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LOCATIONAL ANALYSIS OF HISTORIC ALGONQUIN SITES  
IN COASTAL NEW YORK:  
A PRELIMINARY STUDY

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European contact transformed Coastal New York (Fig. 1) into an economic frontier (cf. Turner 1920:4). From a sparsely occupied area in the early sixteenth century, when local Algonquians first learned of Europeans and their attractive wares, the seventeenth century landscape became with increasing economic activity a scene of European trading posts and colonies amidst new kinds of native settlements.

The shift by local Algonquians to a more complex settlement pattern (and social organization) about the time of European contact may be reconstructed from archaeological and documentary evidence (Ceci 1977, 1978a). For the long prehistoric period only very small settlement camps and isolated secondary burials can be clearly identified (Fig. 2, Table 1). In contrast, larger sites occupied for several seasons or year-round have consistently yielded European goods to mark the post-contact period. These historic types of habitation sites as well as the Indian "forts" (Note 1) also contained, often in impressive quantities, strong evidence for production of wampum, the tiny shell bead Peter Stuyvesant called "the source and mother of the beaver trade" (DRNY 14:470); a second critical function developed with the use of wampum as legal tender by the coinage-poor colonists.

Thus expansion of the fur trade in the Northeast during the late sixteenth and early seventeenth centuries and the profitableness of wampum for Europeans may be associated with native cultural strategies regarding bead production, in particular, decisions affecting the

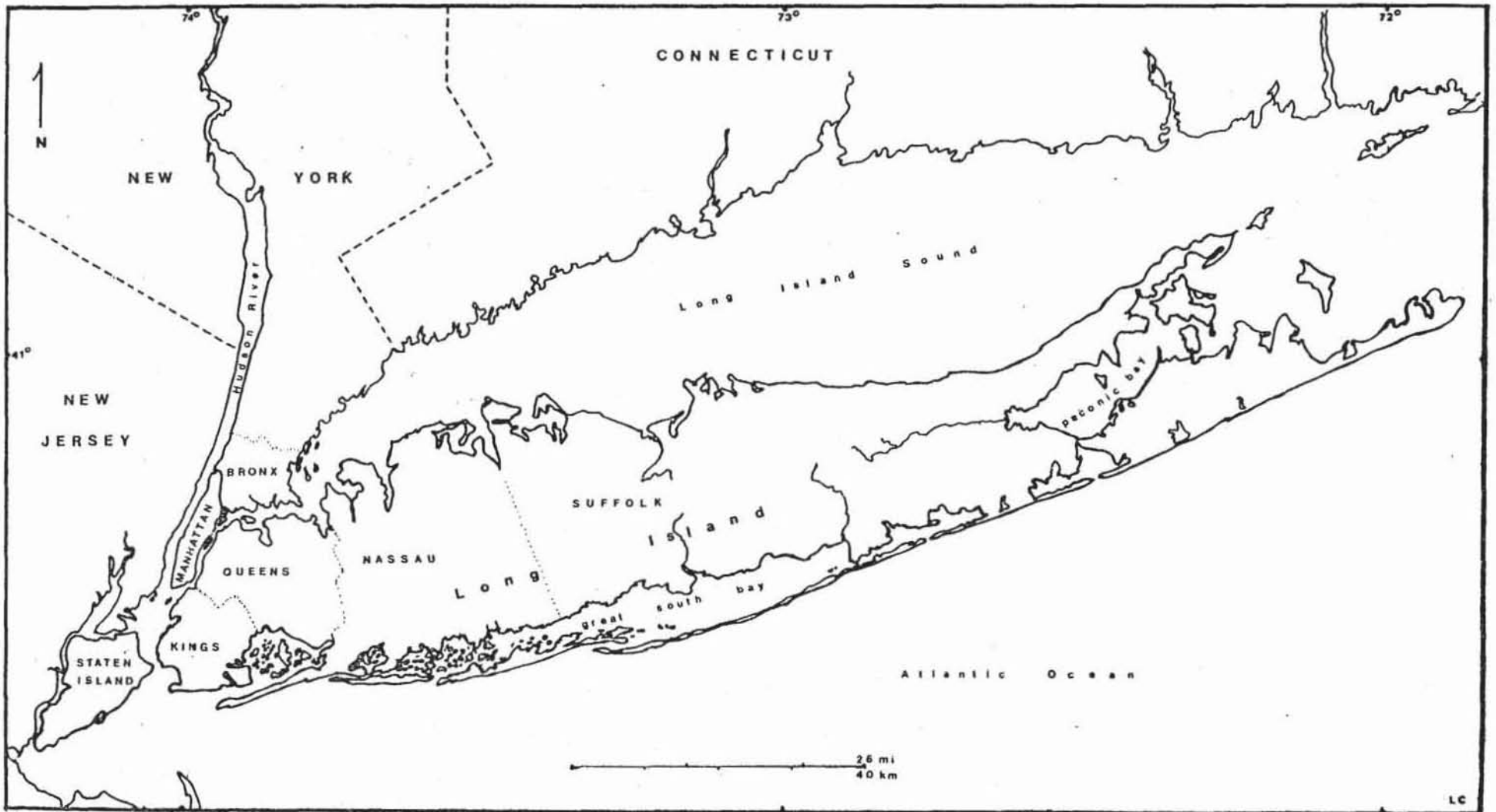


Fig. 1 Coastal New York

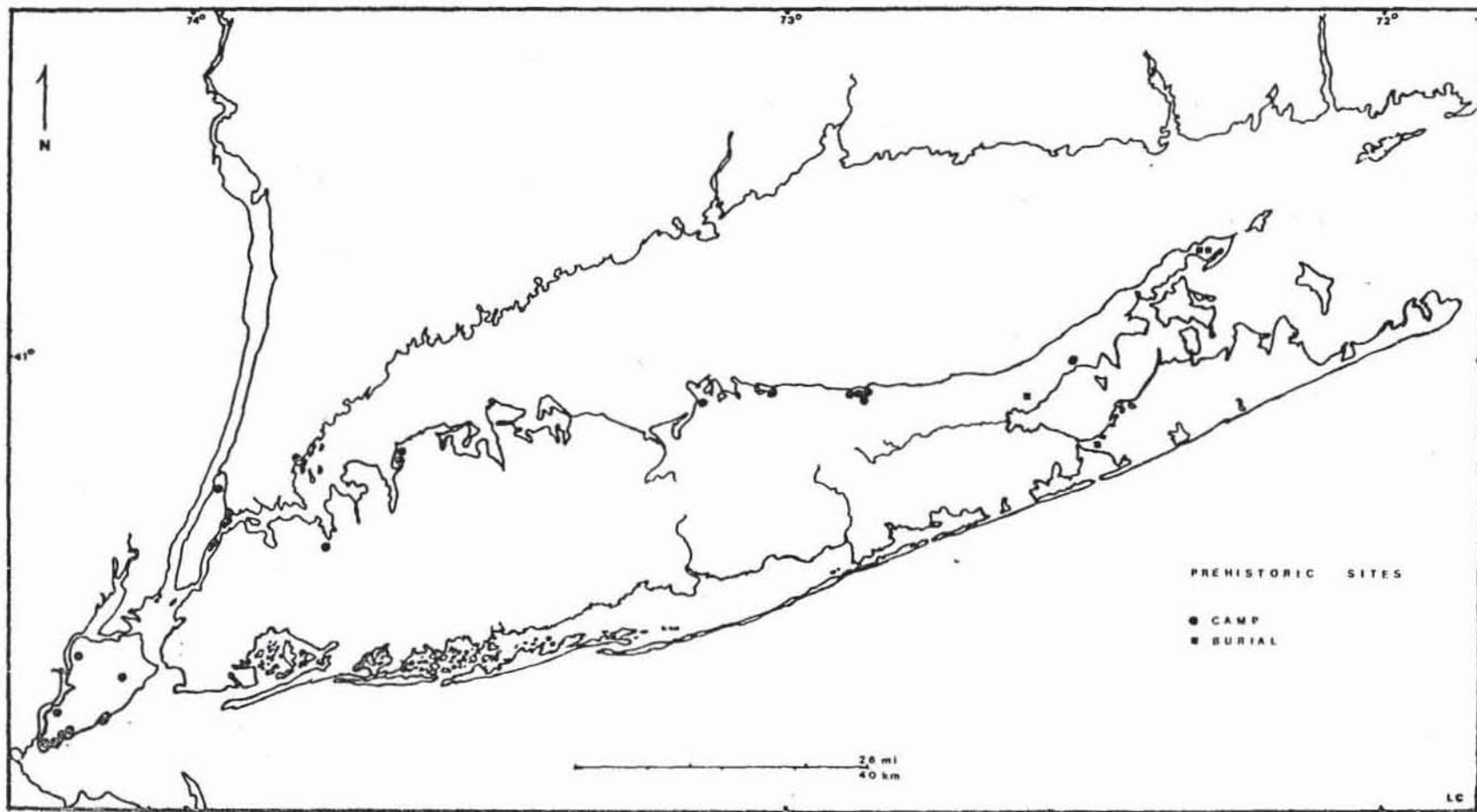


Fig. 2 Prehistoric Sites

settlement pattern (cf. Blouet 1972:3). Just as increasing site dimensions, features, and subsistence remains of historic sites - their form and content - appear to reflect decisions regarding time, site locations most probably reflect considerations of space

This paper then represents a preliminary investigation of historic Algonquian sites in Coastal New York from the perspective of the classic question in economic geography: "Why does this community exist?" (McCarty 1968:20).

#### SITE ANALYSIS

In preparing the map of historic Indian sites, data was gathered from both archaeological sources and primary seventeenth century writing (Fig. 3, Table 2). The product has a caveat governing its interpretation for it illustrates both too little and too much information. Surely there were more habitation sites from c. 1570 to 1664 AD (and earlier), those now destroyed by modern construction and vandalism or simply lacking adequate archaeological or documentary records. Yet it must also be recognized that many of the sites shown are not contemporary but sequential since villages (and forts) were on occasion abandoned by natives who reestablished themselves nearby, so the records state. Thus the map can only represent the imprecise time and space "sample" that the extant data afford.

Four factors commonly discussed in economic geography were considered in reviewing site distribution: (1) agriculture; (2) raw materials; (3) transport-market availability; and (4) socio-political context (cf. Haggett 1965; Smith et al. 1968).

(1) agriculture : If the natural potential for agriculture in Coastal New York is examined, cultivation needs would appear to be of little or no consideration to natives selecting locations for sites. The recent glacial and post-glacial history and poor parental materials combine to produce few soil associations both arable and naturally fertile in this area (Fig. 4). Excepting some shallow temporarily fertile "pockets" near fresh water sources and north of the area's terminal moraines - some with patches of loess - surface and sub-surface soils are in general poor in organic matter and acid; they consist of gravel-sand till or outwash plain deposits that require extensive irrigation and fertilization to become or remain productive. Whole biomes, such as the prairie, pine barrens, and beach zones of Long Island, are non-agricultural.

Native sites are not only absent from these zones but do not appear to concentrate near the few potentially more productive "pockets." This finding is consistent with the extant evidence for cultigens. Only a few beans and undersized specimens of maize have been recovered from archaeological sites in this area. Indeed, with the natives' dependency on colonials for maize, as the records clearly indicate, cultivation (with its attendant technological problems) seems to have been a marginal activity in the historic (as well as prehistoric) period (Ceci 1979a).

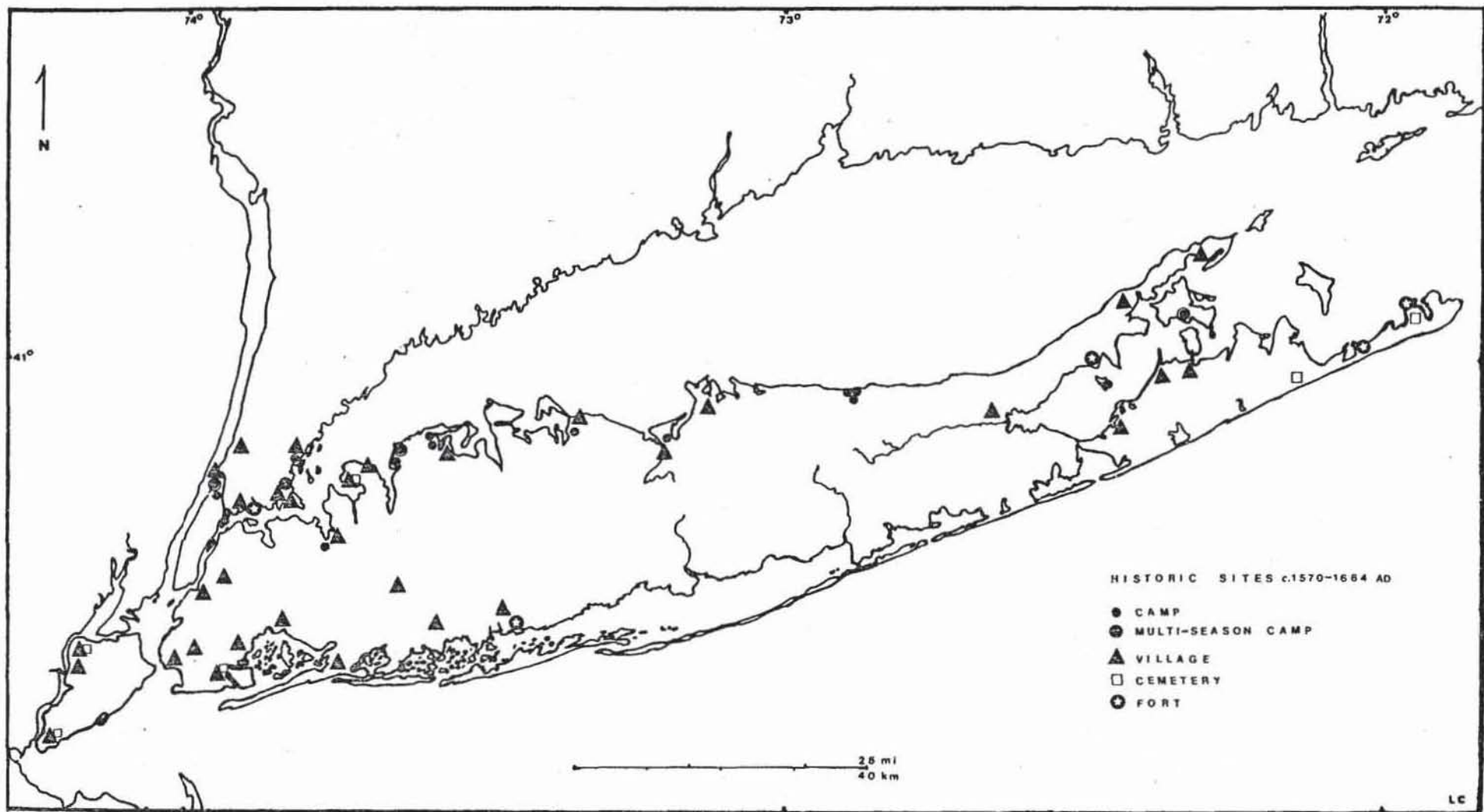


Fig. 3 Historic sites c. 1570-1664 A.D.

Table 1 Prehistoric sites in Coastal New York

County	Camp	Burials
Staten Island	Hollowell Manee 1.2 Old Place Richmond Hill Port Mobil Wards Point Whyte Field	
Manhattan	Dyckman	
Bronx	Kaeser	
Queens	Oakland Lake	
Kings		
Nassau	Muskeeta Cove 2 Garvie Point	
Suffolk	Baxter Cusano Pipestave Hollow Shoreham Stony Brook Wading River 1, 2	Jamesport Orient 1 Orient 2 Sugar Loaf Hill

Sources: Ceci 1977; Gramly 1977; Patterson 1956; Ritchie 1959; Rothchild and Lavin 1977.

Table 2 Historic Algonquian sites in Coastal New York

County	Village	Camp	Multi-season camp	Cemetery	Fort
Staten Island	Bowmans Brook Old Place Tottenville			Bowmans Brook	
Manhattan	Inwood	Isham	Dyckman		
Bronx	Clasons Point Schurz Throgs Neck Van Cortlandt Park	Kaesar	Weir Creek		Castle Hill
Queens	Aqueduct Douglaston Matsepe Rockaway	Oakland Lake			
Kings	Conarisse Mareckewick Ryders Pond or Keskachaew Teckkonis Wickquawanck	Bergen Island		Ryders Pond	
Nassau	Fritz Heemstede Marsapege Meracock Motts Point Port Washington	Corn Creek Matinecock Point Muskeeta Cove 1	Dosoris Pond		Massapeag
Suffolk	Ackobauk Crabmeadow Jagger Nesaquake Noyac Old Field Seacutang Sebonac Wegwagonock	Cusano Clay Pit Pond Northport Pleasant Hill Shoreham Stony Brook	Smith	Port Washington Pantigo Burial Point	Corchaug Old Fort New Fort

Sources: Bolton 1934; Ceci 1977, 1978a; DRLI:5; DRNY 14:60; EHTR: 260; HPTR: 43; Jameson 1909: 282; Kaplan n.d.; Rothschild and Lavin 1977;

(2) raw materials: With production of wampum, a significant element in the fur trade and colonial economy, sources for the particular shellfish species needed to make these beads must have quickly become important locational considerations. For the hard-shelled clam (Mercenaria mercenaria) and whelk (Busycon carica and Busycon canaliculata), sources for the purple- and white-colored beads respectively, the preferred habitats are protected bays and coves with extensive tidal and sub-tidal flats. Native sites appear to cluster near such habitats, a distribution that is in accordance with seventeenth century descriptions. Contemporary observers located natives near the intersecting waters of western Long Island Sound and on the "several creeks and bays" of Long Island where wampum was made; the "greatest" amount of wampum, however, came from the bay on the eastern end of Long Island (Peconic Bay) rich in the "cockle whereof Wampum is made," the area one Dutchman called the "mine of New Netherland" (Jameson 1909:44, 103; DRNY 1:360,365). Another bay along the north shore (Oyster Bay) was still a source of whelks even in later years when overexploitation by local and non-local natives had made them scarce elsewhere (Wolley 1701:29).

In contrast, along whole lengths of coast where sites are lacking, less preferable habitats obtain. At many points sharp drops in water depth create only narrow band habitats for whelks and clams, or, near the ocean, there is a turbulent surf to destroy tidal depth shellfish beds. The long inner bay of southern Long Island (Great South Bay) has but few sites, perhaps, in part, because whelks were less common in earlier centuries (before dredging and other modern activities changed the habitat, e.g., increased salinity, etc. Malouf 1979).

(3) transport-market availability: The distribution of sites so near the shoreline and especially at intersecting waterways, makes it clear that water transport was the principal means of moving economic goods across the landscape. The easy mobility of natives between the "main" and offshore islands is well attested by seventeenth century descriptions and also by presence of "exotic" mainland materials on archeological sites (e.g. Ritchie 1959:65; Rutsch 1970). References to dugout and canoe travel are common (e.g. Jameson 1909:24, 57, 232).

Most surely, then, the commodity wampum was with minimum effort transported from its point of manufacture via native craft to the European market where it could be exchanged for goods such as duffles cloth, metal implements, and trinkets, etc. Here "market" can be defined as the European trade post or settlement on land and also the vessels anchored at the mouth of Hudson, ready to acquire wampum for the northward sail to seek furs.

Alternately, as wampum grew in value and competition for supplies increased, Europeans seeking secret sources expanded the "marketplace" so as to include the European vessels now anchored near the sites of manufacture and the native "Plantation" itself (e.g. Jameson 1909:201; OBTR:664). Natives wishing to encourage these surely more advantageous visits to "their" market zone would need to consider European problems of transport when choosing site locations.

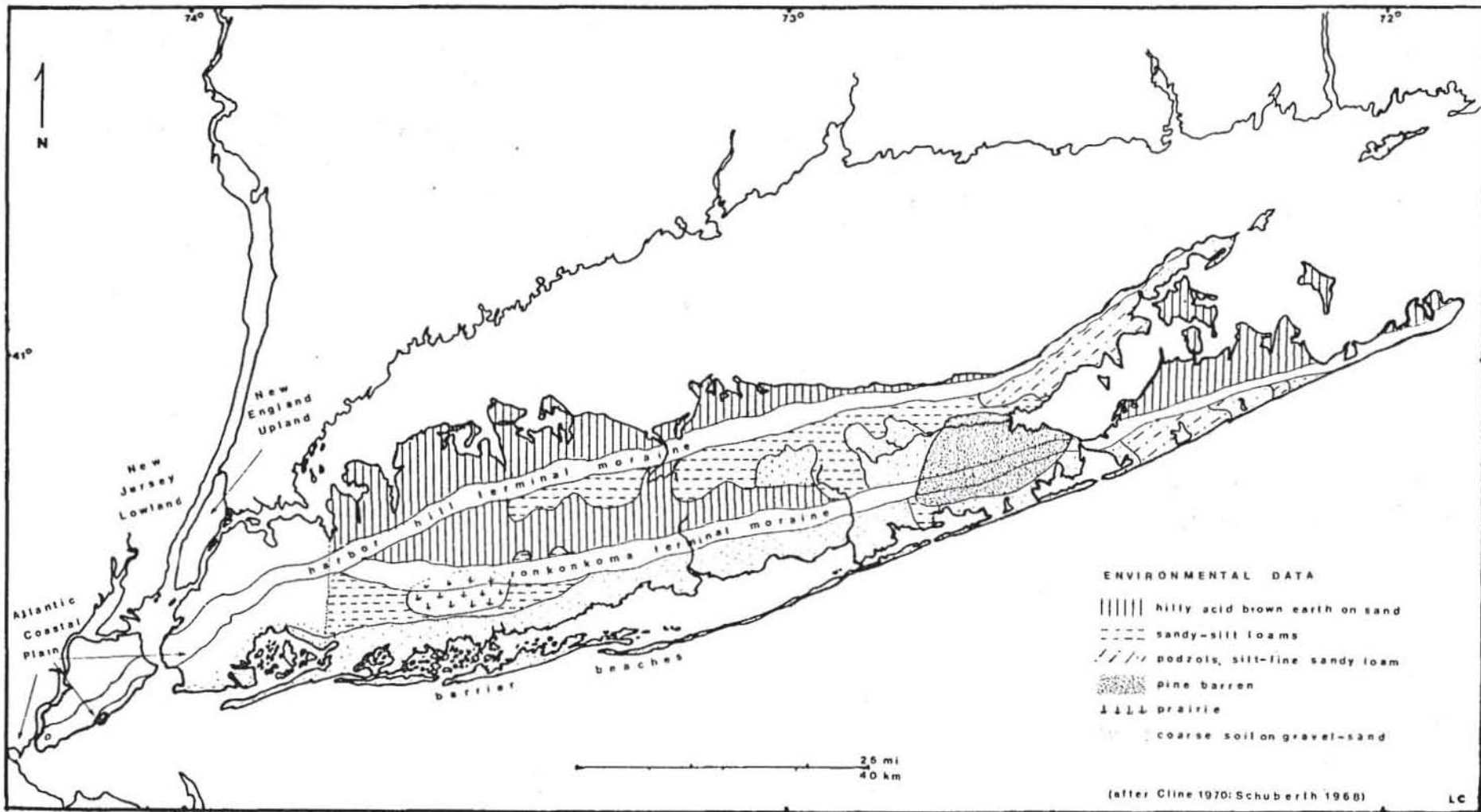


Fig. 4 Environmental data

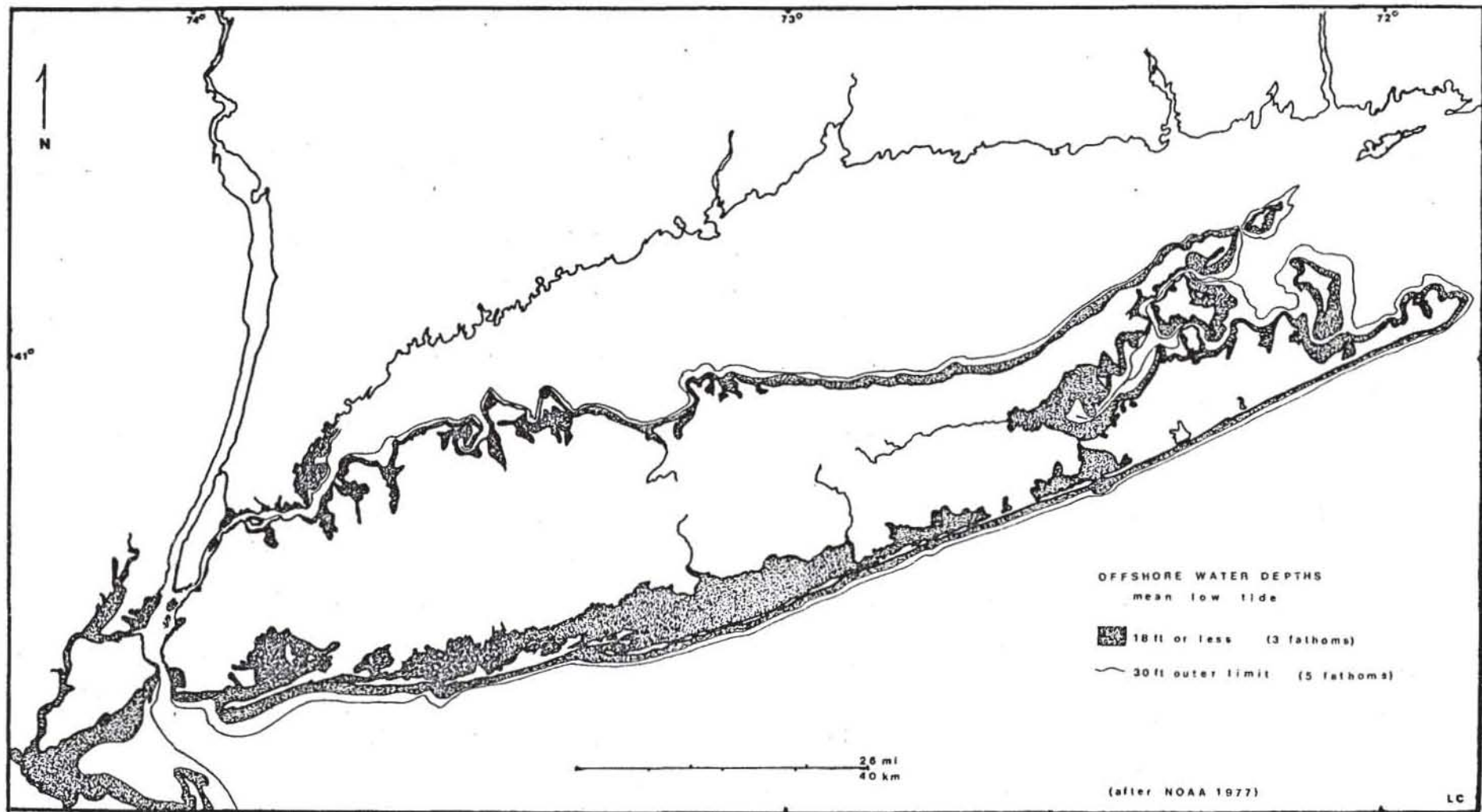


Fig. 5 Offshore water depths

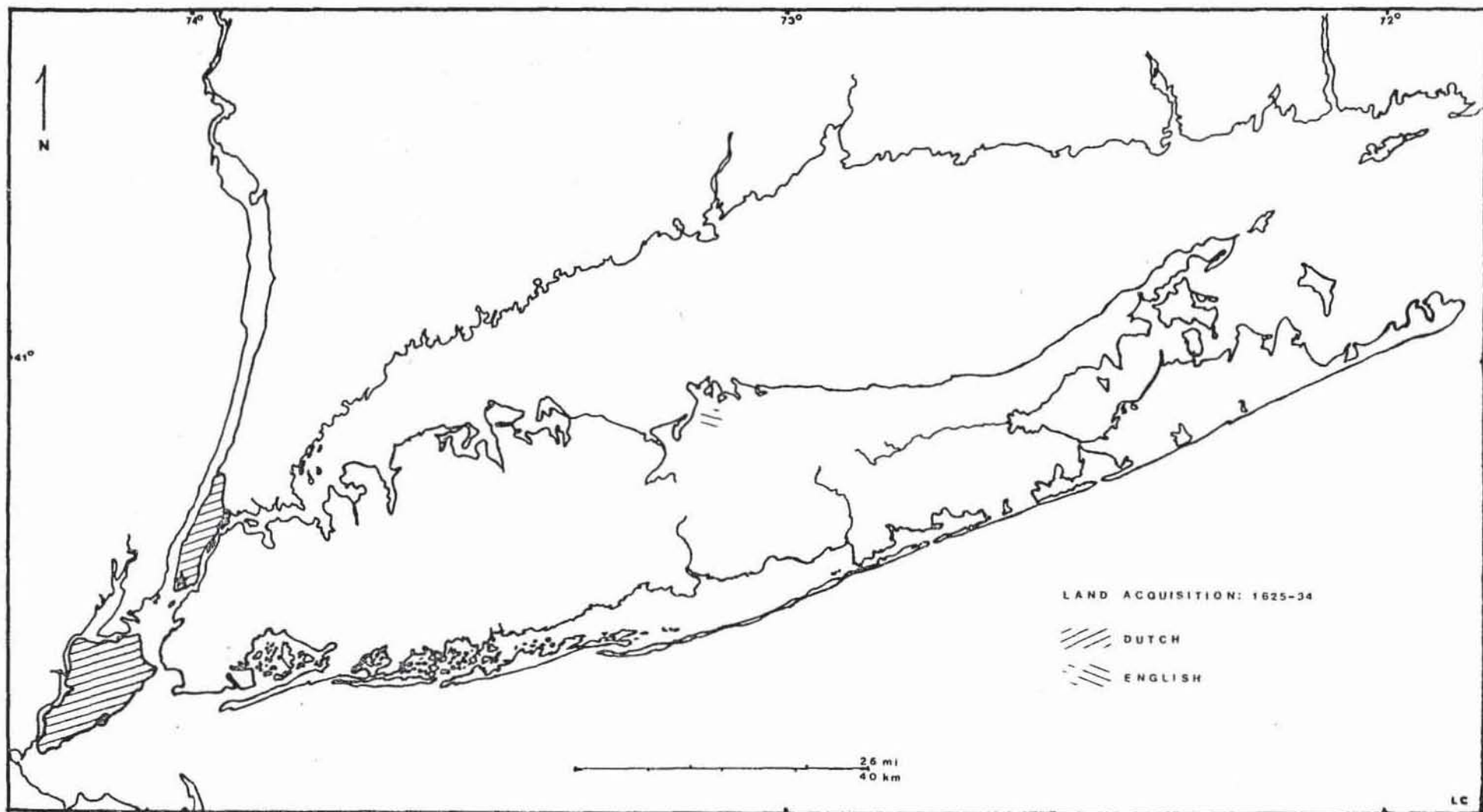


Fig. 6 Dutch and English land acquisition: 1625-1634

Vessels a seventeenth century Dutch or English trader might use in the Northeast included the ship, pinnacle, flute or "vlieboat" and the smaller yacht, sloop or shallop, barge, ketch, or herring boat (Baker 1962; Hart 1959). If the typical seventeenth century ship or Dutch flute are considered, for example, vessels with draughts ranging from 21.3 to 29.5 feet (Vocino 1951:173; Parr 1969:18), only shoreline points where water depths were greater than five fathoms could safely be approached. Examination of nautical charts showing offshore water depths and coastal pilot directions for Coastal New York strongly suggests a correlation between locations with inshore depths greater than five fathoms and many native sites (Fig. 5, Note 2). Though safe passage and anchorages can be found in most of the waters about New York Bay and Long Island Sound, running aground is a serious problem closer to the shores of Long Island. With the notable exception of Peconic and Oyster Bays, each of which possess deep natural channels greater than five fathoms, larger merchant vessels would elsewhere be restricted to the outer entrances of bays; this in turn would result in "exposed" and more extensive and inconvenient offshore loading. Smaller classes of vessels would be needed to penetrate most other bays (Note 3). The long inner bays along southern Long Island are not only too shallow and hazardous for sailing vessels but entering the inlets involves a dangerous ocean approach for any type craft.

In short, the clustering of sites near points of safe passage and anchorage for Europeans and their near absence elsewhere, especially along Long Island's southern coastline, would indicate that this one aspect of transport and market availability was most probably an influence on site locations.

(4) socio-political context : For frontier natives the presence of Europeans was the dominant socio-political factor to influence their cultural strategies. This "presence," however, changed in impact over the years. Open exchanges between natives and Europeans on Indian "territory," within a short period, became regulated transactions under the control of powerful colonists who by purchase and conquest had come to possess the land.

In the early years of wampum trade and colonization, 1625-1634, Europeans seemed little interested in acquiring the land (Fig. 6). A survey of the land records reveals (Ceci 1977, Table 12, 13) only two purchases by the Dutch; another small tract was a "gift" to the English Governor Winthrop, apparently during his 1633 visit to Long Island, the source, he declared, of the "best wampumpeak" (Winthrop 1908:109). Native entrepreneurs appear to then have enjoyed freedom to negotiate and to locate as they wished, even on the few tracts recorded as "sold."

Between 1635 and 1644, however, when wampum gained legal tender status among both Dutch and English colonists, the socio-political context changed dramatically. Colonial militia attacked natives of the region, the bead suppliers who, by circumstance, were also the controllers of the amount of "coinage" in circulation, hence its value. Through acts of terror and demonstrations of military superiority (principally by the English) natives throughout the region from southern

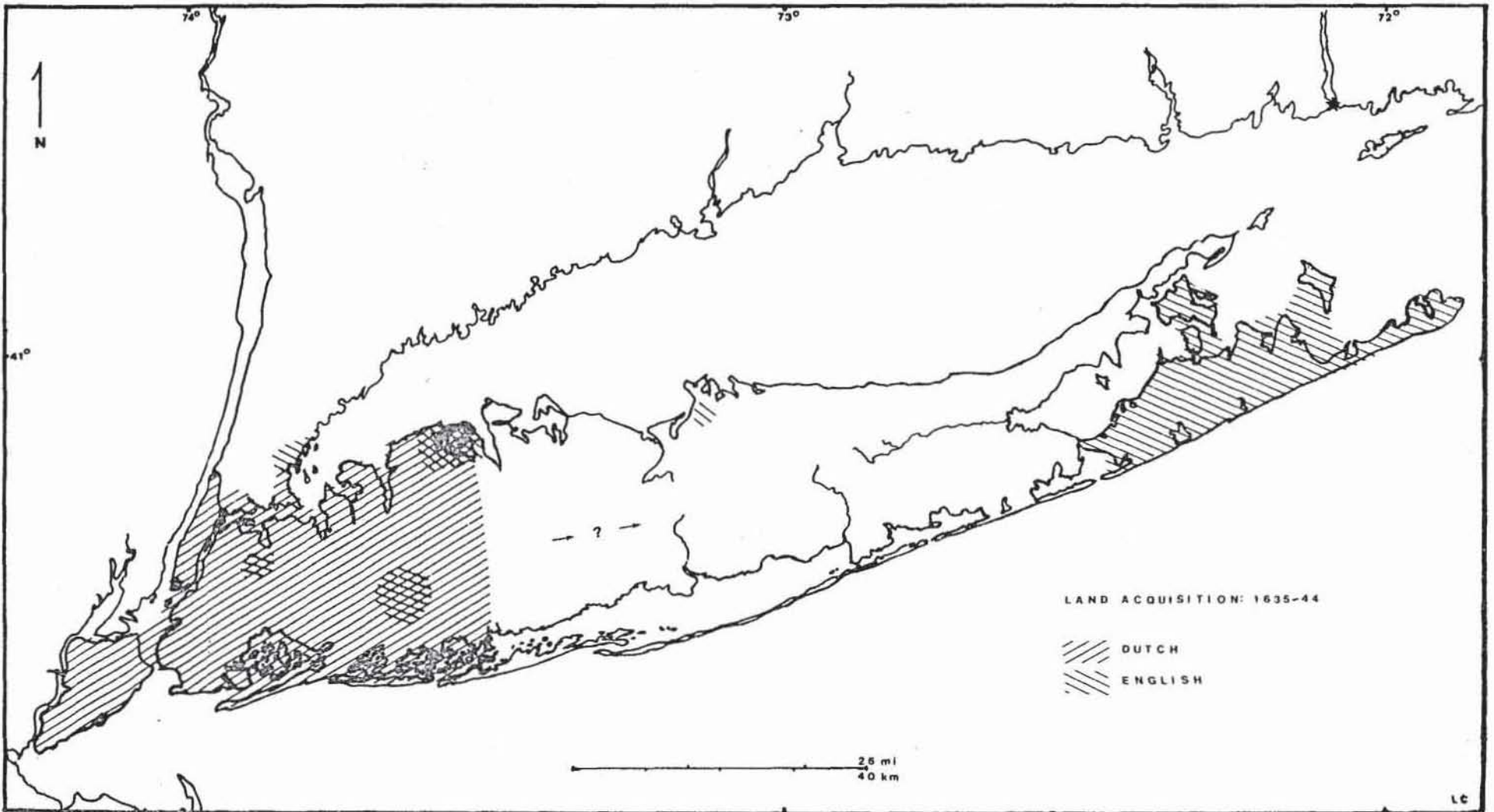


Fig. 7 Dutch and English land acquisition: 1635-1644

New England to Coastal New York were forced to capitulate. With the imposition of high annual tributes and miscellaneous "fines," wampum production fell under colonial control.

It is during this period that the Dutch began quickly to expand eastward and the English westward in Coastal New York (Fig. 6). How better than as "legal" owners to oversee and control the lands that had become, in reality, the "mint"? For natives, conquest and the increasing presence of coercive force introduced a new element in establishing or occupying sites - survival. Now under military threat to make wampum payments as well as needing wampum to buy the goods they had come to depend on, natives more than ever had to locate near sources of raw materials and points convenient to Colonials. The Indian "forts" in use c. 1635-1665, in particular, appear to have been new types of sites specifically promoted by Europeans with these strategies in mind.

With each decade growing numbers of colonial settlers surrounded the natives (Figs. 7,8). As legal dispossession proceeded natives were more and more directed where to locate their "quarters" (and also who should live in them). Staten Island Indians, for example, were to "Plant in some Corner of the Island" (cf. Fig. 3), while a Hempstead tract could only be occupied by the Indians who "really belong" (DRNY 13:454; HPTR:276). The result is that most sites shift to or coalesce at locations colonists find least desirable; one or two "freeze" in place later to become reservations, while by the late seventeenth century most disappear. The native "side" of the frontier has in effect been absorbed. The "outer edge of the wave - the meeting point between savagery and civilization," to use Turner's words (1920:3), has swept by and locational analysis from the native perspective is no longer possible.

#### CONCLUSION

In sum three factors in combination seem best to explain the distribution of historic Algonquian sites in Coastal New York: 1) nearness to preferred habitats of shellfish species needed to make wampum; 2) accessibility to native and European water transport; and 3) after 1635, directives by powerful colonists.

This finding rests first upon the definition of the frontier not as a static boundary or "edge" as Turner perceived it, but as a dynamic "tension" zone where native and European economic systems mesh and fuse. Native locational strategies thus become tied to the Europeans' economic system just as the natives themselves became "tied" to Europeans, first by the desire for new goods, then by dependency and conquest. Conversely, European traders and colonists were by the profits and convenience of wampum "tied" to the native economic system, finally to exploit it and make it their own. Indeed, because the two systems are in the process of becoming one, locational analysis from the colonial perspective would involve many of the same locational factors considered by the natives. The pattern of land acquisition over time especially by the more aggressive English clearly reveals the goal to possess wampum sites, a strategy contemporary Dutchmen did not fail to recognize and

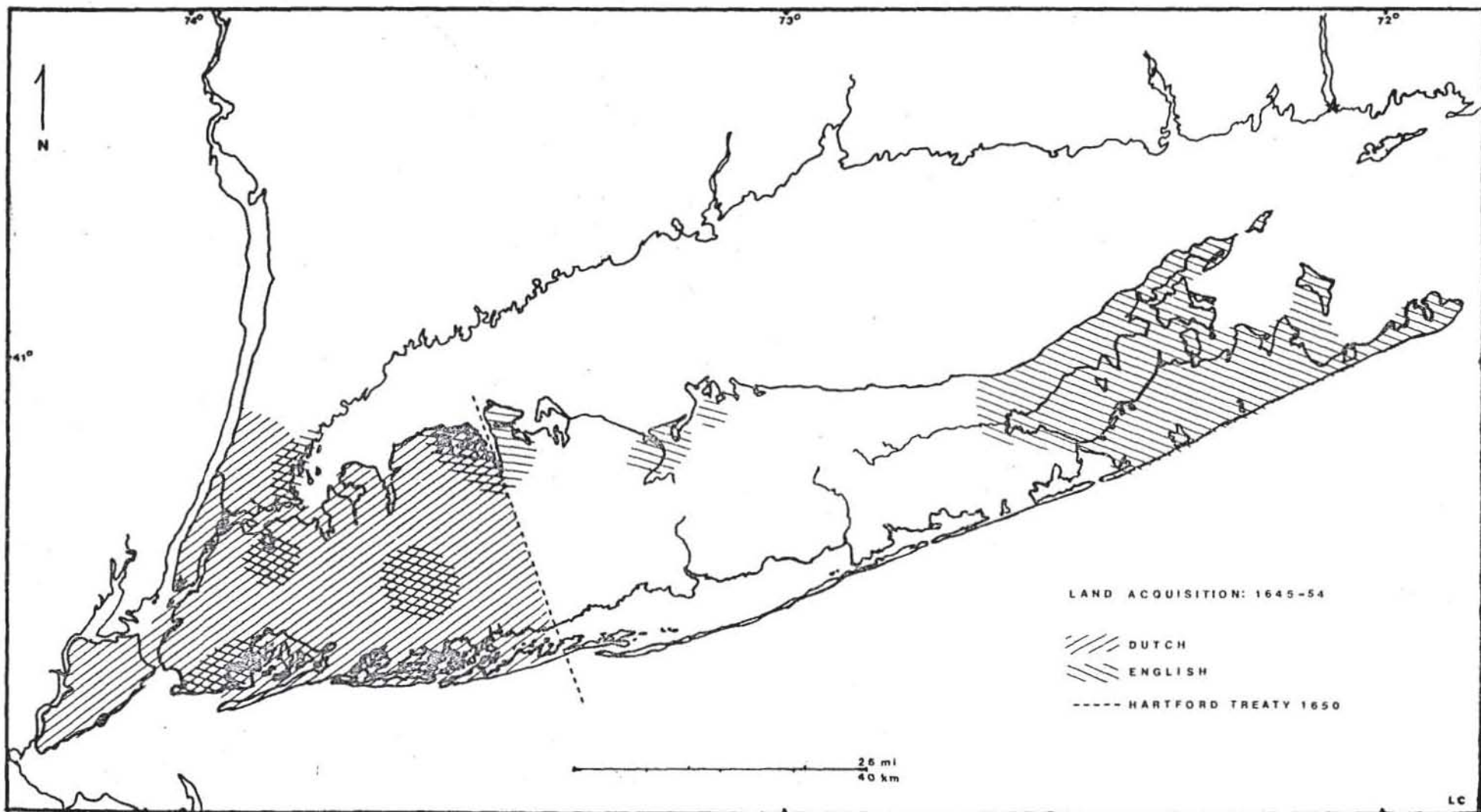


Fig. 8 Dutch and English land acquisition: 1645-1654

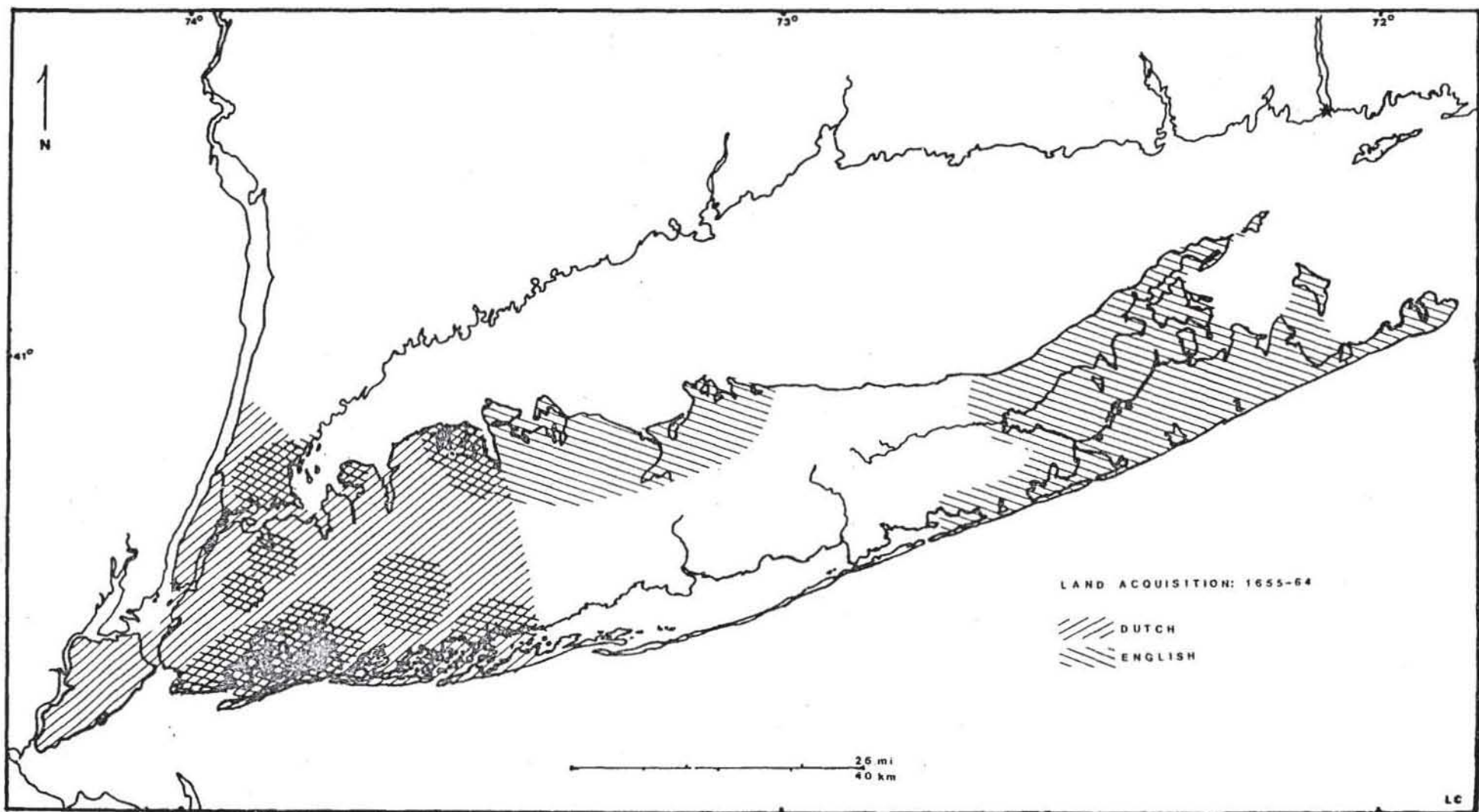


Fig. 9 Dutch and English land acquisition: 1655-1664

complain about (Note 4). Well they might for the English purpose would finally bring about New Netherland's collapse (by September 1664) (Ceci 1979b).

Yet the locational factors for this relatively small group of Algonquians must be placed within the broader geographic and historic context. Their occupation of the coastal area near the mouth of the long navigable river leading to sources of furs and within the habitat of the easily workable whelk, in particular, placed these natives fortuitously at the critical juncture of raw materials and transport on the Atlantic Coast. The great desire of the fur-supplying Indians of the interior for the little exotic marine shell bead, transformed the simple artifact into a commodity of great significance.

Finally, the above analysis must be considered from what Hopkins and Wallerstein have called the "world-system perspective" (1977). With the onset in the sixteenth century of a Euro-centered world economy, it is ultimately the price of beaver in European markets that converts wampum into a critical link in the "commodity chain" (cf. Hopkins and Wallerstein 1977:128) between European merchandise and fur profits (Note 5); and it is the failure of the European homelands to supply adequate coinage to their New World extensions that for frontier bead-makers compounded the impact.

Thus in the end the three factors to influence historical Algonquian locational strategies in Coastal New York interlock with a world cultural system. And for a brief "moment" they are an important part of New World history.

## NOTES

1. Forts Corchaug and Massapeag, for example, because of their small size and lack of habitation debris within and "fortifications" have been called "refuges." Since these forts yielded extensive evidence for wampum production and trade goods, I have argued instead for a "trade-house" function or perhaps a bead "factory" designed by Europeans to protect merchandise along the sea-shore (cf. Boxer 1965:187).
2. Because modern data were of necessity used and changes in shoreline have taken place in the last three centuries--indeed, they occur each year--isobathic lines shown on Figure 5 must be considered rough approximations. Channel depths created by recent dredging were ignored, and exact locations for earlier inlets along Long Island's south shore remain unknown.
3. This was apparently recognized by Governor Winthrop quite early for by 1631 he commissioned local construction of a shallow-draught bark; this vessel, Blessing of the Bay, was used along the coasts of southern New England and Long Island (to seek wampum?) and also to move English settlers up the Connecticut River, which was only six feet deep at its entrance (Winthrop 1908:65-68;109,128). A bit earlier, in 1613, Merchant skipper Block on Manhattan replaced the burned 130 ton ship Tyger with a yacht, the Onrust (Solecki 1974: 109). With this smaller vessel he was able to gather the detailed coastal data shown on his 1614 "Carte Figurative," for example, the insularity of Staten Island, Manhattan Island, and Long Island (cf. DRNYL, after p. 11).
4. By 1649, one Dutchman complained that the English were endeavouring "to monopolize all the profits of the Wampum trade to themselves"; another in 1652 urged more Dutch colonization or else "the English will retain all the Wampum manufacturers to themselves and we shall be obliged to eat oats out of English hands" (DRNY 1:269,459). That the cattle "rich" English settlers (cf. Jameson 1909:307) very early took possession of the Hempstead prairie zone (cf. Figs. 4,7) indicates English expansion was also influenced by the need for grazing lands and most probably arable soils.
5. Elsewhere (1979b) I have described this "commodity chain" in more detail as a "triangular trade network": European merchandise for native wampum along the coast; then wampum for native-supplied furs in the interior; finally furs back to Europe where the profits from their sale went to the original suppliers of the trade goods.

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