

NANTUCKET ALGONQUIAN STUDIES #6

ESSAY ON NANTUCKET TIMBER

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1981

ABSTRACT.

From the references to trees in Nantucket County records, sites of historic woods can be identified, as well as certain kinds of trees which were on the island when Europeans first arrived: beech, white oak, walnut (hickory), pine, cedar, whitewood, cherry, and willow. Archaeological data show Woodland Indian use of hickory, oak, beach plum, and cherry. On the basis of trees growing today at the sites of historic woods, a partial list of native trees probably includes: beech, tupelo (black gum), red maple, hickory (mockernut, pignut), dogwood, holly, sassafras, white oak, black oak, scarlet oak, post oak, and red cedar. The modern distribution of these trees identifies additional woodlands, probably historic. These native trees are similar to the native trees identified on Martha's Vineyard by Ogden (1961). Non-native species on both islands are: American chestnut, ash, spruce, hemlock, fir, and larch. On Martha's Vineyard only, there is positive evidence for elm and red oak. On Nantucket only, there is some evidence for white pine and whitewood (either tulip or basswood). On Nantucket pitch pine was introduced in the nineteenth century.

The swamps which surround the historic woods on Nantucket may have provided fire protection, and the water in these poorly drained wetlands may provide a key factor for the growth of trees on Nantucket. In any case, I have found no evidence for trees on the sandy outwash plains in historic times.



Plate I. The Plains in 1977, looking north across Sheep Pond. Except for the houses on the horizon, the Plains in 1659 may have looked essentially the same as today.

ESSAY ON NANTUCKET TIMBER.

When the English first bought land from the Indians at Nantucket in 1659, the primary value of the island lay in its large expanse of open grassland. The grass on what the colonial farmers called "plains" and "meadows" was purchased for pasture and hay to support the English horses, cattle, and sheep. For details of the importance of grass on the island, see Little (1976).

There were so many acres of grass, and so few tall native trees on the island, 200 years ago, 100 years ago, and even 50 years ago, that traditions claiming that certain old houses had been built of native timber meet with skepticism (Guba 1965; J. Clinton Andrews, personal communication). Nantucket Indian canoes, presumably constructed from large, straight trees, are not seriously believed to have originated on Nantucket.

However, there are persistent hypotheses that Nantucket was once forested (Zube and Carlozzi 1967; Chamberlain 1964), perhaps even until cleared for cultivation by the English (Macy 1835).

Fortunately, since wood has been a scarce commodity on Nantucket since 1667, it has been possible to read the Nantucket County records, starting in 1659, when wood was not an issue, and continuing through 1720, by which time wood was very scarce indeed, and learn a good deal about trees on Nantucket in the contact period. The following abstracts from documentary sources form part of an ecological data base for Nantucket.

ABSTRACTS FROM NANTUCKET COUNTY RECORDS: TIMBER AND WOOD.

1659: Thomas Mayhew bought "the Plains" between Hummock and Long Ponds (Plate I; Figure 1; Fig. 2) and the "use of the meadow and to take wood for the use of him..." (NCD 4:93). This deed includes a map of the west end (Figure 1) showing a lot of little dots identified as "the long trees" between the two branches of Hummock Pond.

1660: The proprietors bought the west end of the island, as well as meadow, pasture, and "free liberty for timber and wood" on any part of the island (NCD 1:3).

1662: Tradesmen were to have "half a share of land and meadow, wood and timber" (NPR:9).

1663: "No man shall fall and make use of any Timber on Cortue (without liberty of the town) except it be for building houses...and...to make folds for sheep or goats" (NPR:3).

1664: A "woodland" at the west end of "the plains at Wesquo" (NPR:5).

1664: "If any land on any part of the island be set fire to by any Indian so that the land or grass be Burnt to any considered value as to a quarter of a mile or more the Indians in whose jurisdiction so ever it be shall be fined 20 pound, except it be in the month of April" (NPR:5).

1666: "All the considerable woodland on Nanahuma's Neck, the grate swamp only excepted" was to be laid out in 25 shares. Until then no one was to fell and "timber" within the tract (NPR:17) (the Long Woods).

1667: "There shall be no more green wood fallen in the Long Woods untill all the old that is to say allready cut down be spent that is fit for firewood. Also it is concluded that no more Timber shall be fellen for rales and posts Except only for boards of the like.... And order was made that hence fourth no Timber shall be fellen for building on any part of the Island at any time of the year Except it be in May and the first week in June..." (NPR:18).

Let us take stock of trees and woods in the first 8 years of English settlement. There was timber on Coatue suitable for houses and sheep folds. Another "considerable" woodland existed at Ram Pasture or Nanahuma's Neck, called the Long Trees or Long Woods, from which not only firewood, but rails, posts, boards, and some timber could be obtained. There was a woodland just west of Wesquo (today's town of Nantucket). All of these woodlands are shown in Figure 2. Out of these woods, but not limited to them, a maximum of 34 English settlers, with their families, were building houses and farm

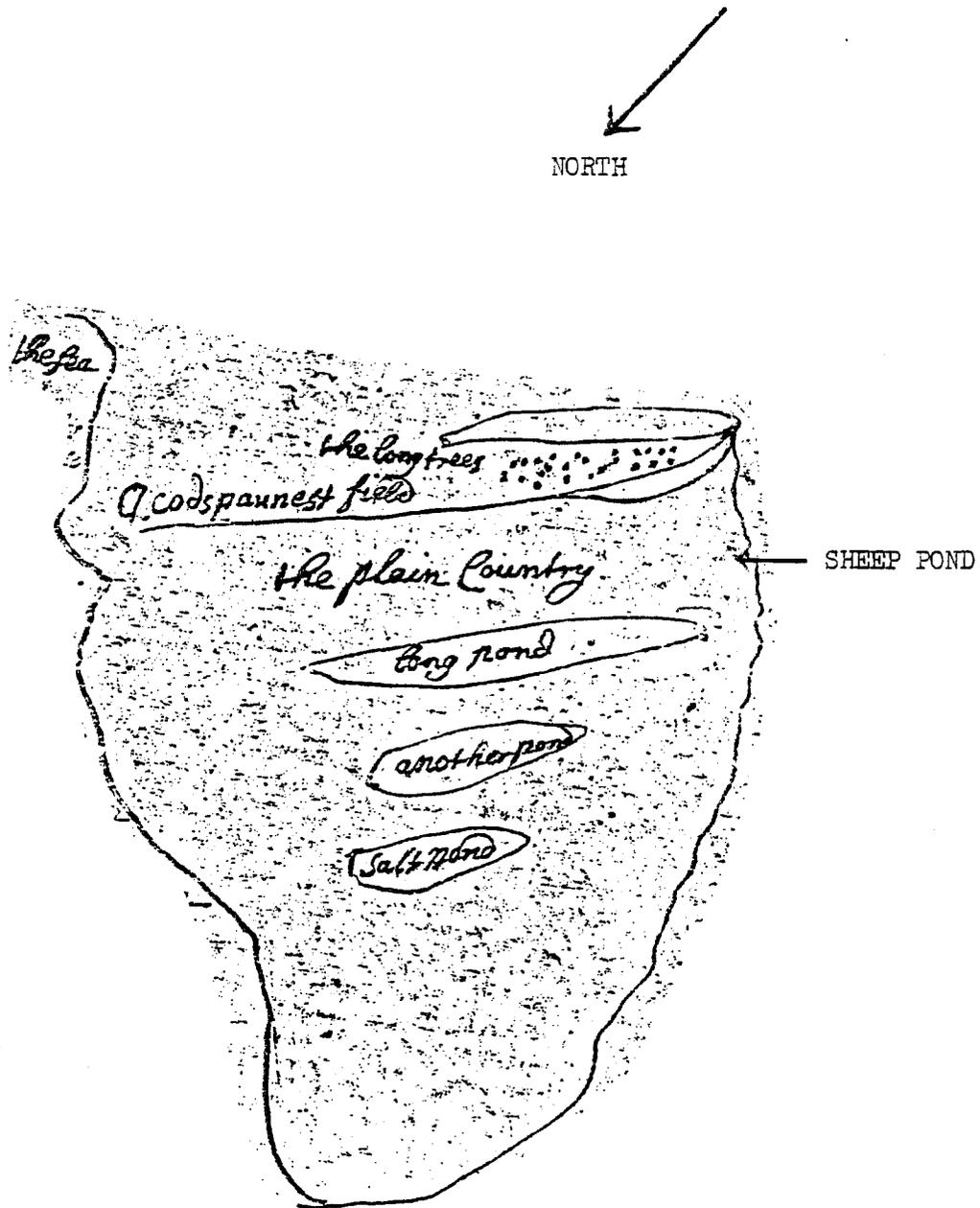


Figure 1. Map of the west end of Nantucket in 1659 (NCD 4:93). Compare Hummock Pond, Sheep Pond, Long Pond and Hither Creek in Figure 2. This map appears to include Tuckernuck Island in Nantucket, and may represent schematically an ancient contour of the island before modern erosion by the sea. Note especially the dots labelled "the long trees" (today "The Woods"), and "the plain Country" (today "The Plains").

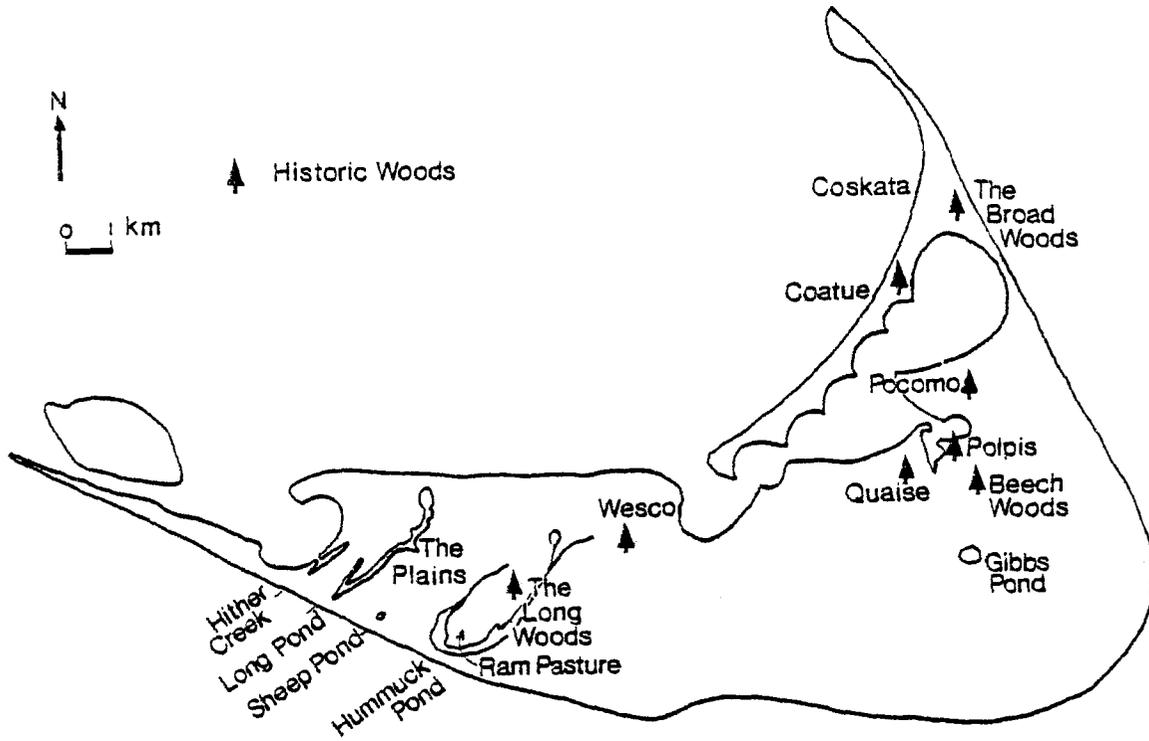


Figure 2. Sites of historic woods from town records.

structures, on houselots, with a share in "wood and Timber for necessary occasions out of the Commons" (NPR:10). Special notice should be given to the order regulating the Indian land burning. A common prehistoric agricultural practice, such annual fires helped to keep the plains in grass, and probably did not seriously affect mature timber.

From 1667 on, the English rules for harvesting timber were increasingly restrictive and reflect overuse of a limited natural resource. Details from the county records give a feeling of just how limited the native wood supply was.

1668: Coffin and Swain were allowed to fence their land on Nanahuma's Neck, but the wood and timber were to remain common (NPR:19).

1669: Indians were to be fined for "Running off wood from any part of the land purchased by the English" (NPR:28).

1672: "No man shall cut any Round stakes or brush or poles or crotches upon the common land except in swamps..." (NPR:28).

1672: A grant to James Loper, whaleman, included "ten acres of land in some convenient place that he may chuse in (WoodLand except)..." (NPR:29).

1672: A grant to John Savage, cooper, included "Liberty of wood for fireing and fencing stuf and any stuf for his trade..." (NPR:29).

1673: "No man shall cut any gras or tree grate or small on Courtue" or "Pakamaquck" [Pocomo]..."unless they have leave from the town..." (NPR:32).

1675: "There shall be no green tree fellen for to make posts or rales on any part of the island...." "No man shall bark or girdle any green tree standing or fellen any green tree only for the bark..." (NPR:34).

1676: The town hired two men to burn all the common meadows [wetlands] (NPR:35). The town appointed two men to set posts on the plains "in convenent places for the cattle to rub against..." (NPR:36)[!].

1677: Permission was granted for the cutting of 18 trees at Coatue (NPR:37).

1680: Several Coffins complained against Stephen Hussey for "cutting downe

and caring away thare timber from thare neck of land called Maskotuck" [Quaise] (NC Grantee Index 4:9).

1685: "Wood and Timber on Cortue...and Pockamoqueo" were to be layed out (NPR:41).

1686: No wood was to be cut in the upland which was common in the Long Woods (NPR:42).

1687: "All woods at Cortue undevided shall remain until further orders (NPR:43). Two loads of wood were ordered cut on Swain's land in Polpis to establish a land claim (NPR:43).

1688: "No pines should be cut down and caried away from Coatue" (NCD1:58).

No date (about 1694): "The Pines and undevided wood on Coatue" were ordered divided. Until then, no men "shall cut or cary away of the said wood". However, "any freeholder may cut timber for whale boats or the like..." (NPR:48).

No date (about 1694): Daniel Spotso, Peter B. Massaquat, Able and Cain, all Nantucket Indian sachems, protested that the English were carrying away all their wood "that grew upon and under ground" (NPR:94).

1698: Mary Starbuck credited the account of Jorge Wannanahumma for "cutting wood at Coatue" (Starbuck 1683-1766:108).

1701: Every whole share man had liberty to put 20 sheep into the Neck called the Long Woods (NTM 1:9). Beache Woods [Hidden Forest] was noted (NTM 1:9).

1709: Order was made "to stop & prohibit ye cutting of any more wood of any sort of from Coetue"(NTM 1:25).

1711: By the "necessity of preserving ye Seaders & Pines & other groaths yt are there", for the protection of sheep in storms, the town prohibited cutting and carrying off from Coatue any wood "by land or water" (NTM 1:27).

1741-1747: According to the English, their Squam tract was "so over run

with Briars and other Rubbish", that they enclosed it for pasture of sheep, cattle, and horses. Although they allowed the Indians who had been living there "to cut wood on Our Lands", the Squam Indians appear to have gone to the Gibbs Pond region, inhabited by Sakedan Indians, for wood. The Sakedan Indians then wrote letters to Boston complaining that "...these other Town Indians come in upon us daken away our wood away from our land..." (Mass. Archives, transcribed in Starbuck 1924:146). In short, both Indians and English had used up their wood supply.

By 1743, according to John Woolman, a visiting Quaker, Nantucket was quite barren, and timber, fences and firewood were being imported from the mainland (Crosby 1946).

In 1782 Crèvecoeur (1971) reported the tradition that there never were any trees on Nantucket, and thereafter there are many jibes and jokes about Nantucket's lack of trees. A writer in the Nantucket Inquirer (Sept. 10, 1836) suggested to his readers that their anxiety about wood might be inflating its price. He said,

On the arrival of a woodman, there is such a hurry and flurry and inquiry, that one might well suppose...we were actually distracted with the fearful apprehension of being frozen to death in midsummer! ...Fellow citizens, don't be frightened. There is fuel enough. I have heard of the scarcity of Wood ever since I lived at Nantucket, but I never go to the continent without increasing surprise at the vast quantities of living forest all along shore. Keep quiet. I repeat it, there is wood enough,-and they'll be glad to bring it to you for \$6 and \$7 per cord, if you'll only remain still a while.

Melville, in Moby Dick, suggested that "people [at Nantucket] plant toadstools before their houses, to get under the shade in summer time", and that "pieces of wood in Nantucket are carried about like bits of the true cross.." (Melville 1926: 62).

Perhaps in response to this sort of thing, civic minded citizens, as well as the state, have been planting trees on Nantucket, with mixed results, for at least 140 years. Nantucket Argument Settlers reports the major tree plantings, by species, dates, and locations.



Plate II. American beech in the Hidden Forest (Beechwoods), from a postcard made about 50 years ago.



Plate III. Scarlet oak at The Broad Woods, Coskata, 1977. Note the wide spreading branches and the multiple trunks.

NATIVE TREES.

The historic records, so far, have named beech, pine, and cedar. In addition, trees named as boundary markers on the west end of the island in the seventeenth century were white oak (NPR :9) and walnut (NPR :4). "Walnut" was a common New England term for hickory (Ogden 1961).

An Indian, Obed Japhet, in 1758 (NCD 6:112) sold "one spot of Land the said Jafets Garden of willo trees, chere trees Dich & Ston wall & all turf & twig", which must have been an orchard near the Hidden Forest. Indians in New York were known to have planted fruit trees (Singleton 1972), and for completeness I note two other Indian gardens, one near Gibbs Pond, and one in Squam (Ewer 1869). Silviculture on Nantucket began considerably before 1830. Japhet's trees were possibly Prunus serotina Ehrh. (black cherry), and Salix discolor Muhl. (pussy willow) (Rice 1946).

Pine, as mentioned in the records at Coatue, "At the Pine Woods" (Worth 1910), presents some problems. White pine, planted by the state, does not do at all well anywhere on Nantucket, and does not grow at Coatue today (J.C. Andrews, personal communication). Pitch pine, introduced from Cape Cod in 1847 by Josiah Sturgis (Nantucket Argument Settlers), is not found at Coatue today. However, Freeman (1807) reported that white pine was a native Nantucket tree.

Cedar is another tree of questionable species. Obtainable at Coatue in the seventeenth century, it was identified by Freeman (1807) as red cedar, and red cedar grows there today (Plate IV). Cedar was used to build whale-boats in the eighteenth century (Freeman 1807). White cedar has not been seen on Nantucket in recent times, although old stumps found in swamps have been identified as white cedar (Jones 1967). A record of Nantucketers gathering red cedar or "savin" from a presently drowned island off Chatham (Freeman 1802:147), supports the red cedar hypothesis.

At Squam, in a deed of 1690 (NCD 2:56), a boundary tree was "a white wood tree" in the swamp. Whitewood, either tulip or basswood, would have been excellent for building canoes, but neither is known to exist today on Nantucket (Noblick 1977).

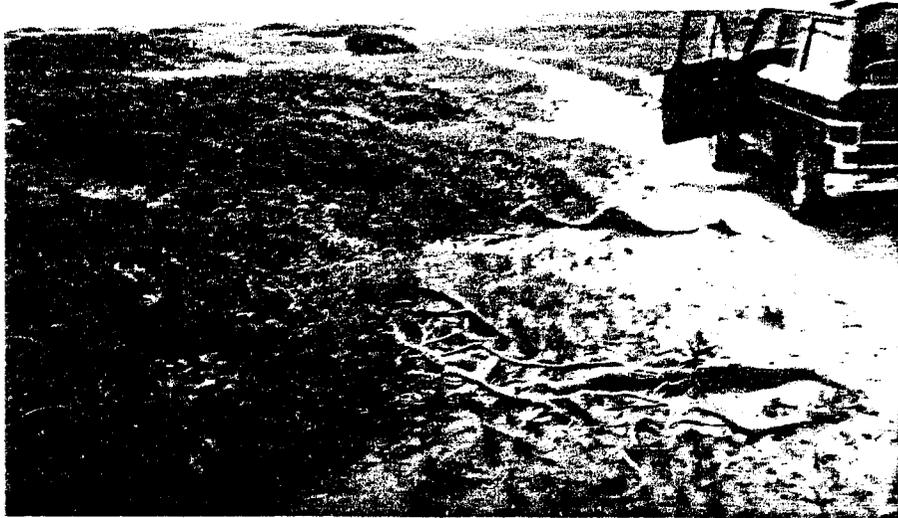


Plate IV. Red cedar at Coatue 1978. The trees, growing horizontally to the left, foreground, show the effects of the salt-laden winds.



Plate V. Post oak at Coatue 1980. Actually a mature tree, this example could be mistaken for a bush, streamlined against the salt-laden winds.

TABLE 1. NATIVE TREES FROM HISTORICAL RECORDS.

Beech: in Beechwoods (The Hidden Forest)
 Pine: at Coatue
 Cedar: at Coatue
 White Oak: at the West End
 Walnut: at the West End
 Whitewood: at Squam
 Cherry: at or near Beechwoods
 Willow: at or near Beechwoods

The trees mentioned in documentary records are summarized in Table 1. This information is helpful but not conclusive or inclusive. For botanical approaches to the question of native trees on Nantucket, a question of great interest and difficulty, see Rice (1946), MacKeever (1968), Bicknell (1908-1919), and Harshberger (1914).

Trees Found in Historic Woods, Today.

If we assume that most trees found in town, along roads, or in tree plantations have been imported, then we must look in obscure places for any remnants of Nantucket's historic trees. The historic woods which we have just identified are, in fact, in pretty obscure places. Some of them are in swamps with difficult access. By personal visits and study of the Maria Mitchell Herbarium report (Noblick 1977), we find that only certain trees today grow in the historic woods, and the presence of these trees at a few additional sites suggests woods which we had not discovered from the historic records. I propose that these trees, Table 2, are native remnants of Nantucket's historic woods.

Beechwoods, mentioned in 1701 (NTM 1:9) and again in 1748 (NCD 5:154), is today's Hidden Forest, and consists of large, if not tall, beech, red maple, tupelo, sassafras, flowering dogwood, and holly (Plate II). The Broad Woods today consists of some large black oaks, scarlet oaks, white oaks, and some beech and sassafras (Plate III). Multiple trunks indicate sprout growth from cut-over woods. The wide-spreading branches and the canopied shape of the grove show the effects of the salt-laden

TABLE 2. PROBABLE NATIVE TREES:

MOST COMMON TREES TODAY IN THE AREAS WHICH WERE NANTUCKET'S
EARLY HISTORIC WOODS (Rice 1946; Noblick 1977; Little 1977).

| NAME: | LOCATION: | ADDITIONAL LOCATIONS: |
|--|-----------|---|
| <u>Acer rubrum</u> L. (red maple) | 1,2,4 | Squam |
| <u>Carya tomentosa</u> Nutt. (mockernut hickory) | 3,5 | Squam |
| " <u>glabra</u> Mill. (pignut hickory) | | " |
| <u>Cornus florida</u> L. (flowering dogwood) | 2 | [Squam, tuck- ernuck |
| <u>Fagus grandifolia</u> Ehrh. (American beech) | 2,5 | Squam |
| <u>Ilex opaca</u> Ait. (holly) | 2 | |
| <u>Juniperus virginiana</u> L. (red cedar) | 4,5 | Squam |
| <u>Nyssa sylvatica</u> Marsh. (sour gum, black gum, tupelo) | 2 | [Squam, Tuck- ernuck |
| <u>Quercus alba</u> L. (white oak) | 2,5,6 | [Squam, Tuck- ernuck |
| <u>Quercus bicolor</u> Willd. (swamp white oak) | 6 | Tuckernuck |
| <u>Quercus coccinea</u> Muenchh. (scarlet oak) | 4,5 | Tuckernuck |
| <u>Quercus stellata</u> Wang. (post oak) | 5 | |
| <u>Quercus velutina</u> Lam. (black oak) | 4,5,7 | [North Shore, Tom Never's Swamp |
| <u>Sassafras albidum</u> (Nutt.) Nees var. <u>molle</u> (sassafras) | 2,5,7 | [Tuckernuck Towpashas Bog Tuckernuck, Squam |

LOCATION CODE of HISTORIC WOODS (Figure 2):

1. Ram Pasture (The Long Woods)
2. The Hidden Forest (Beechwoods)
3. Pocomo
4. Quaise
5. Coskata/Coatue (The Broad Woods)
6. Millbrook Swamp, west of Wesko.
7. Polpis (Swain's Neck)

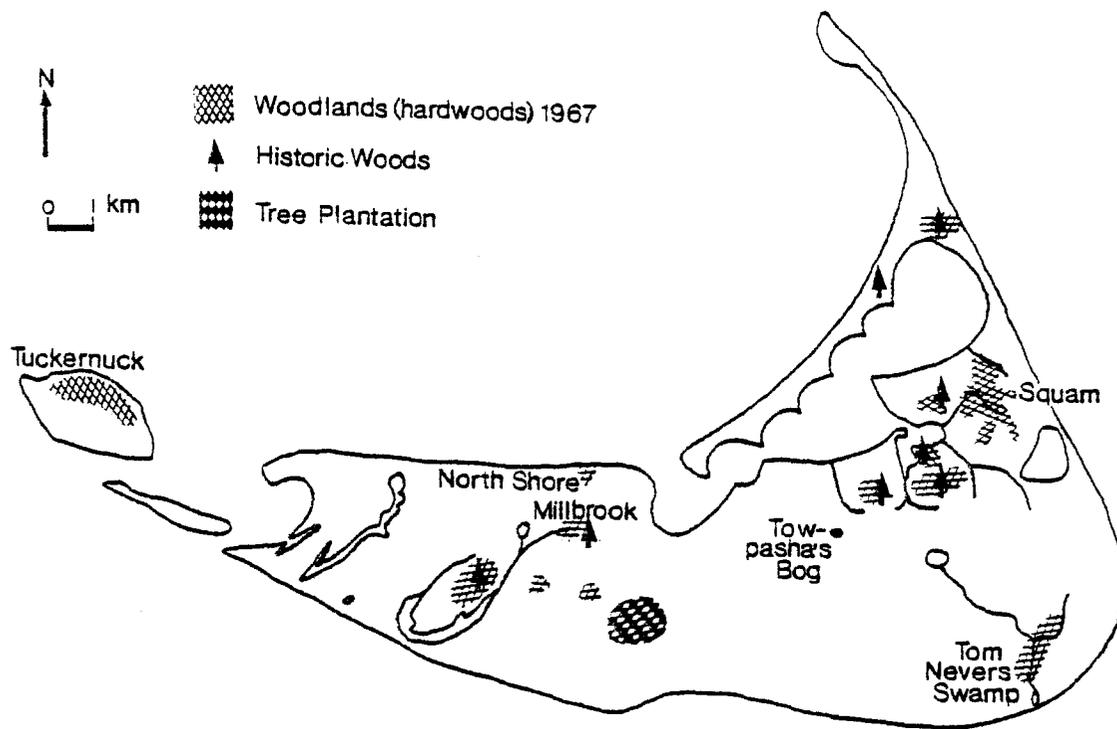


Figure 3. Woodlands (beech, oak, hickory, red maple) of the mid-twentieth century (Zube and Carlozzi 1967; Noblick 1977; Jerry Jenkins, personal communication), and historic woods (Figure 2).

winds with which these trees must contend. At Coataue, red cedar and post oak are well established, although deformed by the salt and wind (Plates IV and V).

Guided through the herbarium lists by these trees, especially the oaks, beech, tupelo, maple, and sassafras, we find that our historic woods today share many of these species (Table 2), which are found only in a limited number of places on the island (Figure 3; Zube and Carlozzi 1967). Red cedar is too wide-spread to be diagnostic.

We have, moreover, picked up additional sites (Figure 3) of possible native trees. Many of the species of Table 2 can also be found at Squam and Tuckernuck, at Tom Never's Swamp, the North Shore, and Towpasha's Bog. This is very encouraging, because woods traditionally existed at Tuckernuck (Macy 1835: 9), and the North Shore (Rice 1946). Tom Never's Swamp and Squam belonged to Indian owners until the mid-eighteenth century, thereby escaping documentation by the English. Towpasha's Bog is unique in many ways, not the least of which is its sassafras grove.

During this initial search for native trees, we note some which were probably native but appear in thickets rather than in woods: hazelnut (Corylus americana Walt., and C. cornata Marsh.), black cherry (Prunus serotina Ehrh.), beach plum (Prunus maritima Wang), and pussy willow (Salix discolor Muhl.).

And, although there are different opinions in the literature, we note the apparent lack on Nantucket of red oak (Jerry Jenkins, personal communication), American chestnut, ash, elm, hop hornbeam, spruce, fir, larch, hemlock, and pine of any kind, with the exception of probable importations.

Archaeological Evidence of Trees.

Although wood does not last very long in New England's damp and usually acid soil, fragments of charred wood and plant remains are sometimes found preserved in Indian shell middens and refuse pits. Fortunately, we have two reports of botanical materials from archaeological excavations on the island. In 1941, charcoal from pits at a Woodland Indian site at Squam was identified by Dr. Elso S. Barghoorn, Jr., as oak and hickory (Bullen & Brooks 1949). In 1964, at Ram Pasture, Frank C. MacKeever was able to identify beach plum, wild cherry, and hickory nuts in a Woodland Indian site (Stockley 1964) at the Long Woods.

Martha's Vineyard Forests.

Martha's Vineyard, with a similar history of heavy use of timber and wood by Indians and colonial farmers, as well as a history of fire, is a larger island than Nantucket and closer to the mainland than Nantucket. One might expect, therefore, a similar forest history, as well as differences due to the locations of the two islands. Our data comes from Ogden (1961).

The best woodlands today in Martha's Vineyard are located in the protected valleys and slopes of the northwestern moraine. The most prominent trees are white oak, beech, and sassafras. Other common trees are: black gum, black oak, red oak, hop hornbeam, pignut hickory, red maple, holly, pitch pine, red cedar, black cherry, dogwood, etc. Except for the red oak and hop hornbeam, this list compares well with that of Nantucket today.

Ogden quotes Brereton in 1602 describing the pre-colonial forests of Martha's Vineyard: "The chiefest trees of this island are Beeches and Cedars...high timbered oaks...Elme, Hollie, Walnut,...Hazelnut, Cherry, ...Sassafras,...Cypres,...Cotton trees" (Ogden 1961:424,425). The cotton trees may have been poplar (Ogden 1961), and, although Ogden (1961) suggests that the cedars and cypresses were Atlantic white cedar and Juniperus sp., respectively, I propose that we read Brereton literally and understand cedars to have been red cedars, and cypresses to have been Atlantic white cedar (also known as cypress). Only elm and white cedar have not been confirmed on Nantucket.

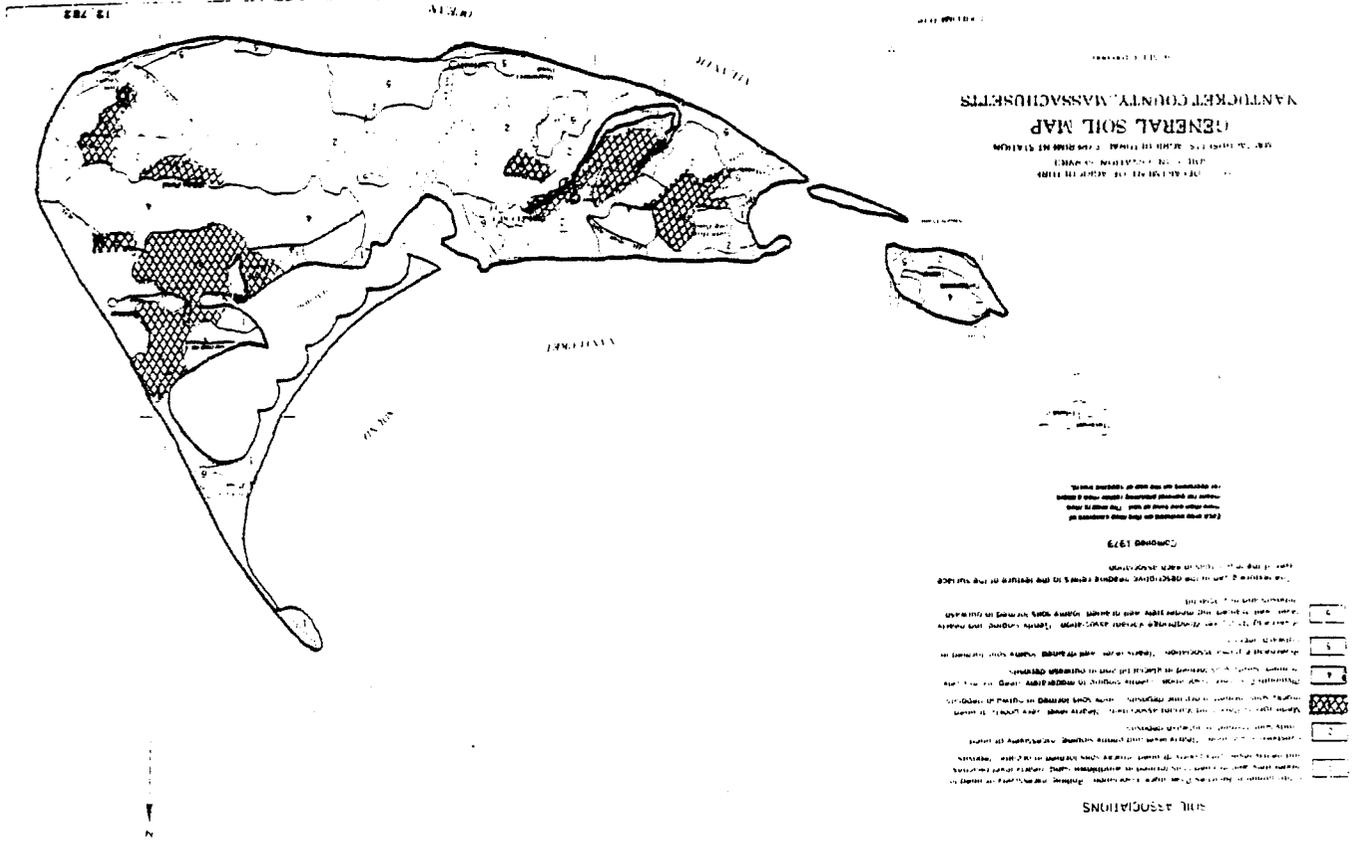
Ogden identifies pignut hickory (C. glabra) on Martha's Vineyard. On Nantucket we have today mockernut and pignut hickory (Noblick 1977), as well as some probably imported shagbark hickory.

From pollen studies and historical records, Ogden believes that the pre-colonial forests on Martha's Vineyard may not have contained hemlock, American chestnut, ash, basswood, and tulip.

I would say that compares well with Nantucket, except for the "whitewood tree" in the swamp at Squam in 1690.

In addition, Ogden says that although white pine has been identified prehistorically from fossil pine cones, he has not found evidence of white pine during the Contact Period. On Nantucket we have possible evidence of its brief historical appearance at Coatue.

Figure 4. General Soil Map (U.S. Department of Agriculture 1979). Soil association #3 (Medisprists-Berryland Variant association) (nearly level, very poorly drained, mucky soils formed in organic deposits; sandy soils formed in outwash deposits).



SPECULATIONS.

Oddly enough, having found some woods of early Nantucket, one comes full circle to ask how do we then account for the "Plains" of 1659? While the sandy soil and salt-laden winds inhibit the growth of trees, the Nantucket Indian practice of burning may have played a major role in the formation of the plains. Such an open, park-like appearance was noted again and again in both coastal and inland New England by explorers in the early seventeenth century. William Wood said in 1635,

...it being the custome of the Indians to burne the wood in November, when the grasse is withered, and leaves dried, it consumes all the underwood, and rubbish, which otherwise would over grow the Country, making it unpassable, and spoile their much affected hunting; so that by this means in those places where the Indians inhabit, there is scarce a bush or bramble, or any combersome underwood to bee seene in the more champion ground. (Wood 1865:16).

Evidence that indeed it might have been fire that was determining the landscape in the Contact Period lies in the locations of the historical woods. The Long Woods lies on upland surrounded by a pond and swamp. The Broad Woods at Coskata is situated on upland surrounded by the sea and sand spits in all directions. Swain's Neck, Pocomo, and small bits of upland in Squam Swamp and Millbrook Swamp, as well as the Hidden Forest (Beechwoods) and Tuckernuck, are all essentially surrounded by water or swamp, and thereby protected from island-wide fires.

On the other hand, all of these "good woodlands" (Ogden 1961:42), on Nantucket occur in or near very poorly drained mucky soils of the Medisapristis-Berryland Variant association (Figure 4), and not on the sandy, excessively well-drained outwash plains (Figure 4). If the lack of water is a limiting factor for tree growth on the outwash plains (Wesley Tiffney, personal communication), then, when the sea level was lower, the water table in the outwash plains would also have been lower (Robert Oldale, personal communication), and the existence of trees on the outwash plain, prehistorically, is still debatable.

The trees at Nantucket and Martha's Vineyard are more like the trees of the coastal plain to the south than the trees to the northwest (Harshberger 1970). This situation probably reflects the present maritime climate, which is considerably warmer in winter than that of the adjacent mainland (Ogden 1961). Post oak, American holly, and Atlantic white cedar are trees of the southern coastal plain, and the Nantucket examples together with certain shrubs, which have not been studied in this paper, may be relicts of an old coastal plain community from the south (Jorgensen 1978:242,244,311).

At first glance, the lack of American chestnuts on the islands could be explained by the observation that the islands had been cut off from the mainland by the rising sea before 2000 B.P. when chestnuts arrived in New England from the southwest (Davis 1969). However, I have not been able to find evidence of chestnuts yet on the nearby mainland, and their distribution is probably determined by the presence of a winter temperature low enough to germinate their seeds (Richard Eaton, personal communication; germination of six American chestnut seeds only after 6 weeks of refrigeration, E.A. Little 1973).

The presence of hickory on Nantucket suggests that the island may have been close or still attached to the mainland at 5000-4000 B.P., when hickory arrived in New England (Davis 1969; Jorgensen 1978:61), unless humans dispersed hickory.

SUMMARY.

The sites of historic woods have been identified from documentary records (Figure 2), and from the distribution of native trees today (Figure 3). These woodlands consist today primarily of oak, beech, hickory and sassafras. Historically, white pine and a "whitewood tree" may have existed on the island.

The English settlers of Nantucket probably did build some of their original buildings out of the limited woodlands with full-grown native timber, which existed here in 1659. However, by 1686, when the Oldest House was built of timber imported from Coffins' sawmill in New Hampshire (Douglas-Lithgow 1914), the house timber must have been exhausted, and by 1743 even firewood had to be imported. For a discussion of Nantucket canoes, see Appendix 1.

For 400 years the soil of Nantucket has been depleted and the growth of trees inhibited by the use of trees for firewood, natural fires, as well as the deliberate burning of large areas for hunting and agriculture, by up to 15,000 sheep pastured on the island in the eighteenth and nineteenth centuries, and by the salt-laden winds, which, unimpeded by vegetation, can be tasted all over the island in a good storm. It is only within the past 25 years or so, with the establishment of cultivated tree plantings, the elimination of sheep, and the control of fires, that the vegetation on Nantucket has started to gain attention by its vigor. Although much of the growth consists of scrub and brush of considerable stature, the forest may be immanent.

ACKNOWLEDGEMENTS.

Conversations with J. Clinton Andrews and Jerry Jenkins have contributed greatly to my knowledge of the current habitat of trees on Nantucket. I am especially grateful to Dr. Emil F. Guba and Larry R. Noblick, not only for advice, but for the contagious enthusiasm with which they share their knowledge of botany. For some very helpful references, I thank Dena F. Dincauze.

APPENDIX 1. NANTUCKET INDIAN CANOES.

Most early observers agree that dugouts were found south of the Merrimack and were used almost exclusively south of Cape Cod. According to Williams (1973) and Wood (1865), pine, chestnut, and occasionally oak, were the trees out of which dugouts were made in Rhode Island and Massachusetts. South of the white pine area, in New York, the tulip tree is reported to have been used for canoes (Murphy 1964). On Nantucket, if we exclude American chestnut, which Bicknell (1908-1919) and others believe was not native to Nantucket, or Martha's Vineyard (Ogden 1961), and if we pass over oak, which is extremely hard to work, we find ourselves scrutinizing the mention of a "whitewood" (tulip?) tree, and the (white?) "Pines" at Coatue, for timber on Nantucket suitable for building canoes.

In case there is any doubt that Indians on Nantucket used canoes, Table 3 has been compiled from town records. The data show that the English on Nantucket also used canoes, a fact hitherto unreported. The references to canoes disappear about 1692, which correlates with a 1694 Indian protest that all their wood was being taken by the English (NCD 1:110). Another significant date is 1690, when whaleboats built from native timber of Coatue were introduced by the English (Macy 1835; NPR:48). Although canoes were probably used as long as they lasted for fishing, whaleboats were soon manned almost entirely by Indians (Crèvecoeur 1971; Macy 1835). Between 1693 and 1755, Indians were disputing in court not about canoes, but about "fish boats", "whaleboats", a "fish boat and four oars", and a "5 oared boat, rode sail and steering oar" (see Table 3).

We cannot draw many firm conclusions from these data, beyond the fact that there were (probably dugout) canoes at Nantucket before 1690. They may have been made from Nantucket timber, but could also have been made from timber obtained elsewhere. Nantucket Indians had close connections by sea with Indians of Cape Cod, Martha's Vineyard, Rhode Island, and Long Island where some of these disputed boats (Table 3) had been taken (NCCR 1721-1785: 63, 116, 139, 148).

TABLE 3. NANTUCKET INDIAN WATERCRAFT.

CANOES:

- 1669: Returning with Eleazer Folger from a trip to the Vineyard, Isaac Coleman, John and Bethiah (Folger) Barnard, and an Indian, were drowned when their canoe upset (Births and Deaths, Town Clerk's Office, Nantucket).
- 1679: Stephen Hussey complained against Jutte for "cutting, maring and destroying a certain cannue of the sd Hussyes...to the vallew of fower pounds" (NC Grantee Index 4:8).
- 1680: Tehas complained against Nathaniel Starbuck for 3 pounds due on a "canue sold to sd Starbuck" (NC Grantee Index 4:9).
- 1681: Captain Gardner, in payment for a "Pot waying 46 lb at 1:6:10", was awarded Coshomadamo's canoe, "prized at fifty five shillings", by the court. "Ascadan having in the cannue on pound Too shillings and six pence assigned by Ascadan to Captain Gardner" (NC Grantee Index 4:21).
- 1681: "Wosoah complaineth against Mattakeken for taking and caring away his cannue at the fishing season" (NCD 2:32).
"James Squidanipe complaynes against Wattanuckwith for using and spoyling his cannue. He ownes he used and split some part of the cannue" (NCD 2:32).
- 1682: "Cockransha complaynes against Cowages for keeping away his canno.... Cowages sth he bought the cannue of Cockransha..." (NCD 2:32).
- 1683: 50 shillings "reseaved in a cannue as part of Neads fine..." (NCD 2:38).
- 1686: Mary Starbuck gave Asconnon credit for "a cannoo" (Starbuck 1683-1766:36).
- 1690: Aspatsheme in open court delivered "his cannoe" to William Worth as security for a 20 shilling fine for stealing sheep. Worth engaged

to pay the fine, and Aspatsheme agreed to repay Worth "in fish"
(NCD 2:43).

1692: Mary Starbuck gave Joshua Peakeyes credit for "mending your
canoe" (Starbuck 1683-1766:146).

BOATS:

1693: Nathaniel Gardner complained against Small Boy and Arone and John
Tockcomesnit and Canie and Reafeson for "taken and cariing away
his fish bote and losing her". The boat was worth five pounds
(NC Grantee Index 4:38).

1728: John Swain complained that Thomas Egin, Jr., Indian, late of Gayhead
now of Sherborn, in the summer of 1728 borrowed a "fish boat and
4 oars and agreed to lodge sd boat & oars safely at a place called
Squam from whence he took her, but by the careless neglect and
default of the Deft the sd boat was blown away by a high wind and
broken & never returned" (NCCR 1721-1785:71).

1730: "whale boat" (NCCR 1721-1785:63).

1734: "whale boat" (NCCR 1721-1785:102).

1736: "boat" (NCCR 1721-1785:116, 148).

1737: "boat" (NCCR 1721-1785:119).

1739: "boat" (NCCR 1721-1785:139).

1749: "boat and oars" (NCCR 1721-1785:174).

1755: "5 oared boat, rode sail, and steering oar" (NCCR 1721-1785:190).

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