HISTORY OF EARLY SETTLEMENT AND LAND USE

On The

BENT CREEK EXPERIMENTAL FOREST

BUNCOMBE COUNTY, N. C.

By

William A. Nesbitt

Appalachian Forest Experiment Station

Asheville, North Carolina

December 10, 1941

"The Old Settlers" -- Left to right, they are:
Watt J. Hoxed, born February 20, 1866;
Russel P. Lance, born June 28, 1864; and
William E. Presley, Born July 3, 1876.

CONTENTS

HISTORY OF EARLY SETTLEMENT AND LAND USE

On The

BENT CREEK EXPERIMENTAL FOREST

BUNCOMBE COUNTY, N. C.

By

William A. Nesbitt

INTRODUCTION

This report has been prepared for two reasons: first, it is believed that a description of past land use on the Bent Creek Experimental Forest may enable the research forester to better interpret the forest conditions as he finds them today; and second, a record of the rise and fall of a once prosperous rural community will be preserved for its future sociological and economic interest.

The Bent Creek Experimental Forest is composed of an area of 6,302 acres, exclusive of the interior holdings; of this amount, a total of 1,472 acres, or 23.3 percent, has been cleared and put under cultivation at some period in the past. The clearing of land for cultivation dates back to shortly before the time of the original homestead grant issued to Abraham Randals, dated February 25, 1800, while the watershed was still being used by the Cherokee Indians.

A total of 104 homes, ranging from one-room log cabins to large, comfortable two-storied buildings, was constructed on the area during the period of activity from 1795 to 1900. Many of these homes were occupied almost continuously from the early days of settlement to the time of their destruction when George W. Vanderbilt took possession. As shown later, this drain on the forest for home and farm construction was very heavy.

In the preparation of this work all known sources of information have been investigated, in order that a more perfect picture of past conditions could be presented. The collecting and assembling of the data were accomplished in the following order:

(1) A topographic map of the Bent Creek area, showing all the modern improvements, was also used to show the various phases of "past land use" activity, which included showing the previously cultivated farm land, cemetery, home sites, original property lines, old mill sites, lake sites, reference numbers, and old Indian camps. A copy of this map is to be found at the end of this report.

(2) The three remaining "Old Settlers", Russel P. Lance, Watt J. Hoxed, and William E. Presley, shown in the frontispiece, who have spent their lives on or adjacent to the area and whose fathers and grandfathers have lived on or have been closely associated with people living on the area, were taken over the individual farms or holdings and asked to tell everything they

knew in regard to the history of each individual tract. These stories, as told by these Old Settlers, included the legends and information handed down by their fathers and grandfathers, in addition to the first-hand information they were able to furnish.

(3) Sample trees on the individual tracts or holdings were selected and height, age, and d.b.h. measurements taken. These data helped to furnish a check against the accuracy of the information furnished by the Old Settlers.

(4) A check was made on each tract for visible evidences of erosion, terracing, fire scars on trees, old apple trees, and other odd data which would throw light on past use and conditions. These data were used to help bridge the gaps in the stories as related by the Old Settlers, making the picture of past use and conditions as complete as possible.

(5) A check of all the available old records, including state land grants, property transfers, Biltmore Estate records, and purchase by the U. S. Forest Service, has been made in an effort to verify and add to the information furnished by the Old Settlers for the various holdings on the area.

(6) Early history books, written on Buncombe County and western North Carolina, have been consulted and drawn upon in the preparation of this report.

THE FOREST BEFORE THE WHITE MAN'S AXE

The forest picture, as it appeared to the early pioneer, was far different from what it is today. The tree species present today are the same but the form, density, quality and the undergrowth have undergone radical changes from that of early days. The original forest was one of an almost unbroken canopy, composed of an uneven aged stand. As the old veteran tress died, reproduction came in to fill the opened gaps. The stand was well stocked with mixed species, which grow to large size and produced high quality timber. The Old Settlers state that yellow-poplar grow in abundance in the coves and along nearly all the branches, reaching 4 to 5 feet d.b.h. and 60 to 80 feet of clear log length.

Russel Lance, once part owner of the Long Branch and Chestnut Cove area, estimates that he made an average cut of 50 thousand board feet log scale per year from the area over a thirty-year period, while he was in the lumber business. In 1935, the Appalachian Forest Experiment Station removed approximately 273 thousand board feet gross log scale from 50 one-acre plots on this same area, leaving an estimated gross volume of approximately 179 thousand board feet log scale; this being in addition to an unknown volume of chestnut wood cut for tannic acid purposes two years previously.

The mass of undergrowth in the form of laurel and rhododendron, as we know it today, was not nearly so dense during the early settlement period. The Old Settlers state that the annual woods-burning, as practiced before Vanderbilt took possession, kept it killed back and the seeds destroyed, so that only scattered bunches were to be found. They state that it was possible for a man to ride a horse almost anywhere he desired, even along the creeks where we now have almost impassible laurel and rhododendron "slicks". They say that laurel and rhododendron spread very rapidly to new areas when not controlled by fire. As seen in Figure 1, this theory

seems to be borne out by numerous observations made on old abandoned farm lands which are now being rapidly taken over by these species.

The open condition of the forest and the absence of great quantities of undergrowth provided ideal conditions for stock grazing on practically all the area during early pioneer days. The Old Settlers state that the north-facing "laurel slick" near Bent Creek Gap was kept burned and the laurel clumps killed back so that much grass, suitable for grazing grew between them. The various grasses, weeds, herbs, young tree seedlings and wild-pea vines grow in abundance in all the coves and on much of the ridge land, providing excellent stock range.

GAME IN ABUNDANCE WHEN THE WHITE MAN CAME

The game supply was very plentiful during the early period of development. It appears from all available information that all the species native to the area were held in a fair state of equilibrium, with no one species gaining a dominant position at the expense of the others.

The supply of large game animals such as deer, bear and wild boar was very plentiful and was drawn upon freely by the early settlers as a supplementary source of food. It is stated that the majority of the early pioneers kept dried deer and bear meat in their "smoke houses" the year around for home use. Arthur, in his history of "Western North Carolina", says: "*** the lordly old proprietors could in half an hour go to the water or woods and provide fish, deer or turkey to meet the whim of the lady of the house."

Small game such as raccoon, opossum, squirrel, rabbit and woodchucks were always numerous. Russel Lance states that he caught five "coons" in steel traps during a single night, while they were eating corn which he had planted on his old dam site near Laurel Branch.

The large predatory animals such as wolves and panthers were always scarce and soon became extinct. The small predatory animals were numerous but caused the settlers very little damage-due to the presence of a plentiful food supply in the great variety of small mammals and birds, and the fact that they were systematically trapped by the early pioneers.

The game birds such as wild turkeys, ruffed grouse, quail, and wild or passenger pigeons, were very plentiful up to the time Vanderbilt took possession. It is stated that a nice flock of turkeys was to be found in nearly every large cove. Ike Bishop, who practiced baiting and shooting from a blind, is credited with killing seven turkeys with a single shot from an old muzzle-loading shotgun. The wild or passenger pigeons came through in extremely large numbers during the fall migration period. It is stated that the pigeons were sometimes in such large numbers that they would nearly blot out the sun, as a cloud would do, and that they often broke the branches of fruit trees when they stopped for food or rest. It is reported that the pigeons quit making their regular stops about 1900, which was to be expected, since it is believed that the passenger pigeon became entirely extinct in 1914.

GAME SUPPLY AS OF TODAY

The present game supply is much changed from what the early settlers found on the area. The passenger pigeon, wild boar and the large predatory animals have disappeared. The balance or state of equilibrium originally existing between the various species has been upset to a certain extent, with a small number of species taking a dominant position at the expense of others. These changed conditions have probably been caused by small changes in natural habitat and by the direct and indirect influences exerted by man.

Figure 1.-Laurel and rhododendron invading abandoned farm land on the old Brooks place, Tract No. 62.

At the time George W. Vanderbilt bought up the Bent Creek lands, the wild boar, passenger pigeon, wolf and panther had already become extinct on the area. The supply of deer and bear had about reached the point where only breeding stock remained. The wild turkey, grouse, quail, rabbit, grey squirrel and raccoon were still to be found in desirable numbers. The grey fox was still very scarce -- just beginning to make its appearance in the valley. Will Lance states that he counted twenty-five wild turkeys, in a single flock, on Laurel Branch shortly after Vanderbilt took over the area. The last known turkeys seen on the area was during the fall of 1939, when a small flock of five was seen near the entrance to Chestnut Cove.

It was shortly after the year 1900 that Vanderbilt started his game restoration program which was continued until the Federal Government took possession in 1914. This program has been continued by the U. S. Forest Service with minor modifications. The program, until recently, placed greatest emphasis on dear propagation, with only slight attention being given to other game species. The program was continued until 1935, when the Game Census showed one deer for each eleven acres of land, which was far greater than the carrying capacity of the range. Soon after the 1935 census, the Forest Service officials began modifying their game control plans, so that all species would receive their rightful share of protection on the area. One of the first steps in this new program was to reduce the dear herd, which was expanding too rapidly, and to increase other game species so that all would be brought into line with range carrying capacity. The present game program is striving to regain that state of equilibrium which existed on the area, before the white man upset the balance.

The 1940 game census, for the Bent Creek area, included only deer, bear, and grouse. The census showed 175 deer present or approximately one per forty acres of land, twelve bear and 150 grouse. Only rough estimates, based on observations, can be made for the other game species. These estimates show about twelve bobcats, fifty gray fox, no beaver, no quail, no turkeys, no woodcock, ten mourning doves, five muskrats, 120 opossum, 100 raccoons, 100 skunks, 100 woodchucks, 100 rabbits, 700 grey squirrels and ten weasels. This latest census shows that most game species are being gradually brought into line with the carrying capacity of the range, but it also shows that a few species will need special care in order that they make a successful comeback.

The Old Settlers assert that the absence of woods-burning, since Vanderbilt started the present game program in 1900, is responsible for the rapid decline of the wild turkey. They contend that the fire destroys insects which would prey on and destroy the "turkey-chicks." This theory is not accepted by the present day game technicians; they believe that the decline has been due to food competition between the turkey and deer, and to destruction by predatory animals. It is well known that if two game species compete for the same food, as turkey and deer do for the acorn crop, one will have to give way to the other. The deer being more able to survive during unfavorable periods, on buffer foods, has tended to crowd out the turkey.

THE PASSING OF THE RED AND THE COMING OF THE WHITE MAN

The Cherokee Nation, to which the Bent Creek Indians belonged, is credited with being the largest, strongest and the most highly civilized of any in the entire United States. James Mooney, in his "Myths of the Cherokee", published as a part of the "19th Annual Report of the Bureau of American Ethnology" says: "The close of the century found them still a compact people numbering probably about 20,000 souls. *** In 1825 a census of the eastern Nation showed:

native Cherokee, 13,563; white men married into the Nation, 147; white women married into the Nation, 73; negro slaves, 1,277. There were large herds of cattle, horses, hogs, and sheep, with large crops of every staple, including cotton, tobacco, and wheat, and some cotton was exported by boat as far as Now Orleans. Apple and peach orchards were numerous, butter and cheese were in use to some extent, and both cotton and woolen clothes, especially blankets, were manufactured. Nearly all the merchants were native Cherokee. Mechanical industries flourished, the Nation was out of debt, and the population was increasing. Estimating one-third beyond the Mississippi, the total number of Cherokee, exclusive of adopted white citizens and negro slaves, must then have been about 20,000. *** Civilization had now progressed so far among the Cherokee that in the fall of 1820 they adopted a regular republican form of government modeled after that of the United States."

According to the early historical records, the Nation's highest degree of civilization was reached in the vicinity of Franklin, N.C. where numerous towns and well kept farms were to be found. As one went from this center of development toward the outer limits of their territory, towns became fewer, farm and homes of poorer quality until near the outer edge territory they were roving bands, living in camps composed of crude huts and depending mainly on hunting and fishing for their livelihood. Sondley in his history of "Asheville and Buncombe County" says: "While none of their towns appear to have been in the valleys of the Swannanoa and the North Carolina part of the French Broad, or among the neighboring hills, parties of Cherokees constantly roamed over that country, and at times encamped there for no inconsiderable while." There were two of these Indian camps on Bent Creek, one on the old Berry place, Tract No. 9, and the other on the Jim Lance place', Tract No. 49 on Boyd Branch. It is estimated by the Old Settlers that about 200 Indians lived in these two camps. Their homes were of the crudest type, being constructed of poles, bark and tussocks. Their home industries consisted of making pottery, cooking utensils and the implements needed for their daily hunting and fishing expeditions. It is related that they did very little farming, if any, depending on hunting and fishing for their sole means of support.

The white man began visiting this Indian territory, on hunting expeditions as early as 1775. Following these early hunting trips, a thriving trade was established with the Indians, which netted handsome profits for the skins and furs bought or bartered at low prices. It was about 1785 that the first permanent settlers began to drift into Buncombe County. Sondley in his history of "Asheville and Buncombe County" says: "Soon several white settlements were made on the Swannanoa, the earliest of them being the 'Swannanoa Settlement', made in 1784-85 by the Alexanders, Davidsons, and others about the mouth of Bee Tree Creek." It was probably about 1795 that the first white settlers reached Bent Creek.

There was a period of approximately forty years in which the white and red man lived side by side, in perfect harmony, the white man farming and the red man hunting and fishing. The Old Settlers state that the legends handed down by their grandfathers make no mention of any friction existing between the two races, from the early settlement period until the Indians' forced removal in 1838.

It is stated that the Indians living on Bent Creek, were not driven out at gun-point, as they were in most other mountain sections. It is stated that Colonel W. H. Thomas, a trusted friend of the Cherokees and later their Chief, persuaded them to move peaceably to the Smoky Mountains, where they now reside. They are still referred to as the "Thomas Indians" at the present time.

Figure 2.-Old Indian relics found on Bent Creek.
They are: (1) hammer or maize-crusher, (2) scraper,
(3) heavy axe (4&5) small, or battle axes, and
(6) arrow point.

STATE LAND GRANTS

Immediately following the Declaration of Independence, the State of North Carolina began to dispose of its immense tracts of unsettled land. The earliest of these state grants were for lands in the eastern portion of the state, the western section still being Cherokee territory. In 1783 the state passed a statute providing for the granting of lands as far west as Pigeon River, opening up the French Broad River valley to legal entry and settlement.

The regulations governing the issuance of state grants seem to have varied from time to time and were not always strictly enforced. During the early period, each loyal citizen could take a 640-acre tract with 100 additional acres for his wife and each child at the rate of five cents per acre, but for lands entered above this base the buyer was supposed to pay ten cents per acre. In practice, it appears that anyone could secure a state grant or title to as much land as he could pay for, and was allowed to dispose of it in any way he desired.

In 1782 the state passed an act which gave free land to Revolutionary War soldiers, the amount received being determined according to rank in the Army. So far as can be determined, no one entered land on the Bent Creek area under this act.

After the formation of Buncombe County in 1792, land speculation began in a big way. According to the available information, many of the speculation tracts exceeded 300,000 acres in extent. One of these large tracts was issued to David Allison in 1796, and extended from Sandy Mush and Turkey Creek to Mills River, including all of upper Bent Creek which lies west of Tract No. *57* on Boyd Branch. The remainder of the area was taken up in the form of small tracts for homestead purposes, the earliest state grant being issued in 1800, but which was probably "staked out" and the claim entered as early as 1795.

EARLY SETTLEMENT

The early settlers to this section were of many races, with English, Scotch-Irish and Germans predominating. They were of hardy stock who had left their mountain homes in Europe to seek a refuge and freedom from oppression in the New World. These early pioneers were of strong character, rugged, industrious, loyal, intelligent, and determined to live their lives as they desired.

As previously mentioned, the earliest pioneers to Buncombe County were the hunters and traders who began making trips here as early as 1775; then followed the first permanent settlement located in the Swannanoa valley, about 1784-85. These early settlers used four distinct routes in reaching this section: the first was by way of Old Fort, through the Swannanoa Gap and down the Swannanoa valley; others came up by way of Hickory Nut Gap and down the Cane Creek valley; a few came from South Carolina through Saluda Gap; while those from Tennessee came by way of Bull Gap into Buncombe County.

After the opening of the area to legal entry and settlement, in 1783, a flood of settlers and land speculators rushed in to secure claim and title to the most desirable and valuable lands along the larger streams. It soon became necessary for the newcomers to take first choice land on the second choice streams. It was from this later flow of homeseekers that Bent Creek was settled. The first of these settlers probably reached the area and began establishing their claims about 1795.

The settlement of Bent Creek began slightly later than the early development of the present city of Asheville. John Burton is credited with obtaining a state grant for 200 acres of land in 1794, and developing it into lots. This was the beginning of Morristown, which was changed to Asheville in 1797, in honor of Governor Ashe.

The Bent Creek valley was developed into a rural farming community from the beginning of early settlement and always held this pattern to the end. The individual farm, with the owner at its head, was the general pattern found throughout the community.

LANDLORD AND TENANT

The early pioneer settler was not always able to own his own farm, even though land was plentiful and extremely cheap. Many were forced through necessity to become tenants, at least for a while, The problem of finding a suitable home was far different from that of today; they generally had to build their own house before they had a place in which to live.

The landowners, as a rule, were very generous toward the unfortunate fellow who had no land. The owners of the large tracts were always glad to let anyone clear and cultivate as much land as he could handle; their main objective was to get the forest removed and the land brought under cultivation as soon as possible, so that they could begin to realize a profit from their holdings. The men owning the smaller tracts sometimes allowed tenants to "squat" on their land for a number of years, even though their available land might be small.

The agreement, usually verbal, entered into between the owner and the tenant was generally to the effect that the tenant build his own house and the other necessary out-buildings, clear the needed land for cultivation, and construct a split-rail fence around his area. In return for these services, he was allowed to keep everything which he produced on the land for a five-year period. If he chose to remain longer than the five-year period he was required to give one-third of whatever he produced as "rent" for use of the property. The owner always furnished, free of charge, a good sized garden, wood and sufficient pasture for normal stock requirements. The agreement generally specified that a crude system of crop rotation be followed, that the land should not be cultivated while wet, and that the tenant endeavor to keep the soil in a good state of cultivation.

THE AVERAGE NUMBER AND SIZE OF BUILDINGS PER HOLDING

There was a wide variation in the number and size of buildings per holding throughout the area. These buildings ranged all the way from one-room log huts and a minimum number of small out-buildings to the well constructed two-storied homes with an ample supply of suitable out-buildings, and with one or more tenant homes on the place.

The buildings found on the average farm consisted of a 20 x 20 foot log house in which the owner lived, generally constructed one and one-half stories high, providing for an attic which served as sleeping quarters for children and sometimes for guests as well; double corn cribs, each 8 x 16 feet, covered as a single unit and with a shed built on one side to serve as a tool house; a stock barn, 20 x 20 feet, built one and one-half stories high so as to provide for stock below and feed storage above, and with one or more sheds constructed on the side; smoke-house, 10 x 12 feet, where meat was cured and stored for future use; chicken-house, 10 x 12 feet, for confining and protecting the chickens at night; and a spring-house, 10 x 12 feet, where milk, ,butter and many other household foods were stored. On this average farm an additional "lay-out" was

provided for a tenant, which was similar to the above, but with the buildings being generally of smaller size. As the family increased or when more room was desired, it was usually provided for by constructing additional rooms to the side of the main building. These side rooms were often used as kitchen and dining-room space, leaving the remainder of the house for living and sleeping quarters.

Practically all the early buildings were of log construction, up to and including the Civil War period. From then on, due to better road conditions and greater ease in hauling logs to the sawmills, the tendency was away from log structures, in favor of frame buildings.

NAMING THE LOCAL LANDMARKS

The local landmarks were named in much the same way a boy is nicknamed at school; when something unusual was said or happened at a particular place, it soon became known to the local settlers by the newly coined term. According to local tradition, as handed down by the Old Settlers, the more important points gained their distinction and name from the following:

Landmarks	Origin of Name
Bent Creek	Was so named because of the "horse-shoe" curve or bend near Rocky Cove Branch.
Billy Cove Gap	Originally cleared and cultivated by Billy Moore.
Beaton Branch	During the spring mating season, ruffed grouse were continually "beating" or drumming.
Boyd Branch	Location of early cabin built by Wilson Boyd.
Brushy Ridge	Declared to have had the densest undergrowth of any place on the whole area.
Cold Ridge	An old man fell and nearly froze to death while hunting hogs.
Chestnut Cove	Fine stand of chestnut timber was also a favorite place for the local people to collect chestnuts.
Double Head	Junction of three mountains or ridges.
Dog-Die Gap	Eleven "fox hounds" are supposed, to have died here from eating a poisoned deer carcass.
Ferrin Knob	Area supported a dense cover of "fern". which the local people called "ferrin."
Glenn Bald and Gap	Marion Glenn cleared and cultivated the area for a number of years.
Grassy Mountain	Absence of dense undergrowth and the presence of abundant grass,

	suitable for grazing.
Hickory Top	Hickory was the predominating tree species on the peak - was also a favorite place for the local people to go squirrel hunting.
Ingle Fields Gap	Mitch Ingle cleared and cultivated the area for a period of years.
Laurel Branch	Supposed to have been the-densest or "worst" laurel thicket on Bent Creek.
Ledford Branch	Old Billie Ledford cleared the land and built a cabin on the head-waters of the area.
Manning Top	Manning Lance cleared and cultivated the area for a number of years.
Mease Gap	Bill Mease leased the area, cleared the land, and built a cabin.
Moore's Gap	"Moore" owned and cleared the land for cultivation.
Poplar Cove Branch	An extremely fine stand of yellow poplar was present on the area during the early settlement days.
Rich Cove Branch	So named, because of the "rich" or fertile soil and the abundant crops produced.
Rocky Cove Branch	Great quantities of surface rocks present.
Rice Pinnacle	Name for "Rice", who was owner of the area during the early development period.
Reynolds Gap	Named after Abraham Reynolds who received a state grant to the area.
Sheep Gap	Favorite salting and bedding ground for sheep during the open range grazing era.
Sleepy Gap	Gap where a hunter, who had been placed on a stand, slept instead of watching for the dogs and deer that came through.
Shut-In Ridge	Ridge that almost blocks the French Broad River valley.
Truck-Wheel Mountain	The pioneer settlers went to this area to cut black gum sections for building a crude type of farm truck.
Turkey Pen Mountain	Several turkey-pens were constructed in which wild turkeys were captured

	in large numbers.
Wolf Branch	During the early settlement period, hunters killed a she-wolf" and her puppies on the head-waters of the stream.
Walnut Cove	During the early settlement period, black walnut was the predominating tree species in the cove.
Wesley Branch	Wesley Jones built a home near where Russel Lance now lives.

THE SETTLER'S ATTITUDE TOWARD THE FOREST

The early pioneer settlers considered the forest a liability instead of an asset. To them it meant many long days' toil in its removal and destruction. After using such material as they could for home and farm construction, the remainder had very little economic value. The thing of greatest importance, in their way of thinking, was to get the soil to growing crops or furnishing pasture as soon as possible. They were unable to vision a time when their timber resources would be valuable. By the time markets began to build up and forest products began to assume some degree of importance, many of the early settlers had used, wasted, or destroyed the greater portion of their best timber holdings. The Old Settlers frequently talk of the fine stands of timber which they helped to destroy during their boyhood days, while helping to clear land for cultivation.

DEMANDS FOR FOREST PRODUCTS

The needs for forest products during early pioneer days were few and simple. The products utilized by the early settlers consisted mainly of logs for homes and farm buildings, fences, crude furniture, farm maintenance and fuel. These demands were not much changed for many years.

The demand for forest products, outside the local community, first began to be felt about the end of the Civil War period. It was about this time that the settlers began to raft logs and lumber down the French Broad River to be sold on the expanding Asheville market. This soon developed into a profitable trade for the farmers, furnishing them with some additional income during the idle farm season. This early trade was soon broadened to include posts, poles, fuelwood, shakes, shingles, charcoal, homemade furniture and pine tar. The trade increased in volume in direct proportion to the growth of Asheville.

During the period immediately following the Civil War prices were low for the various materials but, gradually, as the demand became greater they moved upward. The Old Settlers cite the following figures as being representative of the early sales made on the Asheville market: sawed lumber generally sold for $10.00 per M board feet measure; shakes and shingles were valued at $2.50 per M; fuelwood sold for $2.00 to $3.00 per cord; early prices for chestnut and locust telephone poles ranged from $1.75 to $7.00 each, depending on size and length; fence posts varied from $0.10 to $0.50 each, the large gate posts bringing the higher figure; chestnuts sold from $2.00 to $8.00 per bushel; charcoal for cooking, blacksmith work, tinner's trade, foundaries and water purification was in good demand and sold at $0.10 to $0.12 per bushel; pine tar, used in the preparation of axle grease for wagons, sold for $0.50 per gallon; homemade

furniture was in fair demand, with beds selling for about $3.00 each, tables $1.50 to $5.00 each, chairs $0.25 to $3.00 each, with a very limited demand and variable prices for farm equipment. A large portion of the furniture and farm tools manufactured wore sold, traded or bartered within the community.

CHANGING LAND VALUES

Land values have varied from time to time. Much variation existed in prices paid to the state by the early settlers and still greater differences are to be noted in the transactions between individuals, at later dates.

According to available information found in the Buncombe County records, the settlers paid the state 50 shillings per 100 acres for land purchased from 1800-16; during the years 1820-24 the state charged $10.00 per 100 acres purchased; from 1838-54 the price was $0.05 per acre; and from 1864-66 the charge was $0.125 per acre.

The Old Settlers state that land values varied between wide limits for tracts traded from one settler to another. During the earlier periods the settlers traded their lands at $1.00 to $2.00 per acre. According to a record found in the Buncombe County office, William Jones sold 200 acres of land to Henry Cagle in 1836, for the sum of $240.00, or $1.20 per acre. By the end of the Civil War period, land values had advanced to around $2.00 to $3.00 per acre, and by 1900 they had advanced to an average of $10.00 per acre.

Beginning in the year 1900 and ending in 1909, George W. Vanderbilt purchased from the local settlers practically all their Bent Creek holdings. His purchase price varied from a low of $2.50 to a high of $4l.00 per acre, with the average probably being around $10.00 per acre.

According to an agreement entered into in 1914, the Vanderbilt Estate conveyed all their Bent Creek holdings, along with other lands, to the Federal Government at a flat rate of $5.00 per acre.

LAND USE HISTORY BY INDIVIDUAL OWNERSHIPS

As mentioned earlier, a total of 1472 acres, or 23.3% out of a total of 6302 acres, on the Bent Creek Experimental Forest area was cleared and put under cultivation at some period during the active life of the community. In the following discussion, a brief land-use history will be presented for each of these individual tracts, as they existed when Vanderbilt began buying up the lands in 1900. The reader is requested to refer to the map on "Past Land Use" attached at the end of this report for a better understanding of the location of the individual tracts, which are listed by both local name and tract number in the discussion.

Jemmie Case Place - Tract No. 1:

The state grant was issued to William Jones in 1801; the property passed to Vanderbilt about 1905. Approximately 34.5 acres were cleared from 1801-1810 and kept under cultivation and in pasture until sold to Vanderbilt, with the exception of the present Arboretum which was cultivated until about 1925. Severe erosion scars are still visible on portions of the Bent Creek Experimental Forest Grounds site. A good sized apple orchard was established on the place.

The Case heirs lost possession of the property to Sam Brooks through what the Old Settlers called a "fraudulent mortgage" foreclosure about 1880, developing a court fight that lasted until Vanderbilt obtained title by paying the court fees.

Mill Tract - Tract No. 2:

The state grant was issued to Jemmie Case about 1836; the land passed to Sam Brooks and eventually to Vanderbilt as described above for Tract No. 1. Approximately 26.5 acres were cleared between 1836-1840, and kept under cultivation and in pasture until sold to Vanderbilt about 1905.

Glenn Property - Tract No. 3:

The state grant was issued to Edward Stewart in 1821; Marion Glenn sold the property to Vanderbilt in 1903. Approximately 32.6 acres of land were cleared by Eli Glenn about 1825, and cultivated until sold to Vanderbilt, and then pastured until 1920.

Orton Property - Tract No. 4:

The state grant was issued to Armstead B. Carland, in 1835; approximately 13.5 acres of land were cleared about 1840, cultivated until sold to Vanderbilt in 1902, and then pastured until about 1920.

Jim Spain Property - Tract No. 5:

The state grant was issued to Abraham Runnels in 1824; approximately 12.4 acres of land were cleared about 1825 and kept under cultivation until sold to Vanderbilt by Manning Lance in 1902. The story is told that 40 head of cattle died one summer on this area, from what the local people called "milk sickness." They believed the malady to be something that rose from mineral deposits and settled with the dew on plants which the cattle ate. They state that Pink Jones drank water from a spring on the same area, developing 'milk sickness" and nearly dying. Many of the local residents refuse to drink water from this spring today, still fearing an attack of the dreaded disease.

Watt Hoxed Place - Tract No. 6:

The-state grant was issued to James Case in 1836; Watt Hoxed cleared approximately 26.5 acres of land about 1890, keeping it under cultivation and in pasture until he sold to Vanderbilt in 1902. The white pine stand on the area, Figure 3, ranges up to approximately 95 feet high, 22.5 inches d.b.h. and showing an age of 40 years.

Bill Penland Property - Tract No. 7:

The state grant was issued to Abraham Runnels in 1824; Dr. Carl Reynolds sold the property to Vanderbilt in 1901. Approximately 52 acres of land were cleared about 1825 to 1830 and kept under cultivation until about 1905.

John Powell Place - Tract No. 8:

The state grant was issued to E. Cole in 1864; approximately 37.2 acres of land were cleared about 1865 and kept under cultivation until 1905. Dr. Carl Reynolds sold the property to Vanderbilt in 1901.

Bill Berry Place - Tract No. 9:

The state grant was issued to Bill Berry in 1816; Sam Brooks gained possession and passed the property on to Vanderbilt in 1905, as described for Tract No. 1. Approximately 22.5 acres

Figure 3.-White pine 40 years old on the
old Watt Hoxed Place, Tract No. 6.

were cleared between 1816 and 1818; the land on the south side of the creek was cultivated until about 1880, while the Indian camp ground and the area around the old house site were cultivated until 1905.

Willey Jones Place - Tract No. 10:

The state grant was issued to Abraham Reynolds in 1809; approximately 4.4 acres of land were cleared about 1885 and kept under cultivation until sold to Vanderbilt in 1903.

Pink Jones Place - Tract No. 11:

The state grant was issued to Abraham Reynolds in 1809; Pink Jones sold the property to Vanderbilt in 1903. Approximately 3.3 acres of land were cleared about 1885, and kept under cultivation until the Vanderbilt era.

John Barber Place - Tract No. 12:

The state grant was issued to Abraham Reynolds in 1809; John Barber lost the property to Vanderbilt through a mortgage foreclosure about 1902. Approximately 16.6 acres were cleared about 1885, and went out of cultivation when sold to Vanderbilt, except for about two acres on the northeast side of Hardy Presley's place, which is still being used for pasture by Mr. Presley.

School Property or Dunn Place - Tract No. 13:

The state grant was issued to Abraham Reynolds in 1809; it was used for school purposes from 1905 to 1915, and is now privately owned by A. E. Dunn. Approximately 1.4 acres were cleared about 1885 and are still being used as a garden at the present time.

Doke Hall Place - Tract No. 14:

The state grant was issued to Abraham Reynolds in 1809; Hall sold the property to Vanderbilt in 1901. Approximately 4.4 acres were cleared about 1885, kept under cultivation until 1915 and then pastured until 1935. An apple orchard was originally established on the property. The land was in a worn-out condition when sold to the Government.

Hardy Presley Place - Tract No. 15:

The state grant was issued to Abraham Reynolds in 1809; approximately 3.5 acres of land were cleared by John Barber in 1890. The property is still under cultivation and privately owned by Hardy Presley.

Dave Tittle Place - Tract No. 16:

The state grant was issued to Abraham Reynolds in 1809; Tittle sold the property to Vanderbilt in 1909. Approximately 7.3 acres were cleared about 1900; the land was cultivated until 1915 and then pastured until 1935.

Green Parker Place - Tract No. 17:

The state grant was issued to Abraham Reynolds in 1809; Doke Hall sold the property to Vanderbilt in 1901. Approximately 1.1 acres were cleared about 1900 and kept under cultivation until 1905.

Dog-Die Tract - Tract No. 18:

The state grant was issued to James Case in 1838; Sam Brook got possession in 1880 and passed the property on to Vanderbilt about 1905. Approximately 40.8 acres of land were cleared about 1895 and kept under cultivation until sold to Vanderbilt.

Tract No. 19:

The state grant was issued to Abraham Reynolds in 1809; Dr. Carl Reynolds sold to Vanderbilt in 1901. Approximately 4.7 acres were cleared about 1900 and cultivated until 1905.

Phil Creasman Place - Tract No. 20:

The state grant was issued to William Case in 1838; Phil Creasman sold the property to-Vanderbilt in 1903. Approximately 28.5 acres were cleared about 1840 and kept under cultivation until 1905.

Nichols Property - Tract No. 21:

The state grant was issued to William Case in 1838. Approximately 25.6 acres were cleared about 1880. The land is still under cultivation and privately owned by the Nichols heirs.

Miller Place - Tract No. 22:

The state grant was issued to Abraham Reynolds in 1809; Melvin Cothrane, sold the property to Vanderbilt in 1900. Approximately 28.4 acres of land were cleared by Tom Creasman about 1895 and kept under cultivation until 1905, with the exception of about one acre near the Nichols property, which is now being cultivated by Warden Huffman. Much of the original pine was burned for charcoal purposes.

Tom Creasman Place - Tract No. 23:

The state grant was issued to Abraham Reynolds in 1809; Tom Creasman sold the property to Vanderbilt in 1903. Approximately 18.5 acres were cleared about 1895 and kept under cultivation until 1908. There is very little erosion sign visible at present.

Jessie Case Place - Tract No. 24:

The state grant was issued to William Case in 1836; Dr. Carl Reynolds sold the property to Vanderbilt in 1901. Approximately 15.8 acres were cleared by Case between 1836 and 1840; the land on the southwest side of the Rice Pinnacle Road and about one acre around the old home site were last cultivated about 1915, while the remainder on the northeast side of the road was cultivated last about 1900. This is the only known tract on the area which was farmed "up-and-down" the slope or at right angles to the contour.

Bud Lance Place - Tract No. 25:

The state grant was issued to William Case in 1836; the property was sold to Vanderbilt about 1909. Approximately 20.2 acres were cleared and kept under cultivation until about 1912. It is estimated that 300 to 400 cords of pine wood were burned for charcoal on this property.

Will Cagle Place - Tract No. 26:

The state grant was issued to Russel Jones in 1847; Mollie Case sold the property to Vanderbilt in 1902. Approximately 2.7 acres of land were cleared by Will Cagle about 1890, and kept under cultivation until about 1915.

Tract No. 27:

The state grant was issued to Russel Jones in 1847; Steve Jones sold the property to Vanderbilt in 1902. No land was ever cleared on the tract.

McByre Place - Tract No. 28:

The state grant was issued to Russel Jones in 1804; Dr. Burgin McByre sold the property to Vanderbilt about 1902. Lewis McByre cleared approximately 77.7 acres between 1805 and 1810; all the land was kept under cultivation and in pasture until sold to Vanderbilt, with approximately 10.0 acres around the home site and on the west side of the branch being continued under cultivation until 1915. A large sized apple orchard was established on the place. It is estimated that approximately 400 cords of maple and chestnut wood were burned on the place for charcoal.

John Jones Place - Tract No. 29:

The state grant was issued to James Binson and William Tate in 1801; John Jones sold the property to Vanderbilt in 1903. Approximately 6.4 acres were cleared by Wash Cagle about 1815 and kept under cultivation until 1903.

Wash Cagle Property - Tract No. 30:

The state grant was issued to James Binson and William Tate in 1801; Wash Cagle sold the property to Vanderbilt in 1903. Approximately 85 acres were cleared on the place between 1860 and 1870; the land near Mease Gap was last cultivated about 1908 and now has an excellent stand of second-growth yellowpoplar, ranging up to 105 feet high, 16 inches d.b.h. and 32 years old. The area near the George Cagle cabin was farmed last about 1900 and now has an excellent stand of second-growth yellowpoplar; the field near Sheep Gap was last cultivated about 1910, while a small area around the old home site was cultivated last about 1915. There is very little erosion sign present. The land was in excellent condition when last cultivated. A large sized apple and peach orchard was established on the place by Wash Cagle.

Merritt Cagle Place - Tract No. 31:

The state grant was issued to James Binson and Wi1liam Tate in 1801; Merritt Cagle sold to Vanderbilt in 1903. Merritt Cagle cleared approximately 24.5 acres about 1880 to 1885; the land went out of cultivation when it was sold to Vanderbilt, except for about one acre around the house site and about two acres in the flat on the east side of the road, which was farmed last in 1926; the land was practically worn out and badly eroded in many places when sold to Vanderbilt.

John Case Place - Tract No. 32:

The state grant was issued to Wilson Alloway in 1806; Pink Jones sold the property to Vanderbilt in1903. Approximately 28.8 acres were cleared by Henry Cagle about 1808, and cultivated until sold to Vanderbilt. Considerable signs of erosion are still visible in places; the land was about worn out when sold to Vanderbilt. In 1934 the CCC boys girdled a "Black-heart" cherry tree about 21 inches d.b.h, in the cove west of the old house site.

Hayes Place - Tract No. 33:

The state grant was issued to Wilson Alloway in 1806; the property is privately owned by Frank Hayes' wife and is still under cultivation. Approximately 29.3 acres of land were cleared by Henry Cagle about 1808.

Pink Jones Place - tract No. 34:

The state grant was issued to Wilson Alloway in 1806; Pink Jones sold the property to Vanderbilt in 1903. Approximately 13.3 acres of land were cleared by George Jones about 1850, and kept under cultivation until sold to Vanderbilt, with the exception of about two acres around the house site, which was cultivated until 1926. There is very little sign of erosion present with the land apparently having been in fair condition when last cultivated.

Moore Place - Tract No. 35:

The state grant was issued to Wilson Alloway in 1806; the Brooks heirs sold the property to Vanderbilt about 1905. Approximately 43.3 acres were cleared by Dale Moore about 1880, and the land cultivated until sold to Vanderbilt. A good sized apple and peach orchard was established at the old home site and around Moore's Gap. Considerable erosion scars are visible at the present time.

Melvin Cothrane Place - Tracts Nos. 36 and 37:

The state grant was issued to Abraham Reynolds in 1809; Melvin Cothrane sold the property to Vanderbilt in 1900. Approximately 33.5 acres were cleared between 1890 and 1895; the land on the west tract and around the old Jones cabin was cultivated until 1902, while that around the Cothrane house site, on the east tract, was continued under cultivation until 1920. There is very little erosion sign present. Some old terrace or contour ditches are still visible. The land was about worn out when sold to Vanderbilt. A good sized orchard was established on the tracts.

Duke Place - Tract No. 38:

The state grant was issued to Daniel Reynolds in 1840; the Hatch heirs sold the property to Vanderbilt in 1900. Approximately 34 acres were cleared on the tract; about six to eight acres were cleared around the old Boyd house site several years before the grant was issued, with the remainder being cleared about 1865; the land was cultivated until sold to Vanderbilt and then pastured for an additional three years. There is a considerable amount of erosion sign still present; the land was about worn out when last cultivated. A large sized apple orchard was established on the place. The Duke house was a frame structure, four stories high, put together with locust pins, and provided with a fireplace on each floor.

Ledford Place - Tract No. 39:

The state grant was issued to Daniel Reynolds about 1840; the tract was sold to Vanderbilt by the Hatch heirs in 1900. Approximately 9 acres of land were cleared about 1840, and kept under cultivation and in pasture until sold to Vanderbilt, except for about one acre at the old home site which was cultivated until 1902. There are no erosion signs present; the land appears to have been in good condition when last cultivated.

Hatch Place - Tract No. 40:

The state grant was issued to Abraham Reynolds about 1809; the Hatch heirs sold the property to Vanderbilt in 1900. A total of approximately 125.1 acres were cleared on the tract; Abraham Reynolds and Wilson Boyd did the clearing between 1810 and 1840, except for about 50 acres along the branch above the old John Presley house site and the creek bottoms below the old camp ground, which were cleared by Colonel Hatch between 1865 and 1870. All the cleared land went out of cultivation and pasture when sold to Vanderbilt, with the exception of approximately 3 acres around the old Presley house, the old camp ground site, the lake site, and about 5 acres around the present warden's home, which were kept under cultivation until 1917. The 5 acres around the warden's-home are still being used for garden and pasture purposes. Practically all the ridge land still shows signs of severe erosion; one gully northwest from the Guard Station, Figure 4, is still of sufficient size for an ordinary house to be buried in it.

According to local tradition, the sycamore tree now standing in the Bent Creek warden's yard was once a "riding switch", which was stuck into the ground while Wilson Boyd was owner of the property. The tree is now 49.5 inches d.b.h. and is estimated by the Old Settlers to be approximately 90 years old.

Polly Boyd Place - Tract No. 41:

The state grant was issued to Daniel Reynolds about 1840; the Hatch heirs sold the property to Vanderbilt in 1900. Approximately 19.7 acres were cleared by Wilson Boyd about 1840; the land was cultivated until 1880 and then pastured until sold to Vanderbilt. A good sized apple orchard was established around the old home site.

Russie Jones Place - Tract No. 42:

The state grant was issued to Abraham Randals in 1800; the Russie Jones heirs sold the property to Vanderbilt in 1901. Approximately 15.8 acres of land were cleared by Russie Jones about 1865 and kept under cultivation until sold to Vanderbilt, with the exception of about one acre around the old home site which was cultivated until 1906.

Abraham Randals Place - Tract No. 43:

The state grant was issued to Abraham Randals in 1800; the Hatch heirs sold the property to Vanderbilt in 1900. About 15.5 acres were cleared by Randals between 1800-1805. The old Daniel Boone Lake site was kept under cultivation until 1908; about one-half acre around the old Randals house site was farmed last in 1931; about one acre on the south side of the creek, around the old Cothrane house site, was farmed last about 1910; while about one acre on the southwest side of the branch from the old Randals house was famed last about 1920. The land was apparently in good condition when sold to Vanderbilt.

Candler Property - Tract No. 44:

The state grant was issued to Andrew H. Johnson in 1807; the Candler heirs sold the property to Vanderbilt about 1905. No land was ever cleared on the area.

"Bud-deadening" - Tract No. 45:

The state grant was issued to Joseph Alexander in 1807; the property was sold to Vanderbilt in 1900 by the Hatch heirs. The timber was girdled on approximately 12.7 acres in 1865 for crop

Figure 4.-Severe erosion scars on the old Hatch Place, northwest from the Bent Creek Guard Station.

cultivation but was never used for that purpose. The area was pastured, along with other range land, until 1885, when open range grazing was abandoned. A good stand of second-growth oak, Figure 5, is now present on the area, ranging up to 18.5 inches d.b.h. and 98 feet high.

Bud Lance Place - Tract No. 46:

The state grant was issued to Abraham Randals in 1800; the Hatch heirs sold the property to Vanderbilt in 1900. Approximately 14.7 acres were cleared by Randals between 1800 and 1805; the land around the cemetery was cultivated until about 1855, while the old lake site area continued to be cultivated until 1908.

The Old Settlers tell the story that Abraham Randals, who was a Baptist preacher on Sunday, was cradling wheat at the present cemetery site when he found a bare spot in the shape of a grave or coffin. He decided then and there that the "Hand of God" had shown him the spot for his family grave yard which he proceeded to set aside at once for that purpose. After deciding on the location, he reserved and used it for that purpose, even after he traded farms and moved away from Bent Creek.

Sam Lance Place - Tract No. 47:

The state grant was issued to Abraham Randals in 1800; Clyde Case was owner of the property when it was condemned and taken over by the Federal Government, about 1922. Approximately 14.4 acres were cleared by Bennie Lance about 1805 and kept under cultivation and in pasture until the Government took possession, except for about one acre around the old house site, which was cultivated until about 1931. A good sized apple orchard was once established on the area. The land was in good condition when abandoned.

Henry Lance Place - Tract No. 48:

The state grant was issued to Abraham Randals in 1800; the Hatch heirs sold the tract to Vanderbilt in 1900. Bennie Lance cleared approximately 8.5 acres about 1806; the land was kept under cultivation until sold to Vanderbilt, except for about two acres around the old house site, which were farmed until 1905. The land was still in good condition when last cultivated.

Jim Lance Place - Tract No. 49:

The state grant was issued to Abraham Randals in 1800; Clyde Case was owner of the property when it was condemned and taken over by the Federal Government about 1922. Bennie Lance cleared approximately 25.3 acres of land on the tract about 1806; the land was kept under cultivation and in pasture until the Government took possession. A small amount of erosion sign is still present; the land apparently was in good condition when last cultivated.

Boyd Place - Tract No. 50:

The state grant covering this tract was issued to David Allison in 1796 for speculation purposes; the Hatch heirs sold the property to Vanderbilt in 1900. The land in the flats around the old home site and in the Ingle Fields Gap was cleared about 1805 to 1810, while the big field in the west cove was cleared about 1890. The land along the branch and around the old home site was famed last about 1899; the Ingle field area was last cultivated about 1903; while the big field in the west cove was cultivated last about 1905. A total of approximately 83.5 acres was cleared on the tract. There is very little erosion sign present today. A good sized apple orchard was once

Figure 5.-Second-growth oak on the
"Bud-deadening" Tract.
Tract No. 45.

established around the old home site. There is an excellent stand of second-growth yellowpoplar and black locust, Figure 6, in the west cove field at the present time.

Tabern Place - Tract No. 51:

This property was covered by the state grant issued to David Allison in 1796; Dr. Carl Reynolds sold the property to Vanderbilt in 1901. All the land was cleared about 1870, except the field around Hickory Top which was cleared about 1880. A total of approximately 39.5 acres was cleared on the tract and kept under cultivation and in pasture until sold to Vanderbilt.

Henry Lance Place - Tract No. 52:

This property was included in the state grant issued to David Allison in 1796; Dr. Carl Reynolds sold the property to Vanderbilt in 1901. Approximately 15.5 acres were cleared on the area about 1866 and kept under cultivation and in pasture until sold to Vanderbilt.

Hatch Tract - Tract No. 53:

This property was a part of the large tract issued to David Allison in 1796; the Hatch heirs sold the property to Vanderbilt in 1900. No land was ever cleared on the tract. Hatch had most of the good quality sawtimber cut while the property was under his control.

Sam Lance Place - Tract No. 54:

This property was included in the large tract issued to David Allison in 1796; Sam Lance sold the property to Vanderbilt in 1902. Approximately 14.2 acres were cleared by Sam Lance about 1880, and kept under cultivation and in pasture until sold to Vanderbilt. A small amount of erosion sign is still visible at present; the land was still in fair condition when last cultivated. A good sized apple orchard was established on the place.

Will Lance Place - Tract No. 55:

This tract was included in the state grant issued to David Allison in 1796; Gus Brooks was owner of the property when the Federal Government condemned and took it over about 1922. Approximately 3.8 acres were cleared by Sam Lance about 1880 and kept under cultivation until the Government took possession. The land was in good condition when taken over by the Government. A small apple orchard was established on the place.

Will Jarrett Place - Tract No. 56:

This tract was included in the state grant issued to David Allison in 1796; Eddie Shipman sold the property to Vanderbilt in1902. Approximately 10.8 acres were cleared by Russel Jones about 1880; the land went out of cultivation when sold to Vanderbilt, except for about three acres around the old Jarrett house site, which were cultivated until 1920. A good sized apple orchard was established on the place. Some old terrace or diversion ditches are still visible; there are no erosion signs present; the land apparently was in good condition when last cultivated.

Russel Lance Place - Tract No. 57:

This property was included in the state grant issued to Abraham Randals in 1800. Russel Lance was owner of the property when it was condemned and taken over by the Federal Government in 1924. Approximately 22.2 acres were cleared about 1866 and kept in cultivation

Figure 6.-Second-growth yellow poplar and
black locust in the west cove field
on the Boyd Place, Tract No. 50.

and in pasture until the Government took possession. There are some visible erosion signs present; the land was in only fair condition when abandoned. A good sized apple orchard was established on the place.

Andy Jones Place - Tract No. 58:

This tract was included in the state grant issued to David Allison in 1796; Andy Jones sold the property to Vanderbilt in 1903. Approximately 16.8 acres were cleared about 1890, and kept under cultivation and in pasture until 1921. Several small spots of sheet erosion evidence are still visible; the land was in only a fair state of cultivation when sold to Vanderbilt. A good sized apple orchard was established on the place.

Russel Place - Tract No. 59:

This tract was included in the large state grant issued to David Allison in 1796; Billie Russel's heirs were owners of the property when it was condemned and taken over by the Federal Government about 1922. Approximately 33.6 acres were cleared on the tract; all the land was cleared about 1850, except the flat along the present Laurel Branch Road, which was cleared about 1880; the land was kept under cultivation and in pasture until the Government took possession. A good sized apple orchard was established on the place. There are very few erosion scars visible at present, with the land apparently having been in good condition when last cultivated.

Bud Lance Place - Tract No. 60:

This tract was also covered by the grant issued to David Allison in 1796; Dr. Carl Reynolds sold the property to Vanderbilt in 1901. Approximately 52 acres were cleared about 1865 and kept under cultivation and in pasture until sold to Vanderbilt. A few small erosion scars are visible on the area at present; the land was still in good condition when last cultivated. A good sized apple and peach orchard was established on the place. The old fish-pond, which Bud Lance built on the north side of the old house site is still visible.

Watt Hoxed relates the story in -which he saw a "coon" climb a tree, and having neither a gun nor an axe with which to capture it, he tied his coat around the tree trunk while he went to borrow a gun. He claims that the coon was still in the tree, waiting to be killed, when he returned later with the gun.

Green Licks - Tract No. 61:

This tract was included in the large state grant issued to David Allison in 1796; the land was sold to Vanderbilt by the Will Green heirs in 1901. No land was ever cleared on the area. The Green heirs had Tom Carland build a log cabin on the area in order that they retain possession during a period of disputed ownership at the time Vanderbilt was buying up the surrounding lands. The Greens used the area solely for stock-range purposes.

Jimmie Brooks Place - Tract No. 62:

This tract was included in the state grant issued to David Allison in 1796; Doke Hall sold the property to Vanderbilt in 1901. Approximately 21.3 acres were cleared about 1890 and the land kept under cultivation until about 1909. Small spots of sheet erosion are still visible on the place; the land was still in fair condition when last cultivated. There is a considerable amount of laurel

and rhododendron now coming in on the old abandoned land. A good sized apple orchard was established on the place.

Bud Jones Place - Tract No. 63:

This tract was included in the state grant issued to David Allison in 1796; Doke Hall sold the property to Vanderbilt in 1901. Approximately 7.7 acres were cleared about 1890 and kept under cultivation and in pasture until about 1909. There was a small amount of sheet erosion on the place; the land was in fair condition when last cultivated. There is a considerable amount of laurel and rhododendron now coming in on the old abandoned farm land.

Starlin Bishop Place - Tract No. 64:

This tract was covered by the state grant issued to David Allison in 1796; the property was sold to Vanderbilt in 1901; Starlin Bishop cleared approximately 8.5 acres of land on the tract about 1890; the land went out of cultivation when Vanderbilt took possession, except for about one acre around the home site, which was cultivated until 1906. There was a small amount of sheet erosion on the tract; the land was in fair condition when last cultivated. A good sized apple and peach orchard was established on the place. Much laurel and rhododendron are now coming in on the old abandoned farm land.

Harve Jones Property - Tract No. 65:

This tract was included in the state grant issued to David Allison in 1796; Harve Jones sold the property to Vanderbilt in 1903. No land was ever cleared on the area. The greater portion of the good-sawtimber was taken off before Vanderbilt bought.

Russel Lance Property - Tracts Nos. 66 and 67:

These tracts were included in the state grant issued to David Allison in 1796; Russel Lance sold the property to Vanderbilt in 1909. There was never any land cleared on the area. Lance used the area for stock range and as a timber source to supply his sawmill.

Will Jarrett Property - Tract No. 68:

This tract was also included in the state grant issued to David Allison in 1796; Will Jarrett sold the tract to Vanderbilt in 1901. Approximately one and one-half acres were cleared about 1885 and kept under cultivation until sold to Vanderbilt. The land was used mainly for stock-range purposes. The timber was heavily cut before Vanderbilt bought.

Ike Bishop Place - Tract No. 69:

This tract was included in the state grant issued to David Allison in 1796; Ike Bishop sold the property to Vanderbilt in 1901. Approximately 29.9 acres were cleared by Ike Bishop between 1880 and 1885, and kept under cultivation and in pasture until 1909. A small amount of erosion is visible on the area; the land was in fair condition when abandoned. A good sized apple and peach orchard was established on the place. Some laurel and rhododendron are now coming in on the old abandoned land.

George Summey Place - Tract No. 70:

This tract was included in the state grant issued to David Allison in 1796; Bill Candler sold the property to Vanderbilt about 1905. Approximately 3.4 acres were cleared by George

Summey about 1862 and kept under cultivation and in pasture until sold to Vanderbilt. There are no signs of erosion; the land was in good condition when last cultivated. There is a considerable amount of laurel and rhododendron coming in on the old abandoned land.

Jack Stepp Place - Tract No. 71:

This tract was covered by the state grant issued to David Allison in 1796; Bill Candler sold the property to Vanderbilt about 1905. Approximately 35.2 acres were cleared between 1865-1870 and kept under cultivation and in pasture until sold to Vanderbilt. There is a amall amount of erosion sign present on the area; the land was in good condition when last cultivated. A large sized apple and peach orchard was established around the old home site.

Jessie Case Place - Tract No. 72:

This tract was included in the state grant issued to David Allison in 1796; Jessie Case sold the property to Vanderbilt about 1902. Approximately 8.5 acres were cleared by Will Lance about 1870, and kept under cultivation and in pasture until sold to Vanderbilt. The land was in good condition when last cultivated. There is an excellent stand of second-growth yellowpoplar on the old abandoned land at present.

George Candler Property - Tract No. 73:

This property was also included in the large state grant issued to David Allison in 1796; Bill Candler sold the property to Vanderbilt about 1905. Approximately 3.4 acres of land were cleared near Bent Creek Gap by Bill Crockery about 1850; the land was kept under cultivation until about 1865 and then used as open range pasture until 1885. There are no erosion signs present on the area; the land was still in good condition when sold to Vanderbilt.

TREATMENT OF CULTIVATED LANDS

There have been so many variations in clearing and cultivation of land, that no attempt will be made to discuss them all here; this review will cover only the most general procedure, as practiced by the early farmers on the area.

When possible, the local settlers preferred to "deaden" or girdle the trees on the land which was to be cleared, at least three years in advance of the time planned for crop cultivation. This practice was for the purpose of allowing time for the tree roots to rot, the bark and small limbs to fall off, and for the soil to "mellow-up" before planting. After cultivating the soil for two or three additional years, the majority of the tree roots were so decayed that they gave way, allowing the trees to fall. After farm needs had been met, the owners generally disposed of the surplus logs by means of public working or "log-rolling", at which time all the logs were placed in great piles or log-heaps and burned.

The tools used by the early settlers generally consisted of home-made implements such as mattocks, hoes, axes and the "bulltongue" plow. This crude plow was constructed entirely of wood, except for a small metal point, which was used to pierce the soil.

After the grubbing, log-rolling, and burning had been done the land was then plowed and planted with the bull-tongue plow. At regular intervals during the summer, the sections between the corn rows were plowed with this same plow and the corn itself cultivated with the old home-made hoe. These operations were repeated three or four times during the growing season.

Most of the old farmers followed a crude practice of crop rotation. As a general rule the land was not planted to corn more often than every two or three years. The general practice was corn one year, followed the next by wheat or rye, and left fallow the third; this rotation being repeated all over again, beginning with the fourth year. The majority of the farmers unconsciously appreciated the value of soil conservation and erosion control; they did their plowing and cultivation with the contour of the land; they often built check dams and piled brush in gullied areas; and built terraces or diversion ditches to carry water around valuable farm land. There is only one known instance on the area where farming was done "up and down" the slope or at right angles to the contour. As would be expected on an area the size of Bent Creek, there were several farmers who gave little thought to crop rotation or erosion control. On these few farms many severe erosion scars are still visible after a lapse of approximately forty years.

PRODUCTION AND DISPOSITION OF FARM PRODUCTS

The early pioneer farmer was forced, through necessity of self preservation, to produce as wide a variety of crops as possible, if he and his family expected to live near anything approaching comfort. It was impossible in early days to ship in the out-of-season crops, as we do today. The farmer and his family had to produce what they could and then to adjust themselves to their conditions. It was not always feasible or possible for each individual farmer to produce all the products needed by the family on his own farm, but this difficulty was overcome, in part, through trade and barter.

The more important products raised by the early pioneer farmers included: cattle, hogs, sheep, goats, horses, chickens, turkeys, geese and ducks; bees; orchard crops, such as apples, peaches, plums, pears and grapes; field crops such as corn, wheat, rye, buckwheat, oats, hay, stock-beets, turnips, Irish potatoes, flax, cane and broom-corn; and a vegetable garden which furnished beans, beets, squash, pumpkins, cabbage, peas, onions, sweet potatoes, mustard, lettuce, rhubarb and fresh corn.

After holding a sufficient quantity of each farm product in reserve to meet the family needs until the new crop was produced, the remainder was disposed of either in the community or taken to markets. During the early periods of development, the only markets available to the settlers were those of South Carolina and Georgia. It was about the end of the Civil War period that the influences of Asheville reached importance as a market for surplus farm products. During the early pioneer days, the settlers bunched together in small groups and made one or more trips per year to Charleston, South Carolina, or Augusta, Georgia, taking their surplus products to market and bringing back the products which could not be raised at home. The two-horse and four-horse wagons went to market loaded with such surplus products as apples, pork, hog-hams, beef, deer-hams, butter, lard, eggs, chestnuts, chinquapins, honey, bees-wax, dried fruit, whiskey and brandy. The returning wagons came back loaded with products such as salt, pins, needles, thread, farm tools, crockery ware, guns, ammunition, sugar, coffee, syrup and cooking utensils. Much of the material brought back by the wagons was re-sold to the people in the community who had not made the trip to market.

THE STOCK-RAISING INDUSTRY

The stock-raising industry was a very important phase in the economy and lives of the early pioneers. It not only assured them of a supply of meat for home needs, but it also furnished a

small income, which was badly needed in purchasing items not produced on the farm. The time, labor and cost were small when compared to the returns.

Raising stock was not confined to any one group of people. Practically every farmer, including tenants, tried to produce at least enough stock to furnish the meat needed for home consumption. As would be expected, the large landowners were generally the big stock producers. It is estimated by the Old Settlers that the average pioneer family had two milch cows, two horses or oxen for work, ten hogs, twenty sheep, ten beef cattle and a flock of poultry. It is also reported that Colonel Hatch kept from 100 to 150 goats from 1865 to 1895.

During the early period of development the whole county was considered open range; crops were fenced and the stock turned out to forage wherever they could. The farmers generally took their surplus stock to the mountains in May and brought them home in October. The only care given this range-stock was an occasional salting. The open range method of stock production continued until about 1885, when a statute was passed requiring stock to be confined on the owner's property. F. A. Sondley in his "History of Asheville and Buncombe County" says: "In 1885 occurred in Buncombe County a change in the law regulating the care of stock raised in that region. Before that time any one who chose to do so might turn out his cattle and hogs to seek food wherever they could find it. Then in 1885, the law was so changed that owners of livestock must prevent them from depredating on lands of other people." After passage of the stock law it was necessary that each owner provide a fenced pasture for his stock, either by building new fences and planting grass, or planting grass and using ready-fenced fields. All the necessary feed for winter use, such as corn, oats, hay, straw, corn-shucks, cane, beets, turnips and pumpkins, was produced at home on the farm.

After home needs had been filled the surplus stock was sold to travelling traders, who made regular trips through the country. The stock bought up by these travelling traders was then driven and sold on the South Carolina and Georgia markets. Sondley in his "History of Asheville and Buncombe County" says: ".....As early as 1800, stock raisers of Kentucky and Tennessee had begun to drive their hogs and horses and cattle in large droves through Buncombe County to the markets of South Carolina and Georgia.....Even turkeys were driven to market in the same way, the drivers using whips with pieces of red flannel tied to the end of the lash.....The business of driving stock continued, though in decreasing quantities, until about 1870 when it ceased." It was perhaps the approach of the railroad about this time, which made stock-driving no longer desirable or profitable; the first railroad reaching Asheville about 1881. The Old Settlers state that these travelling stock buyers paid an average of about two cents per pound for beef cattle, $1.00 to $1.50 each for sheep, two to three cents per pound for hogs, $10-00 to $15-00 for milch cows, $40.00 to $50.00 each for good horses and mules, $30-00 to $40.00 for a yoke of oxen and about 30 cents each for turkeys. The chickens were used at home and traded or bartered in the community; five hens were considered fair pay for a man's full day of labor.

MANUFACTURING ENTERPRISES ON THE AREA

The early settlers displayed surprising ingenuity and self-reliance in the construction and operation of their manufacturing enterprises. From materials hewn from the forest and a few essential parts, which had been brought in, they were able to construct their sammills, planing machines, blacksmith shops, furniture factories and grist mills. These mills and machines would seem very crude, indeed, today, but they did the work and served well the needs of the early pioneers.

The first enterprise on the area was established by James Case about 1808, and was located near the present Bent Creek Experimental Forest nursery. It consisted of a grist mill, blacksmith shop and a sawmill. A large dam and mill-race were built to supply water-power for operating the "flutter-type" water-wheel. The flutter-wheel was connected directly to a single shaft, furnishing power for both the grist mill and the sawmill. The sawmill was of the old up-and-down or sash type, requiring one man to operate, and being capable of cutting from one to three thousand board feet of lumber per day, depending on the size of the logs and the dimensions of the sawed material. The set-up was kept in operation, with only minor changes, until sold to Vanderbilt in 1905. The Case family continued to operate it until 1880, at which time the property passed to Sam Brooks. Brooks continued operating the plant until the Vanderbilt era.

The second manufacturing establishment was founded by Wilson Boyd in 1820, and was located at the present Y.M.C.A. dam site near the Bent Creek Guard Station. Boyd's set-up was identical with that which has been described for the James Case place, It was kept in operation, without major change, until 1865 at which time the property was sold to Colonel L. M. Hatch, who immediately rebuilt and expanded the whole enterprise. Colonel Hatch first moved the dam farther down the stream from its original location to about where the Guard Station Road now leaves the Bent Creek Road, so that the present lake site could be used for cultivation purposes; he then constructed new building space for tenants, a combined school and church building, store and a large building for a combined mill and workshop, his new mill-and-shop was equipped with a grist mill, an up-and-down head saw for cutting large dimension stock, several re-saws for cutting special products, dry-kiln, planing machine, turning lathe and other equipment needed for wagon building and furniture construction. In addition to his regular work of sawing, milling, and blacksmith work, he built wagons, tables, chairs, beds, and anything else demanded. A portion of the manufactured products was sold in the community, with the remainder going to the South Carolina, Georgia and Asheville markets. It is related that Hatch kept three wagon-teams busy hauling his articles to market and bringing supplies back for the store. For power, Hatch used a "flutter-wheel" for his sawmill and a "breast-wheel" for his grist mill and furniture shop. The Hatch family kept the enterprise in operation until shortly before the property was sold to Vanderbilt in 1900.

A combined sawmill and blacksmith shop was constructed by Russel P. Lance in 1880, at the mouth of Laurel Branch on Bent Creek. Lance's mill was identical with that described for James Case, except that he did not install a grist mill. Lance kept his mill and shop in operation until 1910, when a severe rainstorm occurred on Upper Laurel Branch, washing away his dam and mill-race, which he never rebuilt. Bennie Lance built a grist mill and blacksmith shop on Boyd Branch in 1810, at what is now known as the Sam Lance place. His plan was different from any other on the area; instead of a dam and "flutterwheel", he built a long mill-race to carry the water to his overshot wheel, which furnished his power.

The last grist mill to be established on the area was built by John Powell about 1880 on the Rocky Cove Branch, and was kept in operation until about 1895. The mill was powered by a flutter-wheel fed from a small dam built on the branch above.

Maunce Ingle constructed a chair and furniture factory at the end of the present Boyd Branch Road, which was operated from 1865 to 1875. His plant was a small water-powered outfit, consisting of a lathe and other tools necessary for shop work.

In addition to the four blacksmith shops previously mentioned in connection with other types of plants, there were two other shops operated on the area; one built by John Barber on the old

Barber place, and the other by Ike Bishop on his place of the same name. The blacksmith's work was very important in the lives and well being of the early settlers. They depended on him to build their wagons, plows, mattocks, axes, shovels, hoes, pitch-forks, bolts, nails, guns, and for making shoes and shoeing their horses.

THE SETTLER'S OTHER SOURCES OF CASH INCOME

The early settlers were not entirely dependent on their farm crops as a means of livelihood. Several small sources of income were available which helped to purchase the badly needed items not produced on the farm.

Beginning with early pioneer days, some additional money was brought into the community through the collection and sale of miscellaneous products such as wild herbs, fruit and berries, furs, meat, chestnuts, chinquapins, surplus honey and bees-wax. The sale of forest products, which started in a small way about the end of the Civil War period, had expanded into a thriving trade by 1900, bringing much additional money into the local community.

From the beginning of the early development many men went to South Carolina and Georgia, to work on railroad construction and similar jobs during the inactive farm season. By the end of the Civil War period, many short-time jobs were available in Asheville. About 1865, Colonel L. M. Hatch moved from Charleston, South Carolina, to Bent Creek and began his development program. It is related that he brought $90,000 to the area, which he used very freely in the community. To keep all his undertakings in operation, Hatch hired practically all the available labor on the area. It is related that Hatch had about gone "broke" when he sold to Vanderbilt in 1900.

THE FARMER A SELF SUFFICIENT INDIVIDUAL

The lot of the early pioneer was not nearly so bad as the present-day misconception would lead one to suppose. It is true they endured hardships and much toil, but they also lived a full and contented life. The Old Settlers frequently speak of the "good old days" and wish for their return. Since they knew very little of modern-day inventions and improvements, they were content and happy with life as they found it.

The early pioneer settlers were self-reliant, hard-working, and practically independent of the outside world. They produced their own meat, dairy products, poultry and other food products from the soil; with flax from the soil and wool from sheep, they made their clothes; from hides they made their shoes and harness; from the forest they built their homes and furniture; and with money from miscellaneous sources, they were able to purchase the few necessary items which could not be produced from the soil. The tasks to be done were many, and the hours of toil long. Arthur in his history, "Western North Carolina" speaking of the men, says: "The men were necessarily 'handy' men at almost every trade known at that day. They made shoes, bullets and powder, built houses, constructed tables, chairs, cupboards, harness, saddles, bridles, buckets, barrels, and plow stocks. They made their own hoe-handles, fashioned their own horseshoes and nails upon the anvil, burnt wood charcoal, made wagon tires, bolts, nuts and everything that was needed about the farm. Some could even make rifles, including the locks.", Speaking of the women, Arthur says: "Long before the paled dawn came sifting in through chink and window they were up and about.....she blew and blew and blew till the splinters caught fire.....chickens were fed, the cows milked, the children dressed, the bread made, the bacon fried and then coffee

was made and breakfast was ready. That over and the dishes washed and put away, the spinning wheel, the loom or the reel were the next to have attention, meanwhile keeping a sharp look out for the children, hawks, keeping the chickens out of the garden, sweeping the floor, making the beds, churning, sewing, darning, washing, ironing, taking up ashes, and making lye, watching for the bees to swarm, keeping the cat out of the milk pans, dosing the sick children, tying up the hurt fingers and toes, kissing the sore places well again, making soap, robbing the beehives, stringing beans for winter use, working the garden, planting and tending a few hardy flowers in the back yard, such as princess feather, pansies, sweet-william, dahlias, morning-glories; getting dinner, darning, patching, mending, milking again, reading the Bible, prayers, and so on from morning till night, and then all over again the next day."

COMMUNITY ACTIVITIES

The community activities of the early settlers were far different from what would be found on a similar area today. Their social activities were of many and varied forms, which allowed the inhabitants to get together at frequent intervals. The people delighted in social gatherings either for work or for other purposes. They felt that one or more forms of "get-together" should be available to the people every week in the year. The community activities were composed chiefly of school and church work, shooting matches, ball games, dances, wrestling, log-rollings, fence-building, house-raisings, quilting contests, and corn-shucking meets.

Until after the Civil-War period, the schools were known as "subscribed schools", meaning that the parents hired their own teacher. These schools lasted for only two or three months each year and were conducted in private homes, wherever there was available room. As compensation for his work the teacher received a small salary in money, and free board. Since his board was included as part pay, it was necessary for him to divide his time between the homes of his pupils, When Colonel L. M. Hatch moved to Bent Creek at the end of the Civil War period, he built a combined school and church house in which his daughter taught school until the first county supported school was established. Her teaching was free to all who wished to attend and extended throughout the year, when students were available, In the year 1880, a combined school and church building was constructed in the Boyd Branch area, in which the first county financed school was opened. The new school was operated for a period of three months each year until abandoned, when Vanderbilt began to buy up the area in 1900, The next combined school and church building was established on Wolf Branch at the present Dunn place in 1900, and was kept in operation until 1918. These early schools were very much limited in facilities, duration and scope of work. The whole school was handled by a single teacher, who taught arithmetic, reading, writing and spelling. One book on each subject generally served for an entire family. Arthur in his history of "Western North Carolina", speaking of early schools says: "At the earliest period of the most isolated schools, there were but few books, and spelling was usually taught and learned by a short of chant or sing-song, in which all, teachers and scholars, joined. Young and old joined in the exercises, and children often learned to spell who did not readily distinguish the letter of the alphabet. These were often chalked or written with charcoal on boards against the wall."

During the development period prior to the Civil War, church services were held in private homes. Later, the school house served as a combined school and church. The majority of the people were of the Baptist faith. If possible, they tried to attend all religious services held in the

community. During late summer or early fall they generally had a two weeks' revival service for which everybody laid aside his farm work and went to church.

Shooting matches were held about once each month and were attended mainly by the men folk. The presence of the rough characters of the community and surrounding area made the meets unattractive for the women. Various prizes were offered to the winners, such as sections of a newly killed beef or sheep, turkeys, and chickens. Arthur, writing on sports of the day, says: "There were shooting matches at which a young steer was divided and shot for, foot races, wrestling bouts", camp meetings, log-rollings, house-raisings, and the 'Big Musters', where cider and ginger cakes were sold, which drew the people together and promoted social intercourse, as well as the usual religious gatherings at the 'church house.' When a couple were married they were usually serenaded with cow bells, tin pans and other unearthly noises."

The square dance was the prized form of entertainment available to the people and was enjoyed by young and old alike. It is reported that an average of one square dance was held each week throughout the year and that during the Thanksgiving and Christmas seasons they were held nearly every night. These dances were always held at the sponsor's home, where drinking and rough talk were not allowed. The people used these occasions as a means of getting together for wholesome fun and a friendly visit with neighbors.

The baseball games, held on Saturday afternoon, were attended by all the men who had their farm work in order. The games were attended by very few women, due to the prevalence of drinking and fighting, which were unattractive to most of the women. The many fist-fights and wrestling matches, occurring at the games, helped to make added attraction for the men folk. The present Daniel Boone Lake site served as the community ball ground.

Public workings were generally open to both men and women. While the men worked at log-rolling, house-raising and fence-building, the women were busy quilting and telling jokes. The majority of the settlers would leave their own work to go and help their neighbors, when invited to these public workings. The sponsor always furnished refreshments and prepared a big dinner for all the workers. It usually happened that one or more fist-fights and wrestling contests occurred during the day. The "bully" who boasted of his ability as a fighter or wrestler was nearly always challenged by someone. They set a time and place for settling the argument, after which they shook hands and continued to be friends, as before.

After the corn had been gathered and stored in a shed, the neighbors were invited in for a corn-shucking and quilting contest, which was usually followed by a square dance. The young women generally helped with the corn-shucking, while the older women gathered in the house for the quilting contest. The sponsor was always expected to serve refreshments and to prepare a big supper for the whole crowd. In order to make the occasion more interesting, two men were selected as captains, to divide the corn pile and choose sides for the contest. It was customary for the two opposing captains to wrestle in the shuck pile after the contest had been completed, with each side cheering its respective captain and thoroughly enjoying the fun.

DIRECT INFLUENCES OF SETTLEMENT ON FOREST CONDITIONS

The direct influences of early settlement have played a very important part in shaping the present day forest conditions. The more important of these include homestead construction, fuelwood, farm maintenance, fence-building, furniture construction, land clearing and the sale of miscellaneous forest products.

Homestead Construction:

A total of 104 homes, including tenant houses, was constructed on the area during the period of active development, the majority of which were still in use when Vanderbilt began buying up the land in 1900. It is estimated by the Old Settlers that 90 of these homes were of log construction. They also estimate that an average of 60 homes was in constant use throughout the period of active development.

The wall logs for all these buildings were hewn flat on two sides before being used; the sleepers, joists, and the horizontal logs on which the shakes were fastened were hewn flat on one side only. The logs for flooring were split open and smoothed to a flat surface on the split side before being notched on the round side and laid in place.

The average house required 48 wall logs, 20' x 12"; 11 sleepers, 20' x 12"; 11 joists, 20' x 6"; 10 logs for gables, 20' x 12"; 11 logs for flooring, 20' x 10"; 14 logs, 20' x 6", placed horizontally for shakes to rest on; and a log 40' x 2' for making shakes. Summarizing the above-mentioned material from the Scribner Decimal C Log Rule, approximately 9.2 M bd. ft. log scale of logs were required for the construction of the house. Following the same procedure as used above, we get approximately 9.2 M bd. ft. log scale for the barn, 7 M bd. ft. log scale for the double cribs, and 0.8 M bd. ft. log scale each, for the smoke-house, chicken-house and spring-house. Again summarizing for the group of buildings, a grand total of 27.8 M bd. ft. log scale of logs was used for constructing the average homestead. Using the above figure for the 90 log-constructed homes, and one-half the figure for the frame-constructed homes, a grand total of 2,696.6 M bd. ft. log scale of logs was used for homestead construction during the 100-year period of active development on the area. It is estimated by the Old Settlers that fully 75 percent of this building material was taken from lands which were to be cleared.

Fuelwood:

It is estimated by the Old Settlers that the average family used about 15 cords of fuelwood each year. Of this amount, fully 75 percent was material salvaged from cleared land, cull, and undersized trees, while the remaining 25 percent was taken from uncleared land, much of it being green material. For the 60 homes estimated to have been in use throughout the 100 years of activity, this would mean that 900 cords were used each year or a total of 90,000 cords during the 100 years of active development. Using 500 bd. ft. per cord as a converting factor, this would mean that an equivalent of 11,250 M bd. ft. log scale of green timber and 33,750 M bd. ft. log scale of salvaged material was used for fuelwood purposes during the life of the settlement.

Farm Maintenance:

Since a large number of the homes was constructed during the early period of development, it is estimated that 60 had to be re-roofed at least once during the period of occupancy. Estimating 3 M bd. ft. log scale as being sufficient to recover house, barn, crib and smoke-house, a total of 180 M bd. ft. log scale would have been required for recovering the 60 homesteads. A small, unknown quantity of material was used for other types of miscellaneous farm maintenance. It is reported that the greater portion of this maintenance material had to be taken from uncleared land.

Fence-Building:

Since the greater part of the land clearing was done while the area was still open stock range, it was necessary to build a splitrail fence around each cleared tract. The larger fields were cut up

into small fields or lots by building what was known as "cross-fences." These cross-fences were of the same design and construction as the outside fence, their purpose being to confine work stock and milch cows on the land, which was not being cultivated. These fields ranged from a few to many acres each, with an estimated average being about 15 acres. For the 1,472 acres of cleared land on the area, this would mean a total of 98 fenced fields, each requiring approximately one-half mile of fence, or a total of 49 miles for the whole area. The average rail used was 4" to 5" in diameter, and 10' long, containing approximately 14 bd. ft. each, while the average locust stake used was 5" X 5" X 7' containing 9 bd. ft. log scale. Each span of constructed fence required 10 split rails and a locust stake at each corner to "lock" and hold the rails in place. Allowing for lap at each end and for the "zigzag" type of construction, the 10' rail made about 8'- of effective fence length. This means approximately 660 spans per mile or a total of 38,940 spans for the 49 miles of fence constructed. Each span contained 140 bd. ft. for rails and 9 bd. ft. for the locust stake or a total of 5,452 M bd. ft. log scale for rails and 350 M bd. ft. log scale for locust stakes. Since it was necessary that the logs split well only the straight-grained and clear logs were used. According to the available information, practically all of the material for fence-building came off the lands which were being cleared for cultivation purposes.

Furniture Construction:

Practically all the settlers built some crude furniture for use in their homes. As mentioned earlier, Maunce Ingle operated a chair factory for about 10 years on Boyd Branch, while Colonel Hatch kept a furniture factory in operation for approximately 30 years. The Old Settlers estimate that an average of 10 M bd. ft. log scale was used annually for this purpose throughout the period of activity, with this figure being at least doubled during the 30-year period in which Hatch was producing furniture commercially. Based on these figures, a total of 1,300 M bd. ft. log scale was made into furniture during the life of the community. It is reported that this material came mainly from uncleared land.

Land Clearing:

As stated earlier, a total of 1,472 acres, exclusive of interior holdings, was cleared on the area during the active period of development. The greater portion of this cleared land was in coves, representing the very best timber producing sites on the whole area. Estimated at 8 M bd. ft. per acre, the cleared land had a total of 11,776 M bd. ft. log scale of merchantable timber, in addition to an unknown quantity of cull and undersized material, suitable for fuelwood and charcoal. It is estimated by the Old Settlers that 75 percent of the merchantable material was used either in home construction, fence building or sold on the market in some form. The remaining 25 percent was burned during the public "log-rollings" to get it out of the way of cultivation.

Sale of Miscellaneous Forest Products:

Certain forest products were sold in small quantities during early pioneer days, but it was not until after the Civil War period that these sales began to be felt very much in the local community. The Old Settlers estimate that by the time Vanderbilt began to buy up the area in 1900, the trade had expanded to the extent that 1,000 cords of fuelwood, 200 cords of chestnut wood, 1,000 fence posts, 100 large gate posts, 300 light and telephone poles, 100 foundation logs for buildings, 100 gallons of pine tar, 30,000 bushels of charcoal, 300,000 shingles and shakes, and 300,000 bd. ft. of sawed lumber were being sold each year outside the community, mostly on the Asheville market. The material for these sales was taken primarily from uncleared land.

SUMMARY OF DIRECT INFLUENCES OF SETTLEMENT ON FOREST CONDITIONS

The total forest drain for the period of active development from 1800 to 1900 has been computed as follows:

	Products cut from forested land M bd. ft.	Products salvaged from cleared land M bd. ft.
Homestead construction	674.15	2,022.45
Fuelwood	11,250.00	33,750.00
Farm maintenance	180.00	--
Fence-building	---	5,802.00
Furniture construction	1,300.00	--
Sale of misc. forest products	4,950.00	--
Total volume	18,354.15	4l,574.45

The figures given in the above table constitute an average drain of approximately 183 k bd. ft. log scale per year, from the forested land during the period of active development. Using an estimated annual increment of 80 bd. ft. per acre, this would give approximately 386 M bd. ft. annual increment on the 4,830 acres of forested or uncleared land. This drain, then, amounted to a little less than one-half the increment.

If the fuelwood is omitted from the total volume salvaged from the cleared land, and only the merchantable sawtimber compared to the estimated original volume of 11,776 M bd. ft. log scale, it is found that approximately 3,951.6 M bd. ft. of timber was destroyed during the public log-rollings or land-clearing operations.

INDIRECT INFLUENCES OF SETTLEMENT ON FOREST CONDITIONS

It is certain that the indirect influences of early settlement have played an important role in helping to shape present day forest conditions on the area. There is much general information available for building a picture and partially evaluating the results, but it is impossible to determine their full extent. The more important of these influences include fires, grazing, floods and erosion.

Fires:

From the available information it appears that the Indians practiced regular woods-burning before settlement by the white man. It is stated that they burned the woods to improve hunting conditions.

The white settlers practiced annual burning from the earliest days of settlement until the Vanderbilt era. They had various reasons for wanting to burn the woods, such as improving grazing, destroying insects and snakes, keeping the woods open for stock and game hunting, and a childish desire to see the woods burn. Most of this burning was done during the winter season

when a minimum of damage occurred. The settlers raked around their fences and let the remainder of the woodland burn.

After Vanderbilt took possession in 1900, he tried to prevent forest burning, but with small success. A few of the settlers became disagreeable because of his method of land acquirement and the way in which he had it handled; they fired the woods for spite. Others set fire to the woods so that the local people could get pay for fighting fires which they had planted. It is asserted that some section of the area was burned nearly every year while it was under Vanderbilt's control.

There have been only occasional fires since the Government took possession in 1914. The last large fire occurred on the area about 1925, burning approximately one-third of the area. Since 1925 there has been only an occasional small spot fire, generally less than one-half acre in size. (Handwritten note added to manuscript: In 1942, a 360-acre fire burned between Boyd and Laurel Branches to Hickory Top.)

As mentioned above, the area was burned almost annually for the first 100 years after settlement, with occasional burning for the next 25 years. Observations show that much damage was done to growing timber in the form of butt scars, which frequently opened wounds for fungi entrance. Probably the greatest, long-range damage resulted from the killing of a large portion of the natural reproduction, which has aided in developing many understocked stands. This burning may also have resulted in much loss in chemicals and humus from the soil, and was the indirect cause of considerable erosion.

Grazing:

The entire area was open stock range, from the earliest days of settlement until the "stock law" was passed in 1885, requiring the owner to confine his stock. Prior to this date the people took their cattle, sheep, goats and hogs to the mountains in May and left them there until October.

After passage of the 1885 statute, stock-raising was on a very much reduced scale. Only those with fenced land, or those who could afford to fence, continued to raise stock.

The immediate result of this intensive grazing was an open stand in the understory with an overmature overstory. The tendency was toward a gradual deterioration of the future stand because of the destruction of the reproduction that would have ordinarily replaced the dying trees. It was also responsible for some erosion and injury to tree roots.

Floods and Erosion:

It is impossible to estimate the effect of past floods and erosion on present day forest conditions, but it is reasonable to assume that they have exerted some long-range influence.

According to the available information, there have been only two major floods since early settlement began; the first, known to the Old Settlers as the "June Flood", occurred about 1870, and the second in August 1940. It is reported that the June flood of 1870 had the creek water backed to the old Russie Jones house site Tract No. 42 the same point reached by the August flood of 1940. During the 1940 flood, Bent Creek was out of banks its entire length, flooding the lowlands and doing severe damage to the Bent Creek roads in many places. It is stated that all other storms have been of moderate intensity and that the streambeds have been able to handle their discharge. The streams did no damage on the area and were never out of banks during the noted flood of 1916.

On certain tracts of cultivated lands there are still visible signs of severe erosion of both sheet and gully type. Much of this was caused by improper cultivation, but a portion was undoubtedly the indirect result of intensive grazing and annual woods-burning. The woods-burning reduced the water-holding capacity of the forest floor, while grazing destroyed vegetation and broke the soil for the beginning of erosion. While there was very little actual erosion in the woodland there is much evidence to indicate that severe erosion in fields had its origin, many times, in the woodland above.

THE SETTLERS ABANDON THEIR HOMES

Several reasons were responsible for the settlers' abandoning their old homes. Many of them felt that Vanderbilt was offering more for their property than it was worth, and that the money which they were receiving could be used to purchase better farms in other localities. A few families had the "gipsy" spirit and welcomed the opportunity to sell and move to new homes. According to the Old Settlers, many owners were "tricked" into selling by Dr. C. A. Schenck, who was acting as Vanderbilt's representative. It is stated that he bought options on several farms letting these first options lapse, with no action being taken. Later, when he came back to buy options a second time, the majority of the settlers, thinking they could pick up more easy money, fell for this well laid plan. This time Vanderbilt forced the owners to sell as specified in their contracts. There were only seven far-sighted settlers who refused to sell. Four of these holdings were condemned and taken over by the Federal Government between 1922 and 1924, while the remaining three are still under private ownership at the present time.

After being promised that they could remain on their old farms as long as they desired, Dr. Schenck forced them out soon after the sale had been completed. It is reported that this treatment was responsible for much of the "spite" woods-burning mentioned earlier.

RECONSTRUCTION

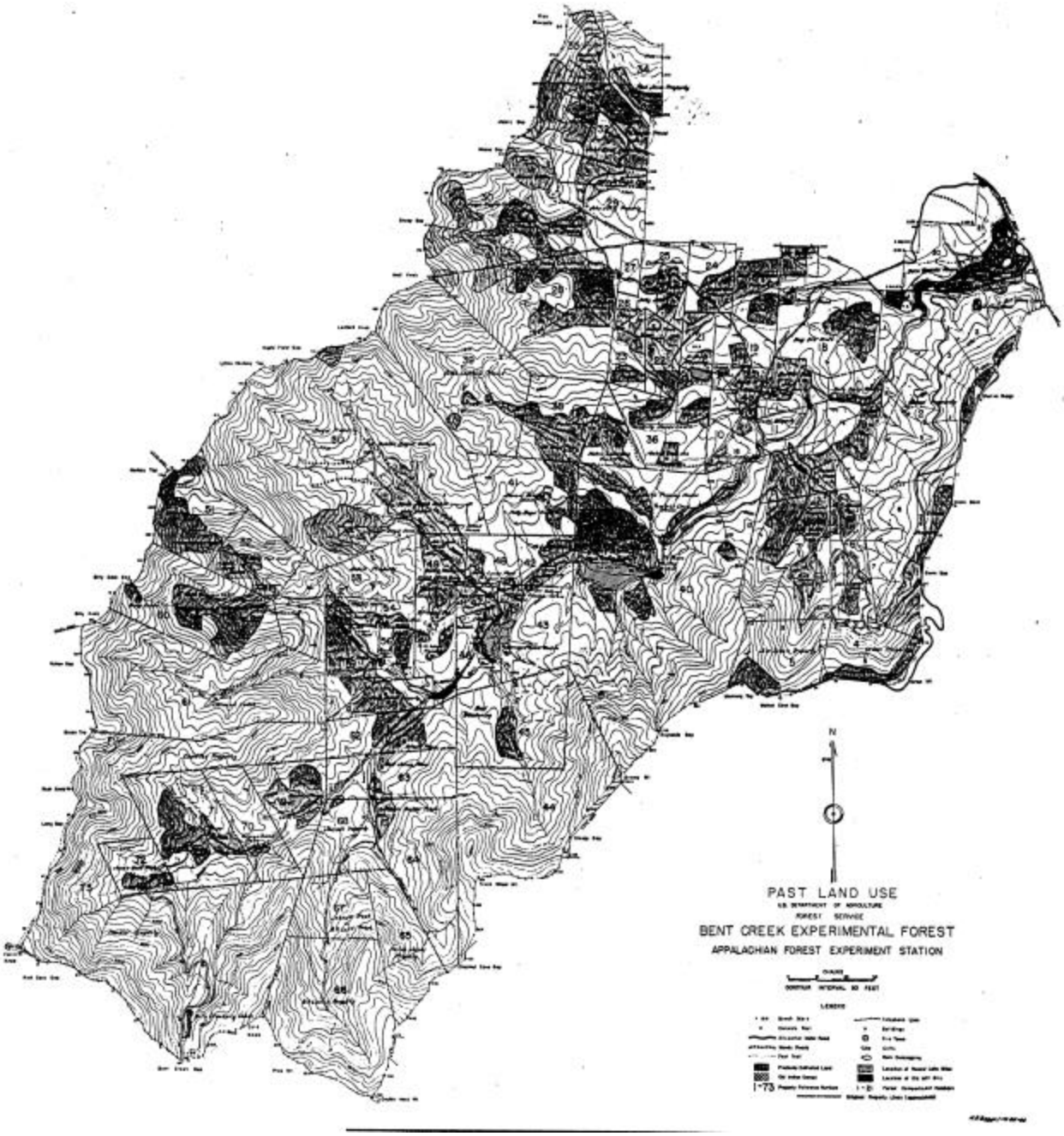
The Bent Creek area has undergone three distinct phases of the reconstruction period: the first under the ownership and supervision of the Vanderbilt Estate; the second under Federal ownership, administered by the Pisgah National Forest; and the third under Federal ownership, but administered and controlled by the Appalachian Forest Experiment Station.

George W. Vanderbilt purchased the various tracts of land from the local settlers between 1900 and 1909, with the exception of seven small tracts which the owners refused to sell. He kept and administered the area until it was sold to the Federal Government in 1914.

The Federal Government entered into an agreement with Mrs. Edith S. Vanderbilt on June 19, 1914, whereby she contracted to convey certain lands to the Federal Government, including that of the Bent Creek watershed. The deed, which included the Bent Creek area, was executed April 30, 1917. The Pisgah National Forest controlled and administered the area from 1914 to 1925. It was during this period of administration that four of the seven remaining tracts were condemned and taken over by the Federal Government between the years 1922 and 1924.

In 1925 the northeast portion of the area, embracing approximately 1,100 acres, was transferred to the Appalachian Forest Experiment Station for the establishment of the Bent Creek Experimental Forest. In 1935 the remainder of the area, with the exception of an area set aside for recreational purposes, was transferred to the Appalachian Forest Experiment Station and included in the Bent Creek Experimental Forest. This second transfer increased the area of the

Experimental Forest to approximately 6,302 acres, exclusive of the interior holdings. Since this time, the area has been under the supervision of the Appalachian Forest Experiment Station, devoted exclusively to research and experimentation.


N
PAST LAND USE
BENT CREEK EXPERIMENTAL FOREST
APPALACHIAN FOREST EXPERIMENT STATION

Supplemental notes appended to the Nesbitt report in February 2002:

Note 1. Suggested citation of the original, typewritten report:

Nesbitt, William A. 1941. History of early settlement and land use on the Bent Creek Experimental Forest, Buncombe County, N.C. Unpublished paper on file at: U.S. Department of Agriculture, Forest Service, Southern Research Station, Bent Creek Experimental Forest, Asheville, NC. 78 p.

Note 2. A condensed version of the original report was published (without figures) in 1946:

Nesbitt, William A. and Netboy, Anthony. 1946. The history of settlement and land use in the Bent Creek forest. Agricultural History 20:121-127.

Footnote 1 of the 1946 Nesbitt and Netboy printed article provides additional information on sources of material used in preparing the 1941 unpublished report:

"This account of the history of the Bent Creek Forest is derived from the following sources: (1) Oral memoirs of three surviving pioneer settlers, Russel P. Lance, Watt Hoxed, and William E. Presley, all of whom spent their lives in or near Bent Creek Valley, and whose fathers and grandfathers lived in, or were intimately associated with, the area from the earliest days of settlement; (2) Timber statistics derived from measurements taken on individual tracts or holdings, thus furnishing a check on the information supplied by the old settlers; (3) Observation of erosion, terracing, fire scars on trees and other data which throw light on the history of land use in the region; (4) Available records, including State land grants, property transfers, Biltmore Estate records, and purchases of the U.S. Forest Service; and (5) John Preston Arthur, Western North Carolina; A History ...(Raleigh, N.C., 1914), and F.A. Sondley, History of Asheville and Buncombe County (Asheville, N.C., 1922)."

Note 3. Information on production of this electronic version of the unpublished Nesbitt report:

This document is an electronic version of the original 78-page report prepared by William A. Nesbitt on December 10, 1941, which was typewritten in 12-point Courier font with double spaced lines. This version was produced by personnel of the Bent Creek Experimental Forest in late 2001 by: (1) electronically scanning each page of the original report, (2) converting the scanned images to a word processor document using a personal computer and character recognition software, and (3) correcting the software errors by proof reading and comparison with the original. Word usage, spelling, and punctuation used by Nesbitt are preserved in this version; however, Times New Roman font and single line spacing were used to reduce length. The six black and white photographs in Nesbitt's report were electronically scanned at 600 dots per inch resolution and are included in this version at about the same places, and on separate pages, as in the original document.