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The Moravian Foresters

by Coleman A. Doggett



This knife was used to scribe wood for a variety of uses: trees for cutting, timbers for building, staves and other parts of barrels, and log ends and junctions in frames. The Roman numerals indicating how building frames should be reassembled on site are still visible on some of the restored structures in Old Salem, North Carolina. Courtesy of Old Salem, Inc.

Gifford Pinchot is commonly, although erroneously, identified as the first practicing forester in the United States, and North Carolina claims the credit for him because he first worked with the Biltmore Forest near Asheville in 1891.¹ However, almost a century and a half before Pinchot, the Moravian foresters were practicing their craft in the gently rolling hills of the North Carolina Piedmont.

The Moravian Church is a Protestant Christian denomination tracing its origin to John Hus of Bohemia, who led a fifteenth-century movement to reform the Catholic Church and was burned at the stake for heresy in 1415.² A large number of Hus's followers were from the province of Moravia in present-day Czechoslovakia, so the denomination they founded came to be known as the Moravian Church. Some of the Moravians emigrated to the United States in 1735 and settled in Bethlehem, Pennsylvania, in 1740.

1. See, for example, O. C. Goodwin, *Eight Decades of Forestry Firsts. A History of Forestry in North Carolina*, North Carolina Forest History Series, vol. 1, no. 3 (Raleigh: North Carolina State University, 1969). Peter Hatch recognized the Moravian foresters' work in his article, "The Forester in Early Salem," *The Three Forks of Muddy Creek* 4 (1977): 14-18 (a serial publication of Old Salem Inc., Winston-Salem, North Carolina).

2. This summary of the Moravians' history in Europe and of their migration to the New World is based on *The Moravians and Their Town of Salem* (Winston-Salem, North Carolina: Old Salem Inc., Department of Education and Interpretation, 1975), pp. 2-3.

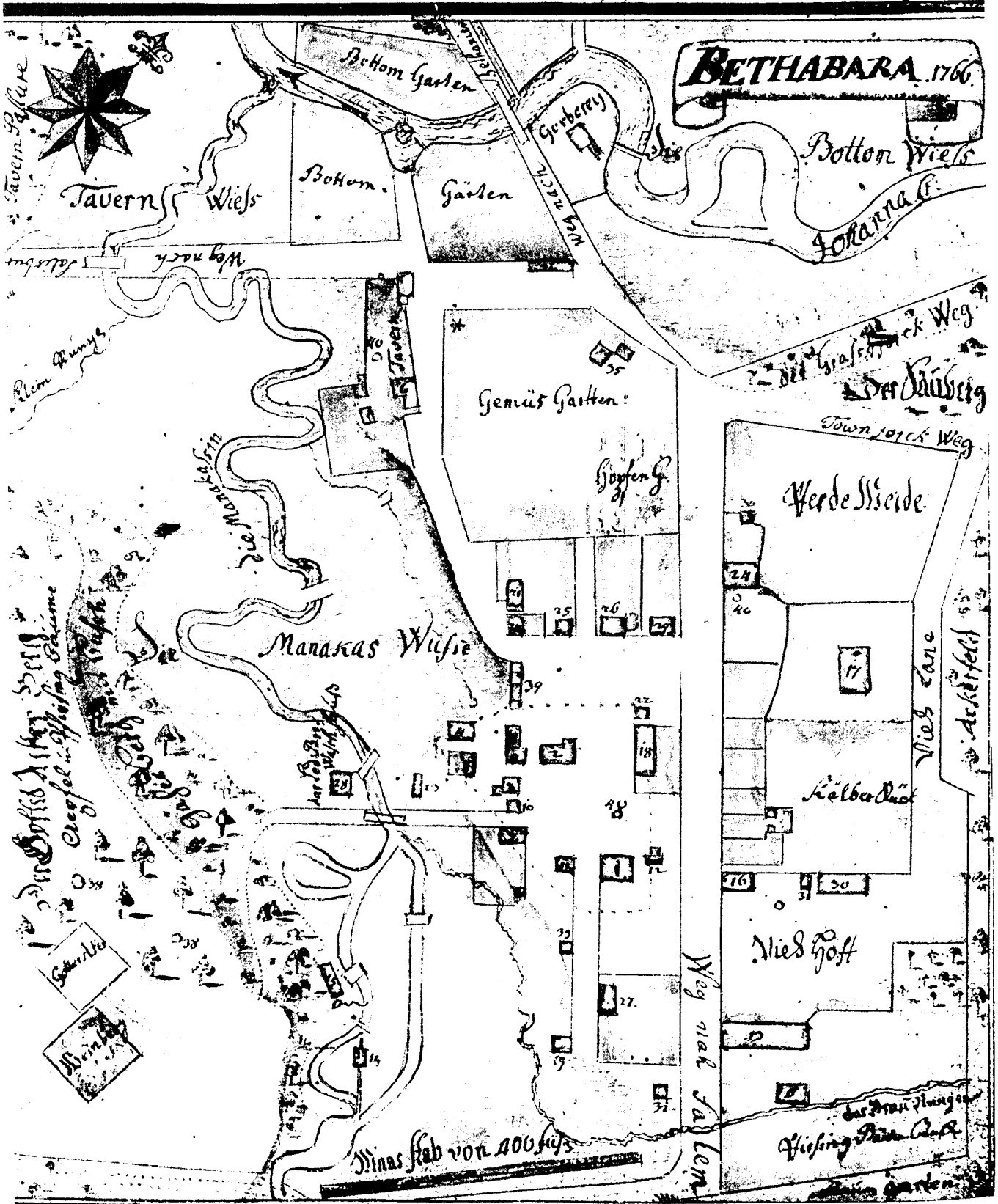
In the fall of 1752 Bishop August Gottlieb Spangenberg led a small group of Moravians from the settlement in Bethlehem to North Carolina. The group explored a vast tract of land in North Carolina, owned by Lord Granville, in hopes of finding a suitable area for a southern settlement. They finally recommended that the church purchase approximately 100,000 acres in central North Carolina. The first carefully selected colonists began to arrive at the new town of Salem in November 1753.

Initially, the settlement was governed entirely by a board of elders called the Aeltester Conferenz, appointed by the church in Europe. Within twenty years, however, a second board called the Aufseher Collegium was formed. The collegium's members were appointed or elected from within the colony. At first the authority of the two boards often overlapped, but with time the Aeltester Conferenz became the board for spiritual affairs, and the Aufseher Collegium supervised the material and financial interests of the colony, much like a modern board of aldermen. From the time of its formation, the collegium supervised forestry in the settlement.

Land ownership in the Moravian colony was very different from that in the rest of North Carolina. Little of the land was sold to individuals; most was owned by the church and leased to settlers. This system made it possible to remove undesirable individuals simply by revoking their leases. In addition, it permitted the community as a whole to regulate the quality, quantity, and prices of goods and materials produced. The collegium decided whether a

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1766.



A map of the Moravian Village of Bethabara in North Carolina, made by Philip Reuter in 1766. Courtesy of the Moravian Archives, Winston-Salem, North Carolina.

Opportunities for Forest History Research in the Moravian Archives, Winston-Salem, North Carolina

by Thomas J. Hauptert, Archivist

The Moravians, Protestant pietists with roots in Bohemia, Moravia, and German-speaking Europe, started settlements named Bethlehem and Nazareth in Pennsylvania in the 1740s, then started work in North Carolina. They founded three villages and three rural settlements before the outbreak of the War of Revolution. These eighteenth-century Moravian settlements in North Carolina were the products of careful planning. The whole settlement process was carefully administered from Europe through church officials in Pennsylvania. The Moravian Archives in Winston-Salem, North Carolina, hold over a million pages of material about the six North Carolina settlements and what developed from them down to the present day.

Eleven volumes of the *Records of the Moravians in North Carolina, 1752-1879* have been translated and published already, but this represents far less than 1 percent of the available material. In addition, the minutes of the Board of Overseers of Salem (1772-1856) have been translated (four thousand pages), and the minutes of a higher board, the Elders' Conference of Wachovia, are now being translated. Other documents have been translated as well. There are numerous references to forestry regulations and practices in the translated materials. A working knowledge of German script would prove helpful for doctoral work, but probably would not be needed for master's-level research, depending on the specific subject chosen.

Forest management played an important role in the beginnings and development of these communities.

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business was needed, the prices of the goods produced, and the wages to be paid. This system of strict control continued for almost a century after the settlement was established.

The Salem community's original reason for surveying and patrolling the woods around its buildings and fields was to preserve the forest game and to protect domestic animals allowed to graze under the trees. Wild game and unfenced cattle and pigs were important food sources for the early settlers. Later, however, the settlement's heavy and diversified demand for wood became another major impetus for forest management. Almost every facet of the colonists' lives involved wood products in some way. The tanneries that sprang up shortly after the founding of the colony (the first is mentioned in 1754)³ utilized chestnut and oak bark. Maple trees were tapped for sugar,⁴ and even

Forestry account books exist for the years 1772-80, with a summary for 1766-67. There is a *Timber Book* for 1861-63. It is likely, as research progresses, that many additional forest related documents will be identified. The several dissertations on Moravian history, and even the recent published articles about forestry in Wachovia, have far from fully exploited these translated sources.

Detailed land use maps were drawn up early in the settlement process, to give the European leadership information on the area's natural resources. The certified surveyor who compiled these large maps, and many small ones as well, Christian Reuter, was also appointed the first forester of Salem, the central town. There are sufficient materials in the Moravian Archives for a doctoral dissertation on this man alone. A master's thesis in history already has been done: William Hinman, "Philip Christian Gottlieb Reuter, First Surveyor of Wachovia," (Wake Forest University, 1985).

Any study of forestry practices in the Wachovia tract should also examine forestry theory and practice in Germanic Europe, especially that of manors and estates in Saxony. For example, the forests surrounding the Moravian settlement of Herrnhut have been attended by a series of foresters from 1670 to the present. A researcher might explore how European theory and practice were used here, and the rate and extent to which British and North American practices were adopted over periods of time.

The Moravian Archives welcomes any researcher wishing to pursue work in these or other areas. Inquiries may be addressed to The Moravian Archives, Thomas J. Hauptert, Archivist, 4 East Bank Street, Winston-Salem, NC 27101 (telephone 919-722-1742).

plates and eating utensils were initially made of wood. Although houses were initially made of logs, hewn timbers, or hand-sawn boards, and roofed with wooden shingles, by 1776 they were constructed with boards from a water-powered sawmill, which itself replaced an even older mill.⁵ Municipal water lines were made of pine logs bored through, then joined together and buried to transport water from springs outside the town boundaries.⁶ Wood

5. Fries' *Records of the Moravians* discusses half-timbered houses on p. 315; log houses on pp. 387, 483; and the 1776 sawmill on p. 2094. The new sawmill probably utilized an overshot water wheel since there is discussion in 1785 concerning the replacement of the old water wheel with a flutter-type wheel.

6. In 1778 unused pipes made of pine logs were stored in a pond "so they would not lie in the air and rot," a preservation technique still used by a number of sawmills today (Fries, *Records of the Moravians*, p. 1267). Fries' *Records of the Moravians* mentions pine water pipes and a pine town pump (pp. 1256, 1195), although one historian has also discussed the use of white oak for these purposes in Salem (Linda Le Mieux, "The Salem Waterworks," *The Chronicle of The Early American Industries Association* 34 [September 1981]: 42).

3. Adelaide L. Fries, Kenneth G. Hamilton, Douglas L. Rights, and Minnie J. Smith, eds., *Records of the Moravians in North Carolina*, 11 vols. (Raleigh: North Carolina Historical Commission, 1922), p. 101.

4. Fries, *Records of the Moravians*, p. 90.

was the only source of fuel for home heating and for industry. The demand for fuelwood caused a terrific drain on the wood resource, resulting in an 1828 regulation limiting families to twelve cords of heating wood per year.⁷

Faced with the need to manage their timber resources, the Aufseher Collegium appointed official foresters who, although not professionally trained, were well respected in the community. The forestry they practiced was probably very similar to that of their counterparts in Europe at the same time. The first forester appointed was Philip Christian Gottlieb Reuter.⁸ Reuter was born in Steinbach, Germany, on 5 September 1717, and received his surveyor's certificate before emigrating to the United States. In a discussion of his forestry qualifications it was mentioned that "he had experience in this field in Europe."⁹ His appointment letter in August 1759 listed his title as "Forester and Superintendent of Hunters." At the same time a Brother Holter was appointed as "ranger." The Moravian literature that has been translated does not define the titles of forester, ranger, and bushranger. The literature used these titles at first separately and later apparently interchangeably. From the time of these appointments until the mid-1800s, a steady stream of foresters and rangers managed the Moravian forests. Reuter's tenure as forester continued until his death in 1778. Following Reuter as forester were Adam Koffler (1778–83), Tyco Nissen (1783–89), Martin Lick (1789–94), Matthew Miksch (1794–98), Johannes Leinbach (1798–1804), Martin Schneider (1804–?), Carl Clauder (1820–43), Lewis F. Eberhardt (1845–50), Nathaniel Vogler (1850–54), and George Foltz (1854–?). After 1857, when land that the church had leased was sold to the lessees, each property holder began to manage his own timberland and the office of forester fell into disuse.¹⁰

In 1759 Reuter's first major challenge was to map the settlement, a monumental task that he completed in 1762. The entire hundred thousand acres was mapped at a scale of 1 inch for 880 feet. The completed "great map," in color and in four sections, measured seven by nine feet. The map showed not only geological features but timber types found on the land. Timber was mapped by use category, age class, stand density, and predominant tree species.

But Reuter's duties did not end with map making. The first forester was also charged with gathering information about the forest that he oversaw. He went about his job

Phillip Christian Gottlieb Reuter, Renaissance Man

by William Hinman

Deep in the woods in 1760, near the small Moravian village of Bethabara, North Carolina, Christian Reuter tipped his journal to the firelight and penned the following lines:

It is a starry, bright, and pleasant evening. The many [cow] bells in the surrounding woods, especially by the [Bethabara] mill, and the many voices at the mill, where 18 keep watch all night [due to the Indian alarms] and call All Well every quarter hour, give a broken sound this far away and it is so pleasant here in the woods!¹

From this and many other references in the extensive records of the Moravians, it is clear that Brother Reuter gained immense satisfaction from serving his church by studying and protecting the Moravians' forests.

From 1758, when he arrived in the Wachovia tract (*der Wachau*, in their native German language), until his death in Salem in 1777, Reuter served his community and church in many ways. His principal work was as official surveyor for the church, but he was also a church and community leader, a husband, a poet, and a sensitive nature lover. He accepted diverse responsibilities and tasks in a society disposed toward specialization of skills and trades. Reuter saw his work as his personal expression of religious faith. This common theme of the Moravian experience in North Carolina set the Moravians apart from their English-speaking neighbors on the early frontier.

In a region almost uncharted prior to his arrival, Reuter produced scores of maps—many of which are extant. He divided the Moravians' holdings into smaller tracts to be assigned to those who had financed the land purchase in North Carolina. By 1762 he had completed his *Grosse Riss* (great map, or land register), a seven-by-nine-foot detailed map of Wachovia. Reuter surveyed and laid out the Moravian towns of Bethabara, Bethania, Salem, and others, and he compiled a valuable record of the flora and fauna of the region. His many duties included community leadership, teaching, forestry, gamekeeping, and various church responsibilities.

Philip Christian Gottlieb Reuter was born in Europe in the early eighteenth century. He was reared in poverty, after a dream convinced his once-wealthy father that riches were a threat to one's eternal salvation. Christian Reuter trained as a royal surveyor. From 1736 until 1747 he was engaged in a number of surveying projects, which brought him into contact with the Unity of Brethren—or Moravian Church, as we know it. His

7. Salem Board Minutes, 1828, unpublished translations made for Old Salem, Inc., and located at the Moravian Archives, Moravian Church in America, Southern Province, Winston-Salem, North Carolina (hereafter referred to as Moravian Archives, Winston-Salem).

8. Fries, *Records of the Moravians*, p. 212.

9. Aufseher Collegium minutes, p. 11, 11 May 1772, Moravian Archives, Winston-Salem.

10. Hatch, "The Forester in Early Salem," p. 15, provides dates for Reuter, Koffler, and Lick. Fries' *Records of the Moravians* lists the dates of service for each forester, on pp. 1838 (Nissen), 2274 (Lick), 2780 (Schneider), 3086 (Clauder), 4858 (Eberhardt), 5801 (Vogler), and 5885 (Foltz). The minutes of the Aufseher Collegium for 4 July 1798 list the periods of service for Miksch and Leinbach, Moravian Archives, Winston-Salem.

1. Philip Christian Gottlieb Reuter, entry for 29 March 1760, in his "*Journal Beym Landmessen in Wachau*" ("Journal of Surveying in Wachovia . . .") from 1 January to 12 April 1760, translation by Daniel B. Thorp from the version in the Library of Congress, Manuscript Division, European Photostats, Germany, Herrnhut, *Archiv der Brüder Unität*, R. 14. Ba. Nr. 2c, pp. 462–77.

spiritual life awakened, thirty-year-old Christian Reuter joined the church, which just a few years later sent him to the new land—America—to serve as surveyor and forester:

A pensive man who often wrestled with his inner religious beliefs, Reuter arrived in Pennsylvania in 1756 and began to question his spiritual calling to work in a wilderness missionary settlement far away in the North Carolina backcountry. He later wrote of a dream that renewed his faith and encouraged him to continue on to Carolina, reasoning that “even if I left the Congregation I would still be saved, but then He [Christ] would have no one to send to Wachovia to survey there and the brethren would not be able to get along without it; I should do Him the favor and go there; He would help me through.”²

The story of Reuter’s extraordinary but mostly unheralded participation in the settlement and administration of the Wachovia tract provides a more complete picture of Moravian frontier life. Early in 1759 he wrote from Bethabara that “the practice of surveying here is thus: Mondays into the brush [forest] and Saturdays back home. Three brothers and a horse also participate.”³ Reuter’s analytical mind, artistic hand, and Christian spirit quickly but quietly gave vital support to the church’s desire to build organized centers for the trades and crafts, from which to conduct missionary work among the heathen.

In 1776, a year before his death, Reuter composed his “Last Will and Testament,” stating about his “writing, diaries and notations, I declare that they were written by a man who loves the Savior.”⁴ No wonder, then, that his minister remembered him by saying to his friends, “He will not be forgotten as long as there are brethren living in Wachovia, indeed he will often be missed.”⁵ Twentieth-century Winston-Salem owes its earliest town planning advantages to Reuter’s skills and dedication. His mapping skills, forestry work, and community leadership helped shape the character and durability of the Moravian presence in North Carolina—in fact, in colonial America.

2. “Personal details of the married Brother Christian Gottlieb Reuter, who died peacefully in Salem on Dec. 30, 1777” (Reuter’s *Lebenslauf*, or memoir; the quotation used here is based on translations by Adelaide L. Fries and Mary Creech of the original in the Moravian Archives, Moravian Church in America, Southern Province, Winston-Salem, North Carolina).

3. Letter from Philip Christian Gottlieb Reuter to Sigmund van Gersdorff, 12 March 1759, Library of Congress, Manuscript Division, European Photostats, Germany, Herrnhut, *Archiv der Brüder Unität*, R. 14. Ba. Nr. 2c, pp. 142–44.

4. Philip Christian Gottlieb Reuter, “Last Will and Testament,” 3 January 1776; translation by Mary Creech of the original in the Moravian Archives, Moravian Church in America, Southern Province, Winston-Salem, North Carolina.

5. “Personal details of the married Brother Christian Gottlieb Reuter,” translation by Fries and Creech of the original in the Moravian Archives, Moravian Church in America, Southern Province, Winston-Salem, North Carolina.

with vigor. He compiled a list of thirty-four kinds of trees and shrubs, along with practical information about their usefulness and site preferences. His descriptions were both poetic and precise:

White Oak: the strongest tree (with the exception of some poplars). The best building wood; also very good for burning, and the potter particularly likes it because it makes few coals and burns almost entirely to ashes. It generally grows on poor soil, and where it is thickest there Upland is not so good. It has good acorns. . . .

Willow Oak has small pointed leaves, like a Willow. Has small acorns; is a strong wood and good for building. Grows in the Bottoms. Has the best bark for tanning sole leather. . . .

Walnut grows in the best bottom land and is of two kinds (a) Black Walnut is the best and most valuable wood in this country for joiners work; it is a beautiful brown. The nuts are indeed walnuts with outer hulls which are used in dyeing, but the nuts cannot be opened with a knife as there is no division in the shell. (b) White Walnut is also good cabinet wood, but not equal to the above!¹¹

In addition to listing trees and shrubs, Reuter identified many woody plants and bushes and their uses:

Sumac. It is a rich, red, shrub-like plant with broad, rich leaves which the Indians smoke like tobacco. It grows on fertile Uplands, and in winter dies down like other plants. The wood is a well-known, good, black dye. Ink can also be made from it.

Boneset is so called because the Indians use it as splints in binding a broken arm or leg. The plant looks much like Willow, and has white on stem and leaves. It grows in large patches, but is not often found; most frequently on roots of fallen trees.¹²

He also listed twelve fungi or mushrooms and seven types of stone found in the forest. His seventeen descriptions of animals are delightful:

Painter or Panther, has the color of a Deer and is of about the same size, not counting feet. It has large claws, with which it climbs trees and head like a cat. It is a cruel beast, eating only fresh meat, will not eat carrion, nor what has been dead only a short time. But they are not numerous and as soon as one is seen, it is killed.

Squirrels are often larger than the Hare here; are gray and black. Some have short wings like a Bat, with the help of which they make long jumps from tree to tree.¹³

Reuter also described thirty-six birds, seven fish, nine snakes, twenty-four insects and creeping vermin, and eleven species of flying vermin and insects.

As previously mentioned, appointments to the office of forester were made by the Aufseher Collegium. This board

11. Fries, *Records of the Moravians*, pp. 558–60.

12. *Ibid.*, pp. 563, 565.

13. *Ibid.*, pp. 577, 578.

also defined the duties of the forester. In the first place, they determined that "rules concerning woodland shall be strictly enforced."¹⁴ The forester's duty was "to go through the forest from time to time, perhaps once a month, to see that no one cuts timber without permission."¹⁵ The rules that the forester was expected to enforce were formulated in two ways. Some were proposed by the forester and adopted by the Aufseher Collegium, and the collegium simply dictated others.

Many of the rules and regulations concerned timber cutting. Initially the collegium directed the forester "personally [to] superintend the cutting of wood and let the citizen's get it from him."¹⁶ When he was not able to do this, he did apparently show citizens which trees to cut. By the late 1700s this system had been formalized so that the forester only had to place his "wood mark" on trees that could be cut; he no longer accompanied all wood cutters personally.

Under all these arrangements, the forester selected trees to be cut on an individual basis and specified their use. Crooked and poor-quality trees were designated for tanbark for the tanyard. After the bark had been removed for use in the tanning process, the trees were cut up for use as firewood. With the forester's permission, dead trees could also be used for firewood. Vigorous, straight trees were reserved for lumber and fence rails. Where large old trees were interspersed with younger trees, the large or poor-quality trees were removed and the young trees were left to grow undisturbed until the next cutting cycle.¹⁷

Stumpage fees were charged to citizens who cut wood. The fees were based on tree diameter and species. The lowest-priced wood was fuelwood; the highest-priced, large sawtimber.¹⁸ Initially sawtimber trees were sold by grade, but this practice apparently did not continue after Reuter's tenure. To collect stumpage fees, the forester entered buyers' names and tree tallies into a timber book. He could then collect the stumpage fees himself, or report the fees to the warden for collection. The collegium audited the forester's books at the end of each year.¹⁹

In 1797 there was unusually heavy mortality in pine woodlands of the colony. The mortality occurred in an area of North Carolina that subsequently accumulated a history of heavy damage by the southern pine beetle, which could well have been responsible for these early losses.²⁰ The Moravians made a concerted effort to salvage the dead and dying timber, precisely the same practice that foresters would recommend today.

The Moravians evidently also understood the value of the forest for watershed protection. Prior to 1835 the Aufseher Collegium recommended to the forester the preservation of the body of woodland surrounding the springs which supplied the town of Salem with water. In 1835 the collegium refused a request to cut trees around the springs on the grounds of protecting the water supply.²¹ Another regulation forbade the felling of trees into the creeks.²²

Although there was a considerable effort made to plant trees in towns, there is little evidence that the Moravians planted trees in the forest. There was some discussion of forestry planting in 1792: "There is almost no wood at the Northeast corner of the Salem land and it would be well to plant the seed of yellow pines there, only we are afraid that bush fires will prevent their coming up."²³

Forest and bush fires were a constant problem in the colony. Not only the trees, but the houses and the split-rail fences were susceptible to fire.²⁴ It is not surprising then that the Moravians actively attempted to prevent fires as well as put them out once they started. In 1759, the town authorities "had a conference about forest fires and agreed to make every effort to preserve several pieces of fine young woodland."²⁵ In 1776 "Br. Reuter gave a waggoner a permit to hunt on our land on condition . . . that he would not build a fire in the woods, or at least carefully extinguish it."²⁶

The Moravian foresters continued to be responsible for enforcing hunting regulations, even as timber management began to require more and more of their time. A meeting of the Salem Congregational Council in 1796 offered "A reminder . . . against hunting and shooting on Sunday, which is positively against our rules and also against the law of the land."²⁷

Today the only direct evidence of the Moravian foresters' tremendous contribution is in archived documents. No monuments tell of their hard work, dedication, and innovation. The "great map" created by Reuter is in the care of the Moravian Archives in Old Salem, North Carolina, as are the old timber books and other early records. Perhaps the greatest monument to the industry of these early foresters is indirect—the bustling, thriving community containing many of their descendants that today occupies the site of their colony. Salem survived its perilous infancy in part because of the direction and foresight provided by these early Moravian foresters. ▲

14 Ibid., p. 825.

15 Ibid., p. 4858.

16 Ibid., p. 2537.

17 Ibid., p. 2591.

18 Aufseher Collegium minutes, 12 May 1774, Moravian Archives, Winston-Salem.

19 Ibid., 12 January 1774.

20 Fries, *Records of the Moravians*, p. 2593.

21 Ibid., p. 4183.

22 Ibid., p. 1505.

23 Ibid., p. 2371.

24 Ibid., p. 2388.

25 William Hinman, "Philip Gottlieb Reuter, First Surveyor of Wachovia," Master's thesis, Wake Forest University, 1985, p. 43.

26 Fries, *Records of the Moravians*, p. 1083.

27 Ibid., p. 2506.