the State Legislature, guided Manly Hardy, the Brewer naturalist, in the area around Green Mountain Pond (T6R6 WELS) about 1885. They found a very heavy concentration of deer at this time. An eruption occurred around Joe Mary Lake in the late 1880's followed by a die-off during the last year or two of the decade. During the die-off a party of woodsmen are said to have regularly pushed aside carcasses of deer to keep paths clear between camps in an area near Millinocket (McPheters, personal conversation).
In the early 1880's deer were still absent or uncommon in northern Maine. Two accounts of canoe trips down the Allagash River in the autumns of 1880 and 1881, one by Steele and another by Hubbard, commonly mention moose and caribou (78 and 35). Steele makes no specific mention of deer at all, while Hubbard makes only two references to deer tracks which he saw. All indications are that moose and caribou were still far more plentiful than deer in northern Maine at that time.

**Spreading of the Herd—the 1890's and After**

Through the 1890's deer numbers continued to increase and populations spread out over much of the State. Through this period most travel was by railroad and most deer were shipped out by rail so that records begin to be available which at least indicate trends.

During the fifty days ending November 21, 1894, 800 deer were shipped by express over the Bangor and Aroostook Railroad from Houlton to Bangor. During this same period about equal numbers came from the Moosehead area, from Washington and Hancock counties, and from the area encompassed by Somerset, Oxford, and Franklin counties in western Maine (45). In 1895 the number of deer shipments nearly
doubled over the figure for 1894. Estimated kills of about 10,000 deer each year were reported for 1896 and 1897 (46). In 1898 the kill was estimated at a minimum of 20,000 animals, and the statement was made that "... our forests are not large enough to sustain this enormous drain indefinitely from the ever increasing numbers who annually engage in hunting them in open season and in close season." (49)

Deer must have reached great densities in some areas during the 1890's. Manly Hardy saw 79 deer on a short visit to Lake Nahmakanta (twenty miles west of Norcross) in 1896 (30). Joe Francis, ex-governor of the Penobscot Indians, stated in 1894 that deer were very numerous along the line of the Bangor and Aroostook Railroad between Brownville and Houlton, from Twin Dam to Millinocket, near Mattagamon on the East Branch of the Penobscot River, and around Joe Mary and Pemadumcook Lakes on the West Branch of the Penobscot. In one day in July, he saw 77 along the West Branch (4). A party at Spencer Bay on Moosehead Lake saw 40 deer in a 24-hour trip during the preceding summer. Extensive crop damage occurred around Charleston and Atkinson, and in the upper towns of Oxford, Franklin, Somerset, Piscataquis, Penobscot, and Hancock counties, while Aroostook and Washington were fairly overrun with deer (3).

The white-tail was extending its range into extreme northern Maine, and was coming back into southern Maine about this time. Lawrie

Figure 24. Masardis R. R. station, Aroostook County, 1906. Most shipments of deer were by rail at this time.

Photo courtesy of Henry Carson, Ashland, Maine
Holmes of Northeast Harbor has letters from the town clerks of Fort Kent and Madawaska stating that deer are believed to have first appeared in those towns about 1890 and 1893, respectively. That deer were increasing in northern Maine is borne out by the fact that shipment of carcasses over the Bangor and Aroostook Railroad increased over three-fold from 1001 in 1894 to 3337 in 1898 (45 and 48).

In southern Maine several deer were seen around Mt. Agamenticus in York County in the winter of 1895-1896. A neighbor of the writer, Mr. William Fall of Sanford stated that his father first saw deer near Mt. Hope, south of Sanford, about 1897 or 1898.

Trouble in (the Deer Hunter's) Paradise: 1903-1907

The Commissioners' Reports continued to indicate increasing populations and kills until about 1904. That year the report stated that a marked decrease had occurred during the previous two years. Possible reasons given were forest fires in 1903, extreme winters of the previous two years, or scarcity of food, but the opinion was expressed that the true reason was that "... too many have been killed." (52) In the light of present knowledge this seems quite unlikely and it is almost certain that two severe winters, coupled with a food shortage, were responsible. Rail shipment records for the period bear out that there was a decrease.

About this time a great controversy was raging around camp fires, cracker barrels, and in the sporting press of the day. Some areas were experiencing poor hunting, where two or three years previously deer numbers had been legion. What was happening? Opinions were many and varied. As early as 1900 one woodsman reported seeing many deer in very poor condition during the winter, as well as finding deer actually dead from what appeared to be starvation, in the Patten area. He ventured the opinion that deer were growing too numerous for their food supply in some areas (6).

When the decline of 1903 and 1904 occurred the controversy became hot and heavy. Three opinions were expressed in "The Maine Sportsman" of January, 1905. John P. Wallace, in an article entitled "In the Hunter's Heaven" spoke of the scarcity of deer and difficult hunting conditions during the fall of 1904 in the Salmon Stream-Wadleigh region of northern Penobscot County. His party of four hunted for two weeks and took only one 65-pound spikehorn. He blamed poaching by local people for deer scarcity (83). An editorial in the same issue spoke of the decrease and ventured the opinion that the deer had moved to better feeding grounds. A letter from a Malden, Massachusetts sports-
man who hunted in Maine suggested that a buck law and a shorter season should be instituted. Still another article quoted rail shipments through Bangor for the 1904 season. These figures showed that shipments declined 19 per cent between 1902 and 1903, and 8\(\frac{1}{2}\) per cent between 1903 and 1904 (7).

"The Maine Sportsman" for April, 1905, printed still another opinion. An article entitled "More Dead Deer" said in part:

"The winter of 1903-1904 was an exceedingly severe one, but in one respect it was different from most other winters, in that the snow, although deep, was scarcely more than frost, and great in bulk, was yet small in real quality. . . .

"The deep snow, or snow and frost, didn't thaw and freeze, thaw and freeze, as usual in a Maine winter, but remained soft, without crust of any importance, and as a consequence the increased snows only made it more difficult for the hungry deer to reach the browse, the moss and young cedar shoots in which they delight. There being no crust, all of the deer, large and small could feed near the ground, but when that was gone, it was a case of survival of the fittest, for the smaller deer were outreached by the larger. . . .

"By the great majority of lumbermen this [deer loss] was regarded as being due to starvation and nothing else, although quite a few, among them many hunters, maintained that the deer were suffering from a disease which was epidemic, and which was proven by the quantities of lice found on dying, and emaciated animals. Old students of deer said, on the contrary, that lice invariably multiply on the body of a deer weakened from any cause, whether hunger, disease or a wound. Consequently, this could not be regarded as any reason but merely a result.

"Now come the woodsmen of the past winter, and declare that the deer have literally died by hundreds during the winter. . . . Those who have

Figure 25. Sheridan Mill, Ashland, Maine in 1900. One-half million board feet per day made it Maine's largest sawmill.

Photo courtesy of Henry Carson, Ashland, Maine
been working in the woods and having extensive operations carrying them about over wide territory, have noticed an enormous death rate among the deer in those sections between the operations of the lumbermen. Where there were operations and recent cuttings, the deer have been almost fearless in their hunger, and have sustained themselves very well indeed on the cuttings, the tops affording them very fair forage. Their need has been evident by their willingness to remain, even in daylight, close by the feeding ground, rather than be frightened away from their source of supply. With snow four feet deep on the level, the smaller deer have simply been obliged to succumb to superior force and reaching ability, and on some logging roads it has been not an uncommon custom to throw aside from three to a half dozen dead deer in a day, that have crept into the road and, utterly exhausted, lay down to die.” (8)

Conditions apparently were better in 1905, but 1906 and 1907 again showed declines in numbers of deer shipped over the State’s rail lines. The arguments still went on, but some of the observations made at the time now show plainly where the trouble lay.

Writing in “The Maine Sportsman” for December, 1906, Will Atkins, a guide from Oxbow, said:

“There is no doubt at all but that feed is growing very scarce for deer and moose . . . all around the shores of the ponds you can see where the deer have eaten the buds and leaves up as high as they could reach. Of course when deer eat up all the feed there is one place they’ve got to move or starve. . . .

“There is no doubt that many deer died last winter from starvation and cold. I found many of them in the spring, mostly late fawns of the year before and a few old bucks who haven’t the strength to carry them through the winter. I found lots of deer heads and jaws out on the pond . . . where they had been carried by foxes. All these deer were winter killed and there will be lots more this winter if the weather is severe.

“No sir, I don’t think any more game laws to protect the deer are necessary. . . . They will starve to death long before they are killed off by hunters. . . . According to my way of thinking the deer are in a good deal more danger from themselves and their appetites than they are from hunters.” (14)

In the same issue, Harry B. Garrison of Houlton stated:

“It is the scarcity of feed during the long winter which plays havoc with our countless hundreds of deer. Have you ever examined the contents of a deer’s stomach when the snow was deep and they were in their winter yards? . . . If you have you will agree with me that cedar tips and spills is most of all you will find there. . . . It’s their chief sustenance during the . . . winter months. For years they have trimmed the cedar swamps as high up as the snow would allow them to reach. You will notice this in every swamp in good deer country. I believe that last winter thousands of deer perished because they could not reach their feed in the swamps.” (29)

In the January, 1907 issue of “The Maine Sportsman” an article was reprinted which had previously appeared in “Arms and the Man,” the forerunner of the present “American Rifleman.” This article was written by D. E. Haywood of Rangeley, a guide, who stated, “It is . . .
well to investigate the food supply of deer first of all, before advocating an increase in their numbers.” Mr. Haywood went on to say:

“Along the shores of any of the backwoods ponds of Maine where cedar grows down to the water’s edge can be seen a line on the foliage some five feet above water. It has the appearance at a distance of being a high-water mark, or a line caused by deep snow in winter. . . . Investigation will usually show no dam or obstruction to cause high water, and that the line marks the point reached by deer standing on the ice in winter and feeding as high as they can reach. This line exists everywhere in the woods, but the unevenness of the ground renders it less noticeable than where it can be viewed from a distance above a level surface.

“One might think from this that the deer would eventually destroy the forests or at least certain species of trees. As yet only one shrub has been exterminated. There has not been any live ground hemlock . . . for several years, though formerly there was an abundance of it. This being a favorite food for deer, they have completely wiped it out. Cedar seems to be their next choice, though young maple, birch, cherry, mountain ash, moosewood and nearly all small brush is nipped closely by them during the winter famine. The dry moss from downtrees is a real luxury to them. . . .”

“The object of this article is not to show that deer are doing any special damage to the forests, but to simply show that they are as numerous as the forests will allow. It is unquestionably true that deer have bred and greatly overstocked certain sections of the State, and either died of starvation or been obliged to migrate to new feeding grounds. When this happens the few remaining ones are just as badly off. . . . The food is gone, and it will be a year or longer before any more will grow. All the guides who travel much and observe keenly report this fact, and those who shoot the game are nonplussed to account for the deer being so plentiful at one time and later nearly all gone.” (32)

Some people profess to believe that such arguments were invented by biologists fifty years later. There were no biologists in 1906, but only “practical woodsmen” and hunters.

Expansion in the Farming Areas

Despite these setbacks the population continued to soar in some areas as evidenced by the previously cited damage complaints. But these came largely from farming areas where woodlands were interspersed with agricultural areas. “The Maine Sportsman” for September, 1907, told of the great damage being done to crops by deer around Alton and Argyle in Penobscot County (11). It will be noted that most of the complaints of poor hunting and the reports of starvation came from areas which were essentially forest or wilderness. An editorial in the September, 1906, issue of “The Maine Sportsman” noted what was happening.

“. . . During the last ten years, or thereabouts, the deer have been spreading into every portion of Maine, until now there are deer where, ten or a dozen years ago, yes, half that time, there were none.

“And they have multiplied and developed until the largest deer are now to be secured in those borderlands where close proximity to openings and
grass lands affords the best of feed, with a consequent greater physical development of the individual animal than is possible in the less abundant feed of the forests.” (9)

Unfortunately, “The Maine Sportsman” ceased publication in 1908. It is one of the best available sources of information on fish and game in Maine during the last decade of the nineteenth century and until its demise. Although some of the material which it published was plainly intended to attract out-of-state sportsmen, it presented much factual information and a wide variety of opinions and observations.

**Ups and Downs 1910-1920**

Following the ups and downs of this period, it appears that deer populations in the State fluctuated considerably during the second decade of the twentieth century. Law enforcement was becoming fairly effective by this time and woods operations covered greater areas in a patchwork or checkerboard pattern which had not existed during the old pine

Figure 26. The early Maine wardens put teeth into the game laws.
logging days. The scattered pattern of eruptions and scarcity reflects these changes.

The annual reports of the Commissioners of Inland Fisheries and Game for 1910 and after, record not only rail shipments, but guides' reports, reports of licensed dealers and marketmen (deer could still be legally bought and sold at this time), and reports of hides purchased by dealers. Some of these factors fluctuated considerably due to circumstances other than variations in the deer population itself (factors such as economic conditions, value of hides, changes in hunting methods and customs, changes in transport, and public opinion on certain activities).

Considering all of these factors together, certain trends can be seen. The years 1913 and 1914 were poor ones for the deer hunter. Rail shipments of white-tails were down almost one third in 1913 as compared with 1912, and dropped another eight per cent in 1914. Guides' reports indicated significant drops in the hunters' success for these years (55 and 56). It should be noted also that license sales to non-residents declined considerably these years, possibly as a result of the increase in the price from $15 in 1912 to $25 in 1913 and 1914. It was reduced to $15 again in 1915.

The year 1915 was about on a par with 1914 according to most of available indications. Hide purchases were down considerably, while the price remained practically unchanged (an average of 73¢ in 1914, against 75¢ in 1915). Guides' reports indicate nearly the same number
of deer taken by their parties as in the previous year, and rail shipments were practically the same (5,296 in 1914, against 5,260 in 1915) (56 and 58).

Conditions improved in 1916, even though hunting was poor during the early part of the season. An overwhelming number of guides stated that deer were more numerous in their areas than they had been the previous year. In estimating that about 12,000 deer were taken in 1916, the Commissioners noted changes which were taking place in the distribution and abundance of deer in Maine. They stated:

"Notwithstanding the severe annual drain upon the deer supply they seem to be holding their own and perhaps increasing their number, but such increase is confined to the older and more thickly settled counties of the southern part of the state.

"It is doubtful whether the aggregate number of deer in the other counties is so large as it was five years ago, although it is difficult to make anything like a correct estimate, owing to the fact that they change their haunts frequently, and in sections where they are plentiful one season they may be scarce the next." (59)

We now know that deer do not make gross, abrupt "changes in their haunts." The phenomenon of abundance followed by scarcity was due almost entirely to eruptions and die-offs caused by severe winters and a pronounced underharvest.

This same report made, for the first time, a note of the automobile, when it said, "Of all modern methods and conditions of hunting the greatest menace to our game supply is automobile hunting." It was stated that more game was now being transported by auto than by rail.

The winters of 1916-1917 and 1917-1918 were severe. The Commissioners' Report for 1917 stated, "Last winter was a very unfavorable one for deer, as the deep snows remaining later than usual in the spring confined them to their yards for an unusually long time and in many instances a shortage of browse in these yards caused starvation of all but the larger and stronger ones and after spring opened many deer thus weakened became an easy prey to the prowling loup cervier and bobcat. . . ." Together with other conditions—notably unseasonable weather during the early part of the hunting season and fewer hunters afield due to America's entry into World War I—this reduced the number of deer taken in the fall of 1917 compared with 1916. This is indicated by guides' reports and records of rail shipments. The winter of 1917-1918 was very cold. Again, the effects of the winter combined with low hunting pressure, again probably due to war activity, to cause a large drop in the deer kill. Non-resident license sales dropped about 8 per cent from 1917 to 1918, while rail shipments decreased nearly 28 per cent for the same period. Reported purchases of hides by licensed
Figure 28. During many winters, deer had little food.

buyers declined even as the average price rose from $1.42 in 1917 to $1.63 in 1919. An overwhelming proportion of the guides reported their beliefs that deer were less plentiful in 1918 than they had been in 1917 (59).

The Commissioner, in his 1918 report, stated that the wardens had spent much of their time that year in hunting slackers and deserters from the army and navy, and in returning them to their bases. Consequently, game law enforcement had suffered (59 and 60).

Conditions improved during 1919, for the report for that year stated that many more deer were taken in 1919 than in 1918. Up to November 20, 1919, shipments through Bangor totaled 1,265, whereas only 689 had passed through during the comparable period of 1918. Still, the above increase was a large one and, in addition, a large majority of the guides reported that deer in their areas were as plentiful, or more so in 1919 than they had been in 1918. Resident registration went into effect in 1919, and the number of persons registering far exceeded expec-
tations. A total of 84,333 residents came forth to state their intention to hunt in Maine in the fall of 1919, at a fee of 25¢ each! The following year, 1920, 24,055 additional persons registered. It should be pointed out that this registration was not the same thing as a license in the present-day sense. The registration was intended as a means of preventing non-residents from avoiding the purchase of a non-resident license by merely claiming that they were residents of the State (61 and 62). The registration lasted as long as the registrant was a resident of Maine. It did not have to be renewed annually.

The year 1920 was probably quite comparable with 1919. The Commissioner's Report for the year stated that "... more deer were killed this year than last," although a little further on it estimated that approximately 20,000 deer were taken each year (62).

Some generalizations may be made from these reports as well as from similar material from other sources. Throughout the first twenty years of the current century the deer population of the forested and wilderness areas of Maine fluctuated considerably, due to changes in food conditions and winter weather. Hunting pressure was, by present standards, very low, and even with a two-deer limit and long seasons, the herd was probably underharvested in many areas. Some of the eruptions and die-offs can be definitely tied to cutting operations and severe winters. Molunkus Township near Mattawamkeag is an ex-

Figure 29. Browse lines on cedar around pond shores were noted as early as 1905.
ample. Following the removal of a growth of mature spruce and fir, the herd there built up to a peak about 1914. By about 1918, it was gone, or nearly so (McPheters—verbal report to the writer). After about 1912 or 1913 the trend in the deer population over much of the forested area of Maine was a downward one. By this time, however, the agricultural areas were becoming major producers. Abandoned farm lands were again contributing deer. The increase probably more than balanced the decline in the forested areas.

Some facts about distribution are brought out by the guides' reports which appeared in the Commissioners' reports and which, for 1915 and after, were broken down by counties, Table III.

**TABLE III. PERCENTAGE OF THE KILL BY COUNTIES AS REPORTED BY GUIDES**

<table>
<thead>
<tr>
<th>County</th>
<th>1915</th>
<th>1916</th>
<th>1917</th>
<th>1918</th>
<th>1919</th>
<th>1920</th>
<th>1924</th>
<th>1926</th>
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<tbody>
<tr>
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<td>16.4</td>
<td>13.0</td>
<td>14.9</td>
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<td>19.4</td>
<td>19.8</td>
<td>21.9</td>
<td>18.1</td>
</tr>
<tr>
<td>Penobscot</td>
<td>15.1</td>
<td>14.5</td>
<td>12.8</td>
<td>17.0</td>
<td>13.8</td>
<td>18.7</td>
<td>14.8</td>
<td>15.2</td>
</tr>
<tr>
<td>Piscataquis</td>
<td>15.7</td>
<td>16.0</td>
<td>15.6</td>
<td>14.8</td>
<td>17.2</td>
<td>16.4</td>
<td>17.9</td>
<td>21.4</td>
</tr>
<tr>
<td>Somerset</td>
<td>23.4</td>
<td>26.6</td>
<td>26.7</td>
<td>23.3</td>
<td>18.6</td>
<td>17.4</td>
<td>19.9</td>
<td>19.8</td>
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<td>Oxford</td>
<td>8.8</td>
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<td>8.2</td>
<td>9.3</td>
<td>8.7</td>
<td>8.1</td>
<td>6.7</td>
</tr>
<tr>
<td>Franklin</td>
<td>11.7</td>
<td>9.5</td>
<td>9.7</td>
<td>8.8</td>
<td>7.7</td>
<td>5.0</td>
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<td>5.5</td>
<td>6.5</td>
<td>5.9</td>
<td>7.2</td>
<td>8.7</td>
<td>6.8</td>
<td>6.5</td>
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<td>2.4</td>
<td>4.5</td>
<td>6.9</td>
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</tr>
<tr>
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<td>0.1</td>
<td>0.1</td>
<td>—</td>
<td>—</td>
<td>0.2</td>
<td>0.5</td>
<td>1.0</td>
</tr>
</tbody>
</table>

It will be noted that the above table contains years which properly belong in the next section, yet this information helps to more clearly point out the regional population trends which were developing at this time. It should also be realized that the number of guides reporting varied somewhat from year to year, and that the number per county was not necessarily representative of the proportional deer populations or of hunting pressure. However, there was probably little year to year variation in the percentage of guides who reported from each county.

The factor to be particularly noted from this table is the change in regional make-up of the kill. Western Maine was the big loser between 1915 and 1920, while central and eastern Maine, and even Aroostook County, were gaining. Western Maine is rougher terrain than the other areas, and produces more pine and hardwoods. Consequently, it was receiving less attention from the pulp cutters who were looking for the spruce and fir which could be found further north and east in the State. As a result, the western portion of Maine was rapidly becoming less attractive to the white-tail.
The category in Table III labeled “other,” which represented scatterings from the agricultural counties, shows the start of a very important development. Guides were relatively few in these counties since the non-residents usually headed for the “big woods.” Consequently, the agricultural counties appeared to be producing little in a compilation based on guides reports. But the percentage of the whole, while small, doubled between 1915 and 1920, and had increased ten-fold by 1926. This is the big aspect in white-tail statistics to watch in the period after 1920.
If any single characteristic may be attributed to the white-tail deer situation in Maine between 1920 and 1960, it is growth—growth in the population, in hunting pressure, in the kill, and in the importance of deer to the people of Maine.

Land Use and Deer

Changes in agriculture have played an equally great part with legislative restriction, woods operations, and economic and transport development in bringing us to the present stage of the white-tail story. These agricultural changes have made it possible for many hunters to find good hunting close to home and have resulted in one of the greatest of all booms in the deer population. This has happened not only in Maine but throughout the northeastern and midwestern states.

Abandonment of previously farmed lands started, as we have seen, in the late years of the nineteenth century and progressed quite steadily into the twentieth century. Machinery and improved farming methods have made it possible to produce more food on less land so that it has become unprofitable to farm the poorer lands. Improved transportation and changing markets due to the growth of the great industrial centers, have altered the demands for agricultural crops, so that specialization, rather than diversification, has become the order of the day. The effects of these changes, so far as deer are concerned, have reached their peak in the 1940's and 1950's.

Between 1920 and 1950 Maine lost almost 18,000 farms, which comprised about one and one-quarter million acres. Not all of this land was merely abandoned as farm land, but by far the greatest part has been removed from farm production without being put to other, more intensive uses. Even this is not the whole story, for much land still classified as farm land has been taken out of intensive agricultural use and is contributing to deer habitat. Probably a more meaningful way to state this situation is to say that during this period we have added an area roughly equivalent to another Washington County to our total deer habitat in Maine.

Legislation and Deer

The people of Maine came to a full realization of the value of their deer herd during this period. Acting through their representatives in the Legislature, they have on several occasions taken steps which were intended to insure the preservation and maintenance of the white-tail.
The biennial reports for both 1920 and 1922 mentioned a possible reduction of the bag limit from two deer to only one. The report for 1920 urged a change in the time of the seasonal opening from October 1 to October 16. The report for 1922 stated that a reduction in the limit might prove necessary, but stated the belief of the Commissioner that the existing regulations were adequate if they were properly respected and enforced (62 and 63).

Effective in 1921 the law was changed so that in Aroostook, Franklin, Hancock, Oxford, Penobscot, Piscataquis, Somerset, and Washington counties, one of the two deer which could be legally taken had to be a buck. The other might still be of either sex. In Hancock and Washington counties only, the opening date was set back to October 16 from October 1, but the season remained open, for county residents, from the regular closing date of November 30 until December 15. These regulations were in force during the seasons of 1921 and 1922.

The following year the sex restriction was dropped in all of the above mentioned counties but the opening of the season was set back to mid-

October in all counties, and the special December season for residents in Washington and Hancock counties was dropped. This condition prevailed in the seasons of 1923 and 1924.

Effective in 1925 a one-deer bag limit went into effect and has remained as the basic deer law to the present time.

A December 15 closing date was instituted for Washington and Hancock counties again in 1927. In 1929 the opening date in these counties was set back to November 1. Otherwise the basic regulations remained unchanged except that in 1931 and 1932 only, the season in Franklin, Oxford, Penobscot, Piscataquis, and Somerset counties opened on November 1 instead of October 16, and remained open until December 15. In York County the opening date was set back to November 10 during
1935 and 1936. Minor changes occurred from time to time in the next several years. The basic two-zone system came into being in 1939. Under this regulation, the six northern counties of Aroostook, Penobscot, Piscataquis, Somerset, Oxford, and Franklin opened on October 21 and remained open through November 30. Oxford County shifted to southern county dates in two edicts of the Legislature in 1949 and 1951. The remaining ten counties have had deer hunting from November 1 through November 30 since 1939. This system remained essentially unchanged until the Legislature approved a three-zone division of the State at its 1959 session. The three-zone law went into effect at the start of the 1960 hunting season.

Coincident with the growth of the deer herd in the agricultural areas of the State, trouble arose because of the white-tail's pronounced liking for certain orchard and garden produce. While most people were glad to again have deer, damage to private property became serious in many areas. Pressure grew to give relief to farmers who were helping to sup-

Figure 32. 1924—the last year of a 2 deer limit as well as the beginning of the auto as a means of travel for the sportsmen.

Photo courtesy of Henry Carson, Ashland, Maine
port the growing deer herd and in 1929 legislation came into effect which gave recognition to the legal responsibility of the State for damages caused by deer. (It will be recalled that the same problem existed in some areas soon after the turn of the century, and that attempts were made to deal with the situation then. Apparently the legal responsibility of the State was not spelled out clearly at that time and in the intervening years the problem had lain dormant.) Under the new act, such damage again became reimbursable by the State, upon presentation of a claim and suitable proof of damage. As the deer herd continued to grow by leaps and bounds in the farming areas, payment of such claims became a real burden and there was considerable suspicion of fraud in some cases. In 1951 the law granting payments for damages was repealed and a new law was passed permitting damage-causing deer to be destroyed by property owners suffering damages, or by their agents. The carcasses of deer killed in this way could be retained by the property owners provided certain requirements were met.

Other important legislative milestones during this period have been the prohibition on the sale of deer (except heads and hides for taxidermy or leather dressing purposes) and a similar prohibition on the serving of deer meat in sporting camps and lumber or pulp-cutting establishments.

License Sales: 1930-1961

Data on license sales are not available for the period prior to 1930. Information since that time gives an interesting picture of the growth of hunting in Maine. The available records are summarized in Table IV:

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<th>Year</th>
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<th>Non-resident</th>
<th>Total</th>
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<tr>
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<td>70,596</td>
<td>4,355</td>
<td>74,951</td>
</tr>
<tr>
<td>1931</td>
<td>91,743</td>
<td>4,215</td>
<td>95,958</td>
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<td>1932</td>
<td>103,961</td>
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<tr>
<td>1933</td>
<td>99,519</td>
<td>3,476</td>
<td>103,995</td>
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<tr>
<td>1934</td>
<td>92,747</td>
<td>3,628</td>
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<td>1935</td>
<td>98,633</td>
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<td>99,030</td>
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<td>1937</td>
<td>92,927</td>
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<td>1944</td>
<td>102,176</td>
<td>8,329</td>
<td>110,505</td>
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<tr>
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<td>102,343</td>
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<td>150,895</td>
<td>22,915</td>
<td>173,810</td>
</tr>
<tr>
<td>1959</td>
<td>150,829</td>
<td>23,855</td>
<td>174,684</td>
</tr>
<tr>
<td>1960</td>
<td>157,025</td>
<td>25,627</td>
<td>182,652</td>
</tr>
<tr>
<td>1961</td>
<td>146,636</td>
<td>25,799</td>
<td>172,435</td>
</tr>
</tbody>
</table>
Unfortunately the story can never be complete so far as deer hunters are concerned, for the older records are sketchy, and many data now gathered by the Department as a matter of routine were never assembled in the earlier days or were compiled by methods which do not enable direct comparison with more modern information. Some interpretation can be placed on these figures, however.

It will be remembered that approximately 84,000 residents registered their intent to hunt in 1919 when a registration system first went into effect. In 1930, the first year for which modern records are available, 70,596 persons took out resident licenses in Maine. The following year (1931) the total jumped to 91,743. While the registration of 1919 was not intended to serve the same purpose as the license of 1930, it seems reasonable that the number of residents either registering or buying licenses was somewhere between 70,000 and 90,000 annually during the 1920's.

Resident license sales varied between 92,000 and 102,000 annually from 1931 until the end of the war. Economic conditions during the depression years apparently accounted for some fluctuation. Following the war, license sales rose somewhat but were prevented from increasing as sharply as they might have otherwise by the issuance of free licenses to returning G.I.'s. These were issued in 1946 and were extended through 1947 and 1948. The free licenses terminated on December 31 of the latter year. With their expiration resident license sales spurted to 138,467 in 1949. This was by far the highest total ever reached to that time. Since then, resident license issuance has risen slowly. Sales have topped 150,000 annually, beginning in 1957.

Non-resident license sales declined following 1930 and reached a low ebb in 1933, at the height of the depression. They then inched upward again but never topped 10,000 until 1945, at the end of the war. The disastrous forest fire situation in 1947 caused a big drop, but they recovered the following year and held quite steady through 1950. Since 1951 non-resident licenses have been issued at the rate of between 21,000 and 25,000 annually. This has undoubtedly been due to general prosperity, increasing leisure time for the average citizen, good transportation and Maine's continuing reputation as a good deer state.

Certain factors should be considered in interpreting these figures in relation to deer hunting. Most important are the percentage of license holders who actually hunted deer, and the distribution of deer throughout the State during the period. We know that the latter has varied, and presumably the former has also. Deer were less plentiful in southern Maine than in the northern or eastern parts of the State during the
The distribution of the human population has not varied greatly during this period but hunting habits have changed quite dramatically. The week-end hunter as we know him today was a rarity in the twenties. Economic conditions allowed much less leisure time than at present, and poorer transportation, combined with relatively few deer close at hand for the bulk of the State's people, ruled out much casual deer hunting. Those who had the time and the money went to the "big woods." Those who lacked these attributes did little deer hunting. The abundance of small game and waterfowl however, sold many hunting licenses in areas where deer were not abundant. For residents, the one license was sufficient for all types of game.

In light of these factors, it is very possible that a lower percentage of resident license holders were deer hunters in the twenties and early thirties than at present. Postal surveys conducted by the Game Division in recent years show that about 77 per cent of the resident license buyers and 98 per cent of those purchasing non-resident licenses actually hunt deer. Probably there has been no great change in the percentage of non-resident license buyers who hunt deer, but it is very possible that there has been a significant change in the resident percentage. While we have no accurate method of determining what this change may have been, it should be kept in mind in considering license sales in relation to deer kills over the past thirty or more years.

Records of the Deer Kill Since 1920

Since 1919 registration of each legally killed deer has been required. This has produced a great volume of data which largely speaks for itself. These records are neither complete nor perfect but they form what is possibly the best extended kill record possessed by any state in the Union (Table V, page 66).

It will be seen that the deer kill has followed an upward trend ever since the start of the registration system. This has not occurred at a constant rate however, and there have been occasional reversals. Changes in hunting regulations, discussed in the preceding section, complicate analysis of the data to some extent. Variations in deer distribution throughout the State, and changes in hunting habits must also be taken into account. Enforcement of the registration law was undoubtedly less efficient during the twenties and thirties than it is today. The warden force was not placed on a non-political basis until the latter part of the 1930's. Following this event, law enforcement became considerably more uniform and strict. How great an effect the previous character of the warden service had on the early registration
figures can only be conjecture, but almost certainly there was some effect.

From 1920 through 1922 the registered kill was small (5,829, 8,861, and 7,628 respectively). Unfortunately, data are lacking for 1923 and 1924, and also for 1926. Prior to 1925, one hunter could legally take two deer. Effective in 1925 the limit was reduced to one deer per hunter, yet the registration figure for that year stood at 8,379. In 1927 the kill dropped slightly to 8,112, but the following year it began a steady climb which lasted through 1933 when 18,935 deer were tagged. In 1934, primarily as a result of severe losses during the winter of 1933-1934, only 13,284 deer were taken, a drastic drop from the previous year’s total. In 1935 it rebounded to 19,276 and for the following four years stayed extremely close to this level. The year 1940 saw the total registration exceed 20,000 for the first time as it went to 22,201. In 1941 a small drop occurred (to 19,881) but 1942 brought the harvest back to 22,591. During the remainder of the war years the kill varied from approximately 22,000 to about 25,000 deer annually.

**TABLE V. REGISTERED DEER KILL: 1920-1962**  
(Source—Department records)

<table>
<thead>
<tr>
<th>Year</th>
<th>Kill</th>
<th>Year</th>
<th>Kill</th>
</tr>
</thead>
<tbody>
<tr>
<td>1920</td>
<td>5,829</td>
<td>1942</td>
<td>22,591</td>
</tr>
<tr>
<td>1921</td>
<td>8,861</td>
<td>1943</td>
<td>24,408</td>
</tr>
<tr>
<td>1922</td>
<td>7,628</td>
<td>1944</td>
<td>21,708</td>
</tr>
<tr>
<td>1923</td>
<td>“ Not Available ”</td>
<td>1945</td>
<td>24,904</td>
</tr>
<tr>
<td>1924</td>
<td>“ ”</td>
<td>1946</td>
<td>31,728</td>
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<tr>
<td>1925</td>
<td>8,379</td>
<td>1947</td>
<td>30,349</td>
</tr>
<tr>
<td>1926</td>
<td>“ Not Available ”</td>
<td>1948</td>
<td>35,364</td>
</tr>
<tr>
<td>1927</td>
<td>8,112</td>
<td>1949</td>
<td>35,051</td>
</tr>
<tr>
<td>1928</td>
<td>9,051</td>
<td>1950</td>
<td>39,216</td>
</tr>
<tr>
<td>1929</td>
<td>11,708</td>
<td>1951</td>
<td>41,730</td>
</tr>
<tr>
<td>1930</td>
<td>13,098</td>
<td>1952</td>
<td>35,171</td>
</tr>
<tr>
<td>1931</td>
<td>14,694</td>
<td>1953</td>
<td>38,609</td>
</tr>
<tr>
<td>1932</td>
<td>15,465</td>
<td>1954</td>
<td>37,379</td>
</tr>
<tr>
<td>1933</td>
<td>18,935</td>
<td>1955</td>
<td>35,591</td>
</tr>
<tr>
<td>1934</td>
<td>13,284</td>
<td>1956</td>
<td>40,290</td>
</tr>
<tr>
<td>1935</td>
<td>19,726</td>
<td>1957</td>
<td>40,152</td>
</tr>
<tr>
<td>1936</td>
<td>19,134</td>
<td>1958</td>
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<td>1937</td>
<td>19,197</td>
<td>1959</td>
<td>41,735</td>
</tr>
<tr>
<td>1938</td>
<td>19,363</td>
<td>1960</td>
<td>37,774</td>
</tr>
<tr>
<td>1939</td>
<td>19,187</td>
<td>1961</td>
<td>32,747</td>
</tr>
<tr>
<td>1940</td>
<td>22,201</td>
<td>1962</td>
<td>38,807</td>
</tr>
<tr>
<td>1941</td>
<td>19,881</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

With the end of the war, license sales increased and the annual registration began another strong upward surge. This was interrupted temporarily in 1947, the year of the fires, when the woods were closed from October 17 until November 12. By 1951 the registration reached the total of 41,730 white-tails, approximately double what it had been ten
years earlier, and nearly three times the total of twenty years earlier. In contrast, license sales increased only about seventy per cent during the period 1931-1951.

During the first half of the 1950's the kill varied between approximately 35,000 and 39,000, with the exception of the year 1951 when the total take, as mentioned above, reached 41,730. Starting in 1956, the harvest has approximated 40,000 deer each year, dipping slightly in 1958, but setting a new record of 41,735 animals in 1959.

**Deer Population Trends: 1920-1959**

Even at this late date, data on deer populations are not as complete as we would desire, particularly for the period from 1920 to the early 1930's. Nevertheless it is possible to trace certain trends. Data on the legal, registered kill have already been given.

White-tails have generally increased throughout the State since the beginning of this period, but there have been local exceptions and regional differences. The increase has been much greater in the farming areas than in other portions of the State.

What follows will largely be based on county units. This is not the best way of looking at the matter from the standpoint of understanding what has happened, for neither deer nor deer habitat recognize county lines. Nevertheless, Maine people have been in the habit of thinking and talking about deer on county terms and until quite recently, all of the Department's records have been kept on the basis of county units. It should be remembered that several counties contain very diverse habitat types. Penobscot, Aroostook, and Somerset counties, for instance, all contain areas of farmland, true wilderness, and the forest border types which occur between the farmland and wilderness. What has happened to deer in one portion of any one of these counties may have little or no bearing on how the white-tail has fared elsewhere in the county.

The guides' reports referred to at the end of the section on the 1880-1920 era point to the trends which were becoming evident at that time. Deer were back in the farming country as a result of favorable habitat and effective protection. The white-tail was still not abundant in these sections but it had at least re-established a home in its former haunts.

Northern Maine was the real stronghold of deer at this time. The pulpwood operations which had swept over this area in the late nineteenth and early twentieth centuries had, in spite of their shortcomings, created much good deer habitat. Aroostook, Piscataquis, and the
northern parts of Penobscot and Somerset counties were the mecca of the deer hunter in the twenties. It is probable that Penobscot, Piscataquis, and Somerset counties together produced slightly over one half of the deer kill of the State during the first seven or eight years of this period. Aroostook County probably provided about one fifth of the total, Washington and Hancock counties one eighth, and Franklin and Oxford counties together another eighth. The small balance came from the southern farming area.

The deer harvest in this northern area must have been exceedingly light except in the vicinity of sporting camps and the few settlements in the country. With an annual legal kill of only six to nine thousand deer, state-wide, between 1919 and 1928, there was little to limit the size of the herd except the ability of the country to support it. There is little doubt but that a large herd existed in northern Maine at this time.

In the early thirties when fairly complete records of the legal kill were first kept, the deer herd of northern Maine had started to decline, and that of Washington and Hancock counties was making a strong upward surge. At the same time the herd in the farming area was start-

Figure 33. The airplane is now an important means of transportation for the deer hunter.

Photo courtesy of Folsom's Flying Service, Greenville, Maine.
ing to assume important proportions, accounting for about eleven per cent of the State's registered kill in 1933.

The winter of 1933-1934 was one of the most severe on record in northern New England. Deer losses in all parts of the State were reflected in a greatly reduced kill in the 1934 season and in hunter success ratios which dropped from about eighteen per cent in 1933 to about fourteen per cent in 1934. Of all the counties of the State, only Androscoggin and Knox, posted higher kills in 1934 than in 1933. Aroostook County suffered a forty-three per cent decline in its registered kill from 1933 to 1934.

The pattern continued, through the rest of the 1930's. The agricultural areas and Washington and Hancock counties were making spectacular gains. Aroostook dropped from about one sixth of the State's total in 1933 to less than one tenth by 1938. Washington and Hancock counties together accounted for a whopping 36 per cent of the State's legal kill in 1939. Other areas of the State maintained relatively constant proportions of the total kill and were holding stable populations or registering modest increases in their deer herds.

The 1940's saw populations at or above what was probably a saturation level in relation to habitat in eastern Maine. Kills ran very heavy in the years following the war and popularly have been blamed for the lower kills of recent years. However, present data point to a decline in range quality caused by the heavy use of available forage during the late thirties and the forties.

Here in Maine as well as in other agricultural areas of the northeastern United States the farm counties have provided the real success story of the post-war era. Land abandonment, starting in the late nineteenth century, and continuing through the early twentieth century, was given impetus by the economic depression of the early thirties. Farms which were abandoned in 1931 and 1932 became old fields and brush patches by the time of World War II. Mixed with second-growth woodlands which were subject to frequent small cuttings, with land still being farmed, and located mostly in areas where winters are normally not severe, this abandoned land has become our best deer range. An efficient warden force has come into existence. While illegal hunting has never been completely stopped, it has been held at a level which has made only slight inroads into a highly productive and healthy deer herd. Since 1933 the eight predominant agricultural counties (Androscoggin, Cumberland, Kennebec, Knox, Lincoln, Sagadahoc, Waldo, and York) have increased their proportion of the State's total kill from about 11 to approximately 25 per cent. In absolute numbers the regis-
tection figures for these same counties have risen from 1,815 deer in 1933 to 10,593 in 1959. Although the increase is still continuing in most counties, it has been slower in the last few years than during the late thirties and the forties. In Cumberland and York counties a decrease has been evident since the early 1950's.

This of course, is not the entire story for several of the other counties contain extensive agricultural areas where the rise in deer populations has tended to offset declines which have occasionally taken place in the more heavily forested areas of those counties. This has enabled county kill figures to hold at a stable level, or to increase.

In recent years the kill has doubled in the remote, wilderness interior of northern Somerset, Piscataquis, and Aroostook counties. This has come about through increased cuttings, improved access and somewhat more hunting pressure.

Trends cannot be measured by kill figures alone, for hunting pressure may affect the kill out of proportion to changes in the deer population. This is, however, not as common an occurrence as is popularly believed. Kill figures provide the best available index and are of the greatest significance to the great majority of people interested in our white-tails.
CONCLUSION

In the preceding pages we have followed the white-tailed deer as it has bounded across Maine’s history from pre-colonial days to the present. We have seen it match its wits against wolves, Indians, the pioneer whites, lumbermen and pulp cutters, farmers, market and hide hunters, dogs, sportsmen, legislators, poachers, game wardens, and biologists. We have seen it contend with too much forest and too little forest, with fires and Maine winters, with sporting camps and automobiles—with feast and famine. More often than not it has come out on top.

The story is not complete, of course. Some of it has been lost forever. Undoubtedly much is known that has not been discovered in the course of the research which has gone into the preparation of this bulletin. Unfortunately, it has been necessary to leave out many details, interesting enough in themselves, for mere lack of space.

The purpose of all this has been two-fold. First, there is much that is both interesting and romantic in the deer’s story. Secondly, the present and the future can benefit from the lessons of the past. For one thing, the “good old days” were not always good, and with reason. If today’s Maine deer slayer (who sometimes is inclined to think that there used to be a deer behind every tree) were to go back to the late 1850’s or early 1860’s, he would have found deer almost literally “behind every tree” in many areas. Yet a few years later, in the late 1860’s, he would have had trouble finding even “track stew” in most areas of the State. The same thing is not likely to happen today on such a grand scale, but the deer still has the same requirements today as it had one hundred years ago—or four hundred years ago. Its welfare depends on how well those basic requirements are met.

Today we have the knowledge and the tools to successfully meet the deer’s basic requirements. That it has come out on top so often in the past is proof that the deer will cooperate if it is given the chance. If the lessons of the past are carefully heeded, the white-tail can be with us here in Maine indefinitely.

Long may it haunt the swamps and the hardwood ridges, to delight—and confound—the hearts of the people of Maine.
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