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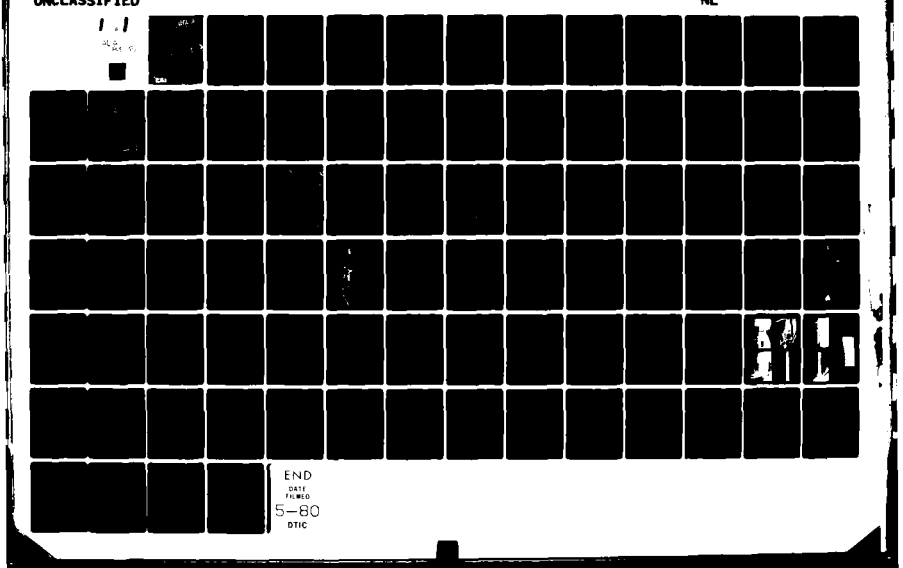

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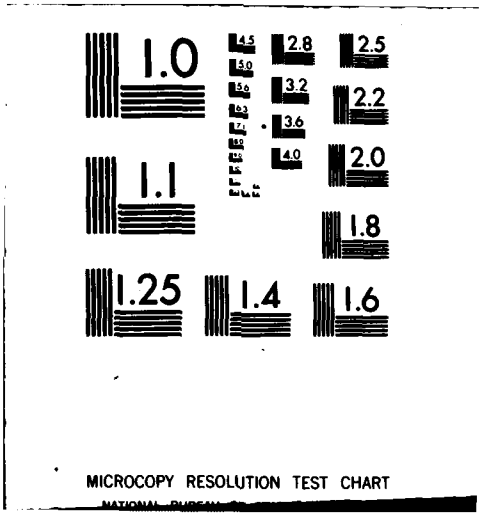
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This is a report on the literature and records search and the development of a prehistoric site prediction model for Conesus Lake, New York. Conesus Lake is located in theeastern half of Livingston County approximately 35.5 km south of Rochester, New York. Nineteen prehistoric and/or contact sites have been identified in the project area and there are no historic sites (structural or archaeological) of significant integrity. The predictive models used in this investigation distinguished zones in which the probability of additional

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(1)

CULTURAL RESOURCE PREDICTIVE MODEL LITERATURE AND RECORDS SEARCH FOR CONESUS LAKE, N.Y.

assembled by

Martin Murphy
Annette Silver

This report discusses work conducted under Contract Number DACW 49-79-C-0091 for the U.S. Army Corps of Engineers/Buffalo District.

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February, 1980

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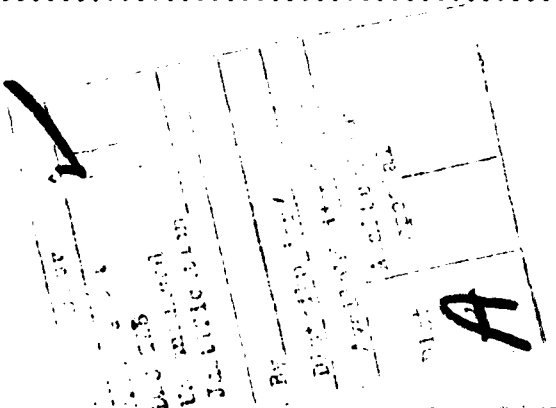

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ABSTRACT

This is a report on the literature and records search and the development of a prehistoric site prediction model for Conesus Lake, New York. Conesus Lake is located in the eastern half of Livingston County approximately 35.5 km south of Rochester, New York. Nineteen prehistoric and/or contact sites have been identified in the project area and there are no historic sites (structural or archaeological) of significant integrity. The predictive models used in this investigation distinguished zones in which the probability of additional, prehistoric sites existing ranged from poor to moderate. Recommendations for further cultural resources management of the Conesus Lake project area are presented.

CHAPTER I

MANAGEMENT SUMMARY

This report concerns the background and literature research and the development of a model which predicts the location of prehistoric sites in the Conesus Lake area. This report is submitted in fulfillment of Contract No. DACW49-79-C-0091 which was entered into September 1979 between the U.S. Army Corps of Engineers, Buffalo District and P/RA Research, Inc., East Meadow, New York. The Principal Investigator for this project was Martin F. Murphy, and the report was jointly authored by the Principal Investigator and Annette Silver, Archaeologist. Research for the Geological History section of this report was performed by Robert Wallace.

A literature, document, and archive search was conducted in order to obtain information about prehistoric and historic sites which are known to exist, or to have existed, within the project area.[1] Contacts were made with representatives from the New York State Historic Preservation Office, the Office of State Archeologist (New York State Museum/State Education Department), the Livingston County historian, Dr. Rhodes of the State University of New York College/Geneseo, representatives of the Livingston County Tax Office, Donald Auble, President of the Conesus Lake Association, Inc., and local informants.

Areas of moderate sensitivity are recommended for further subsurface investigation, if there has been no significant disturbance. Data for the evaluation of disturbance came from the literature review and from a vehicular survey of the project area. Cultural resource sensitivity is determined by an evaluation of the literature search and evaluation in terms of environmental considerations.

It is immediately apparent that the Conesus Lake project area is very small. However, the results of the State University of New York/Buffalo (SUNY/Buffalo) Genesee Highway Project (Trubowitz 1973-1976,1977) clearly demonstrate that systematic reconnaissance of limited areas--for example, short highway rights of way--can provide important data for the study of survey methodology, settlement systems, and regional and/or local culture history.

1. Archaeological and historic sites within the project area and/or within 1 km of the Conesus Lake shoreline are plotted on Figure 3.

The retrieval of important cultural resources data from a limited area is especially valid for Livingston County. Trubowitz (1975) notes that except for some research on Iroquois village sites, European-American pottery factories, a few scattered sites, and some work by the SUNY/Geneseo Field School, there has been "almost no systematic reconnaissance or investigation of archaeological resources" in Livingston County or the Genesee Valley prior to the SUNY/Buffalo Genesee Highway Project. He states that the Genesee Valley region is very rich in prehistoric cultural resources. However, many sites are known only to local collectors. Of those sites which have been investigated by trained individuals only a few of the results are readily accessible. Therefore, current state of knowledge of Livingston County archaeology is based upon information from a "hodge-podge of sources" (Trubowitz 1975:142-143) which does not permit an accurate accounting.

As demonstrated by the SUNY/Buffalo Genesee Highway Project, the minimum benefits to be expected of any systematic subsurface testing program in Livingston County will be "documentation of previously unknown archaeological sites, providing basic cultural-historical and site location data" (Trubowitz 1977:148-149).

For example, the SUNY/Buffalo Highway Project survey recorded 233 new sites and revealed that many areas considered to have been lightly utilized by prehistoric groups actually were occupied frequently and for long periods of time. The survey results also demonstrated that cultural groups generally believed to have been peripheral to the Genesee Valley actually made intensive use of the region (Trubowitz 1977:148-149).

For future studies of settlement systems and cultural history of Livingston County and the Genesee Valley, even such minimal data as may be retrieved from the limited Conesus Lake Survey are an invaluable resource.

CHAPTER II

PROJECT LOCATION AND DESCRIPTION

Project Location

Conesus Lake is situated about 35.5 km due south of Rochester, New York. It is located within the upper Genesee River Basin and in the eastern half of Livingston County in the townships of Conesus, Genesee, Groveland, and Livonia (Figures 1 and 2).

As defined by the Scope of Work and through personal communication with Richard Lewis, Archaeologist, U.S. Army Corps of Engineers, Buffalo District on October 26, 1979, the project area includes the land around Conesus Lake as defined below:

1. Inlet floodplain extending 1 km south and 32 m wide.

2. The western and eastern shores to a point 100 m inland from the shoreline.

3. Outlet floodplain extending 1.6 km north and 32 m wide. For the purposes of implementing the Literature and Documentary Search we extended the southern floodplain boundary to School House #5 Road and the western and eastern shore boundaries 1km from the shoreline.

Otherwise, sites adjacent to the project area and having potential impact upon the narrow project area can be overlooked. For the micro-regional predictive model the eastern and western boundaries were established at 1/2 km from the shore.

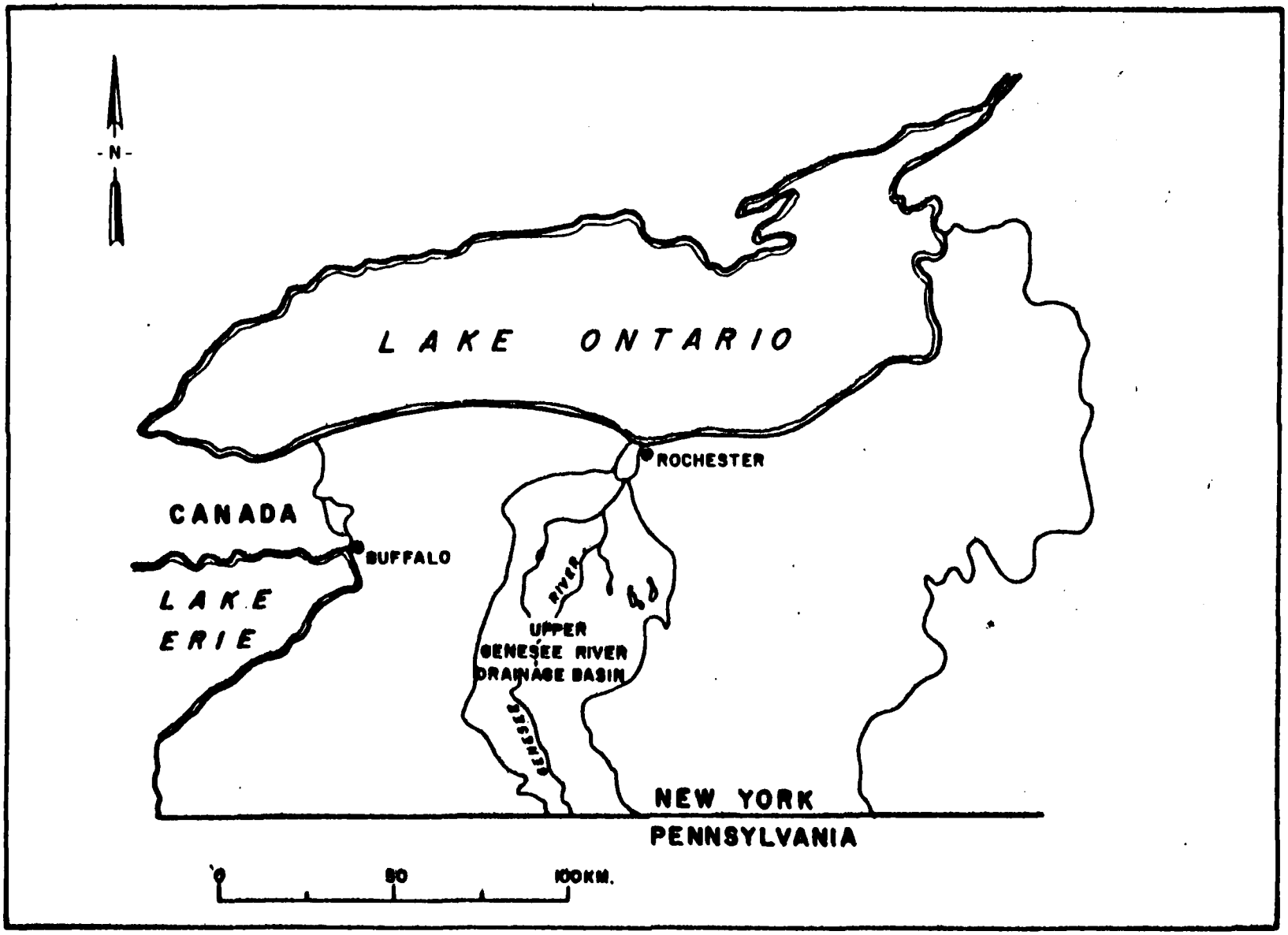

Figure 1. Map of Genesee River Drainage. After Stout (1970).

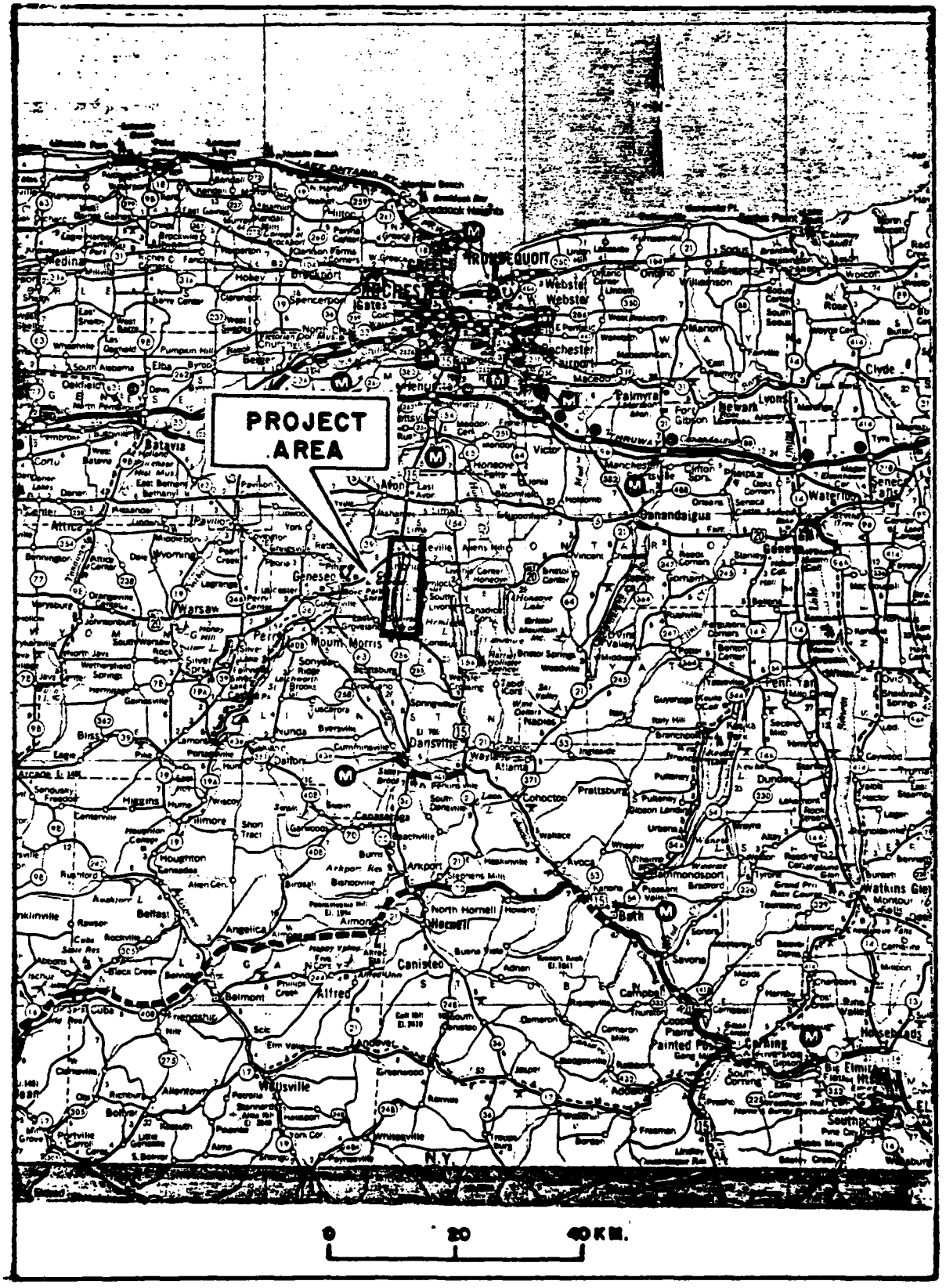

Figure 2. Map of Project Location (Map of New York 1973).

Environmental Setting

The Conesus Lake Basin is an area of 178.7 sq km which drains through Conesus Creek to the Genesee River. The Basin is a north-south valley with an average width of about 8 km and a length of about 27.35 km. Conesus Lake, at normal water level, has a length of 12.5 km, an average width of about 1.5 km and a surface area of about 1,295ha. The lake has an average depth of about 15.2 m, and a maximum depth of 21.9 m which decreases to 3 m at the outlet. The present water level of the lake is at an elevation of 249.6 m (U.S. Army Corps of Engineers 1977).

Climate

Winters are moderately long and severe. The average temperature from December through February is 3.6 C; March through May the average temperature is 6.7 C. Summers are short and cool. Although readings above 32.2 C do occur, the average temperature from June through August is 20.3 C. The average temperature in the fall, September through November, is 10.4 C.

Although rainy periods often occur in the spring, Livingston County is one of the driest regions of New York State. Dry periods of one to two months with a total rainfall of less than 7.6 cm are common. The average annual rainfall is 77.26 cm and the average annual snowfall is 117 cm (U.S. Department of Agriculture 1956).

Flora and Fauna

Conesus Lake lies within the southern limits of the Canadian biotic province. The predominant species of the Canadian province hardwood forest are sugar maple, beech, yellow birch, northern white pine, eastern hemlock, and basswood. In sandy soils variations of pine species represent a subclimax forest, with another subclimax forest present in bogs and swamps. Here the important trees are black spruce, tamarack, and northern white cedar.

Secondary forest growth varies according to the type of underlying soil. Aspens or paper birch may form a secondary forest growth over sandy soils; brush followed by hardwood forest regrowth is the succession on clay soils (Dice 1943:13-16).

In the late 1700s and the 1800s the slopes surrounding Conesus Lake were heavily forested. White oak, black oak, black walnut, hard maple, hickory, and chestnut were present on the upland slopes. The lowlands and swamps supported black ash, pine, elm, basswood,

white cedar and swamp oak. Early settlers noted the presence of grassy clearings and little undergrowth in the forests. This was attributed to annual burnings of undergrowth by the Indians (Doty 1876:513,556,604; Williamson 1849; U.S. Department of Agriculture 1956).

Present forests are on steep land that is not suitable for agriculture. The forests surrounding Conesus Lake, like almost all of the present forest in Livingston County, contain second- and third-growth trees of the original forest species.

Native vegetation for the marsh at the head of Conesus Lake consists of rushes, sedges, cattails, and bent grasses. These grow around the outer edges of the swamp forest (U.S. Department of Agriculture 1956).

Mammals noted to be especially plentiful in the area in the 1800s were the whitetailed deer, black bear, and wolf. Other mammals native to the region and present in the 1800s were puma, muskrat, weasel, striped skunk, fox, woodchuck, black squirrel, wildcat , marmot, chipmunk, beaver, and hare (Dice 1943:16; Doty 1876:609; Turner 1851:375). Grey squirrel, quail, crow, and opossum are species that entered the Genesee Valley region after European settlement (Turner 1851:375).

Wildfowl present in the nineteenth century were turkey, ducks, brant geese, turkey buzzard, ravens, hawks, and owls. Species presently hunted around Conesus Lake are deer, turkey, muskrat, and duck.

Fish currently present in the lake include northern and walleyed pike, small and large-mouthed bass, blue gills, and bull-heads. In 1810 William Wadsworth stocked Conesus Lake with pike and other fish brought from Lake Ontario. New York State again stocked the lake in the late 1800s (Boyd 1887:10; Turner 1851:375). Therefore, all of these species may not have been present in the prehistoric period.

Geological History

Conesus Lake is in the Finger Lakes System of the Appalachian Plateaus Province. This system consists of eleven lakes in west central New York which drain either into the Seneca River or, as is the case for Conesus Lake, into the north-flowing Genesee River (Thornbury 1965). These lakes are in a semi-parallel arrangement with steep-walled sides and linear forms. They occupy preglacial stream valleys that have been carved in bedrock by glacial action and then partially filled by glacial debris (Apfel 1946).

The lowest unit of bedrock exposed in the area is the Seneca limestone which occurs at the top of the Onondaga group of middle Devonian limestones. The Seneca limestone within the area is about 19.8 m thick. It is a grey ridge forming cherty limestone that is generally not fossiliferous. In this locality it is compact, thick-bedded and relatively free of chert near the top of the unit.

The overlying unit is the Marcellus Shale which occurs at the base of the Hamilton group. This shale is comprised of a lower, black, slaty, bituminous member with pyrite concretions. Above the shale lies a thin calcareous unit that is very fossiliferous. The top of the unit is a black and olive fissile shale.

The upper unit of bedrock that is exposed on the outlet of Conesus Lake is dull olive or bluish grey calcareous shale that weathers to a light grey or an ashen tint. It is locally fossiliferous (Hall 1843).

The preglacial drainage in the Lake Conesus area was northward into the Ontario basin (the Ontarian River) and then to the west (Fairchild 1928). As the ice from the Wisconsin glacier advanced southward it cut the valleys of this preglacial drainage steeper and deeper. The guiding factor in the development of the landforms is the rock structure. The rock units in eastern Livingston County consist of relatively resistant limestones interbedded with less resistant shales. The glacial action and subsequent erosion by streams produced depressions in the shale areas and poorly developed ridges where the limestones crop out. Conesus Lake occupies a depression in the Middle Devonian Hamilton shales (von Englen 1961).

Conesus Lake is north of the Valley Heads Moraine. This is a complex of ice-deposited materials that occur in a discontinuous east-west band south of Dansville, Livingston County (Figure 2). The Valley Heads Moraine consists of till (unassorted rock fragments) and rock flour (fine-grain matrix present in the till). The Valley Heads Moraine is the southern-most moraine of the last glacial advance. It was deposited approximately 12,000 years B.C.

As the Wisconsin glacier retreated, numerous successive glacial lakes were formed. Between 12,000 B.C. and 10,000 B.C. six major glacial lakes affected the deposition of sediments and the drainage history in the Conesus Lake region. These were Lake Ithaca, Lake Newberry, Lake Hall, Vanuxem Lake, Lake Warren and Lake Iroquois. The portion of Lake Ithaca (elevation of 304.7 m) that filled the Conesus Lake Valley overflowed the confines of the valley around 12,000 B.C. and connected with southward flowing drainage systems. Lake Newberry, at an elevation of 299 m, represented the further retreat of the Wisconsin glacier. This glacial lake stage still extended over the Conesus Lake Valley.

As the glacier continued to retreat, the next lake stage, Lake Hall, lowered to an elevation of 251.4 m. The portion of this lake in the Conesus Lake area was confined to the margins of the valley. Lake Hall drained northward and then westward to Batavia, New York. The glacial lake levels continued to drop during the Vanuxem Lake stage to an elevation of 91.4 m. The Conesus Lake region was not covered by Lake Vanuxem. Drainage from the Conesus Valley did flow northward into Vanuxem Lake.

At approximately 11,600 to 11,700 B.C. the glacial lake re-advanced into Conesus Valley with the rise of the Lake Warren stage to 268 m above sea level. The final draining of the glacial lakes from the area occurred approximately 10,000 to 9,000 B.C. At this time the level of Lake Iroquois dropped from 268 m to 97.8 m Lake Iroquois was the last glacial lake to influence the Conesus Lake Valley (Chadwick and Dunbar 1924, Coates 1976, Fairchild 1928, 1932, 1934a, 1934b).

Ice-deposited morainic materials,called valley fillings,filled portions of these lake valleys with unsorted debris. Such debris is the primary ice-lain deposit in Conesus Lake region. Stratified sands, gravels, and clays (lake deposits) were deposited on the bottoms of the glacial lakes. Other stratified sands, deltaic deposits, were deposited by rivers flowing into the glacial lakes. Some of these deltaic deposits are preserved as terraces around the margin of Conesus Lake.

Soils

The northern section of Livingston County has very productive soils that contain much lime. These "high lime" soils require little or no additional lime for crops. Glacial action has extended the effect of this limestone action for 16 to 24 km south of the line of lime-bearing rocks that crosse the central part of the county (U.S. Department of Agriculture 1956). Many of the soils in the southern section of Livingston County have compact subsoils and are poorly drained. Productivity of the soils decreases as one moves south through the county.

The predominant soils along the west, north, and northern half of the east shoreline of Conesus Lake are Lansing silt loams and Ontario loams. Lansing silt loam and the Ontario loam are moderately productive soils which can support good carrying capacity. However, fertilization is necessary for good agricultural yields. Southeast of Conesus Lake a greater variety of soils are intermixed. Soils found here are Lansing silt loam, Manlius shaly silt loam, Honeoye loam, Vallois gravelly loam, and Howard fine sandy loam (U.S. Department of Agriculture 1956).

CHAPTER III

PREHISTORIC OVERVIEW

The prehistory of the Northeastern United States and of New York State can best be understood within the context of four broad cultural stages: the Paleo-Indian Stage, the Archaic Stage, the Transitional Stage and the Woodland Stage.[2]

Paleo-Indian Stage

Initial human settlement of the Northeast occurred as Paleo-Indians moved into the Northeast from the south and west as the retreat of the glaciers opened up a new environment. These Paleo-Indians followed migrating herds into Pennsylvania and New York and continued eastward into New England. Later, they settled into the major river valleys, still ranging hundreds of miles up and down the valleys as they followed migrating herds. Evidence found in known Paleo-Indian sites in the Northeast supports this settlement pattern of extensive movement within specific river valleys. These early inhabitants subsisted upon mastodon, caribou, moose-elk and other large game. One must also consider that they foraged as well, utilizing such edible plants and small animals as permitted by the environmental situation.

Types of known Paleo-Indian sites in the Northeast are varied. There are single-component hunting camps, temporary refuges, simple hunting camps, multipurpose camps, and quarry sites with workshop and habitation components.

The cultural assemblages associated with the early Paleo-Indians are comparable to the assemblages of the Clovis and Folsom big-game hunters of the plains. Among the traits shared by Northeastern Paleo-Indians and the Plains Paleo-Indians are the distinctive fluted bifacial projectile points. Funk (1972:17) suggests a date of 10,500-8,000 B.C. for Paleo-Indian in central and upper New York State.

Quimby (as cited by Funk 1972) proposes that certain Late Paleo-Indian groups (8,000-6,000 B.C.) occupied a specialized and relatively favorable environment on the shores of low-water lakes located in the midst of what were essentially unfavorable coniferous forest environments, coniferous forests having a low carrying capacity for deer and other game. These Late Paleo-Indian assemblages are identified by the presence of "Plano-like" points recovered at isolated surface finds and a few sites (Funk 1972:31-35). The presence of several fluted points

2. Throughout this discussion of prehistoric overview, the Genesee River Basin is included in the area that Ritchie (1969:Fig. 1) identifies as the central subarea of New York State.

in Monroe County and in the western half of Livingston County indicates that Paleo-Indians ranged the Genesee River Valley (Ritchie 1969: Fig. 2; Trubowitz 1974). The one Clovis point found in a private collection suggests to Trubowitz (1974:20) the presence of Paleo-Indians in Livingston County around 8,000 B.C.

Archaic Stage

Climatic changes, beginning around 7,000-6,000 B.C., permitted a northward advance of mixed coniferous-deciduous forests. As the warming trend continued these forests were replaced by the present mixed hardwoods. These changes in the floral environments permitted an increase in the quantity and diversity of game (Ritchie and Funk 1973). The movement of Archaic Indians into the Northeast is correlated with this northward advance of deciduous forests. Carbon-14 dates indicate that this population movement began in New York State in the coastal southeast at around 7,300 B.C. and proceeded up the Hudson River Valley, c.5,000-4,000 B.C. (Ritchie and Funk 1973). Archaic peoples did not reach upper New York State and Canada earlier than 4,600 B.C. Pollen studies suggest that favorable,and what are essentially modern,floral and faunal conditions were established around 4,000 B.C. with the shift of the Carolinian Biotic Province to its present boundary (Ritchie and Funk 1973:54).

The earliest Archaic date for central New York is c.2,500 B.C. for the Lamoka phase. With the exception of the Lamoka Lake type site, Lamoka sites are small camps and almost always located along navigable waters, specifically along small lakes, shallow sections of large lakes, large rivers, streams, and large marshes. They are closely associated with present day water levels and topography (Ritchie and Funk 1973:40-41). Lamoka phase populations lived in a deciduous forest environment predominately of oak, chestnut, birch, and hemlock. The major subsistence resources utilized were deer and fish. Turkey, passenger pigeons, acorns, and other wild plant and faunal resources were exploited in lesser amounts (Ritchie 1969:38-41; Ritchie and Funk 1973:40-41). The territory of the Lamoka phase peoples extended from the Genesee Valley on the west to the Susquehanna River drainage on the east (Ritchie and Funk 1973:42).

Another distinct Archaic culture coexisted within this same geographic range: the Brewerton phase. The utilization of subsistence resources in the Brewerton phase is similar to that of the Lamoka phase, with one major exception. In the Brewerton phase there is greater emphasis upon hunting and less on fishing and acorn collecting than evident for the Lamoka phase, and the settlement pattern differs as well. Brewerton winter sites,as they are tentatively identified, are located inland from large waterways, often on swamps and big springs.

Summer sites are located at productive fishing spots. Lamoka phase sites, however, were almost always located along navigable waters, not inland from them (Ritchie 1969:92; Ritchie and Funk 1973:44).

Brewerton phase and Lamoka phase sites of the Archaic stage are found in Livingston County. One notes the especially intensive occupation of the upper Genesee River Valley by the people of the Lamoka Culture as represented by the heavy distribution of the distinctive beveled adz recovered in the area on all sides of Conesus Lake. Notable Lamoka sites in the upper Genesee River Valley are the Woodchuck Hill site in Scottsville, north of the Livingston County line, and the Piffard site, located west of the Genesee River in Livingston County (Ritchie 1936, 1969).

Transitional Stage

The Transitional stage is distinguished in part by the use of stone pots among Late Archaic cultures, followed by the use of true ceramics. It is manifested in the central subarea of New York State by the Frost Island phase, with a C-14 date of 1250 B.C. $\pm$ 100 years. Camp sites are small and temporary. They are located near rivers, usually on the bank of the first terrace. Subsistence activities consisted of hunting, fishing with nets, and gathering of wild plant foods (Ritchie & Funk 1973:71-72; Ritchie 1969;154-156). The Transitional stage is represented in Livingston County by the Frost Island phase. Frost Island artifacts have been recovered at a number of very small sites having scanty remains and at the multi-component Piffard site.

Woodland Stage

No significant changes in subsistence or settlement patterns distinguish the Early Woodland stage from the preceding Transitional stage. The Early Woodland is identified by the increasing use of Vinette I pottery, the presence of larger numbers of gorgets, and increasing complexity in burial cermonialism as compared to the Transitional stage. The Early Woodland is also identifiable by new additions to the cultural repertoire: tubular smoking pipes, birdstones, boatstones, and bar amulets (Ritchie and Funk 1973:96).

The subsistence base was hunting, fishing, and gathering. Sites tended to be located around large lakes and streams. There is no clear evidence of cultivation practice. A site of the Meadowood phase of the Early Woodland, important as it is one of only a few habitation sites, is the Scaccia site of northwest Livingston County (Ritchie and Funk 1973). A number of Meadowood sites are recorded for Livingston County in the New York State Historic Preservation Office files. None are located in the project area.

The Middle Woodland stage in New York is isolated primarily by the presence of Vinette 2 ceramics and platform pipes, and the continued increase in complex mortuary ceremonialism. The platform pipe is associated with the Hopewellian mound-building complex. Its presence raised the question of whether these cultural changes in New York State were introduced from Ohio or were a local development (Ritchie 1969).

Ritchie (1944,1938,1969) identifies a New York focus of the Hopewellian phase at the Squawkie Hill site on the north bank of the Genesee River. The nature of this focus in western New York is not well defined. In New York there is no evidence of maize agriculture which is associated with Hopewell culture in Ohio. Information in general is limited as present evidence comes primarily from burial sites, not from habitation sites. Fitting (1978:45) considers that regional manifestations such as this focus in the Genesee River Valley are distinctive and should be viewed in the context of local cultural sequences.

The Late Woodland stage in New York State is marked by the introduction of maize, beans, and squash cultivation around 1,000 A.D. and by the associated changes in subsistence, settlement types: large year-round villages, semi-permanent one-house hamlets, hunting camps, fishing stations, workshops, fortified villages, ceremonial dumps, and cemeteries. Known sites demonstrate larger residential groupings, increasing site permanence, and a larger area population than existed before.

Changes in settlement patterns are also evidenced, with most Late Woodland sites not being located on the major waterways. They are located on high hills and knolls near small creeks or springs. These changes in the settlement pattern in New York State are believed to reflect a need for defense against hostile neighbors as well as reflect the major change in subsistence economy (Ritchie and Funk 1973:117-118,359).

Iroquois group divergences in New York are believed to have first appeared in the Late Woodland stage. White (1961) and Tuck (1971) have demonstrated cultural continuity for certain specific Late Woodland cultures of central and eastern New York and the historic Iroquois. Although there are a few prehistoric Seneca sites located between the Genesee River Valley and Seneca Lake to the east, specific prehistoric antecedents of the Seneca are not clearly outlined. At present much of the information regarding prehistoric Seneca comes from the Bristol Hills site near Rochester.

Several significant Late Woodland and historic Iroquois sites are located in Livingston County north and northeast of the Conesus Lake project area. Factory Hollow is a prehistoric site located on Honeoye Creek believed to have been occupied 1595-1615 (Wray and Schoff 1953). Dutch Hollow is a historic village and burial site located in Avon township (Ritchie 1954). The Cameron site is a

historic burial site at Lima, 9.6 km northeast of Conesus Lake (Wray 1966). The southernmost, and the earliest, of the historic Seneca sites (Adams and Tram) are located on a long hill between the towns of Lima and Livonia. The latter town is 1,600 m northeast of Conesus Lake. These were fortified villages about .8 km apart.

Seneca villages occupied between 1575-1687 have been found north and northeast of Tram and Adams sites (Wray and Schoff 1953). This evident northeastward movement has prompted Houghton (1922) to suggest that antecedent prehistoric sites may be located in the east central section of Livingston County, and thus in the Conesus Lake region.

These Late Woodland and historic Iroquois sites are important to archaeological studies because they have provided information regarding tribal development, and movements, inter-tribal communication and trade, early contact between Europeans and Iroquois, and the development of the European-Indian fur trade.

Known Prehistoric Sites Adjacent To And Within The Project Area

In 1973 the State University of New York/Buffalo (SUNY/Buffalo) undertook a surface and sub-surface survey, the Genesee Highway Project in Livingston County. One section of this survey extends northwest of the Conesus Lake project area along the Lima Road and Pole Bridge Road crossing the Conesus River 1 km north of the present project area. Numerous small-quantity find spots that were previously unknown were revealed by the SUNY/Buffalo Highway Project. Results of the SUNY/Buffalo Highway Project surveys indicate that there was considerable prehistoric activity in the glacial uplands surrounding the northern half of Conesus Lake (Trubowitz 1973, 1974, 1975, 1976).

One of the recommendations from these surveys was a call for further investigation of the Fort Hill-Bosley Mill site approximately 1.3 km north of the Conesus Lake project area (Trobowitz 1973:76).

Known prehistoric sites in the Conesus Lake project area as defined by the Scope of Work and by personal communication with Richard Lewis are listed on Table 1 and located on Figure 3. Descriptions of the sites and their specific locations, when known, are presented in Appendix A.

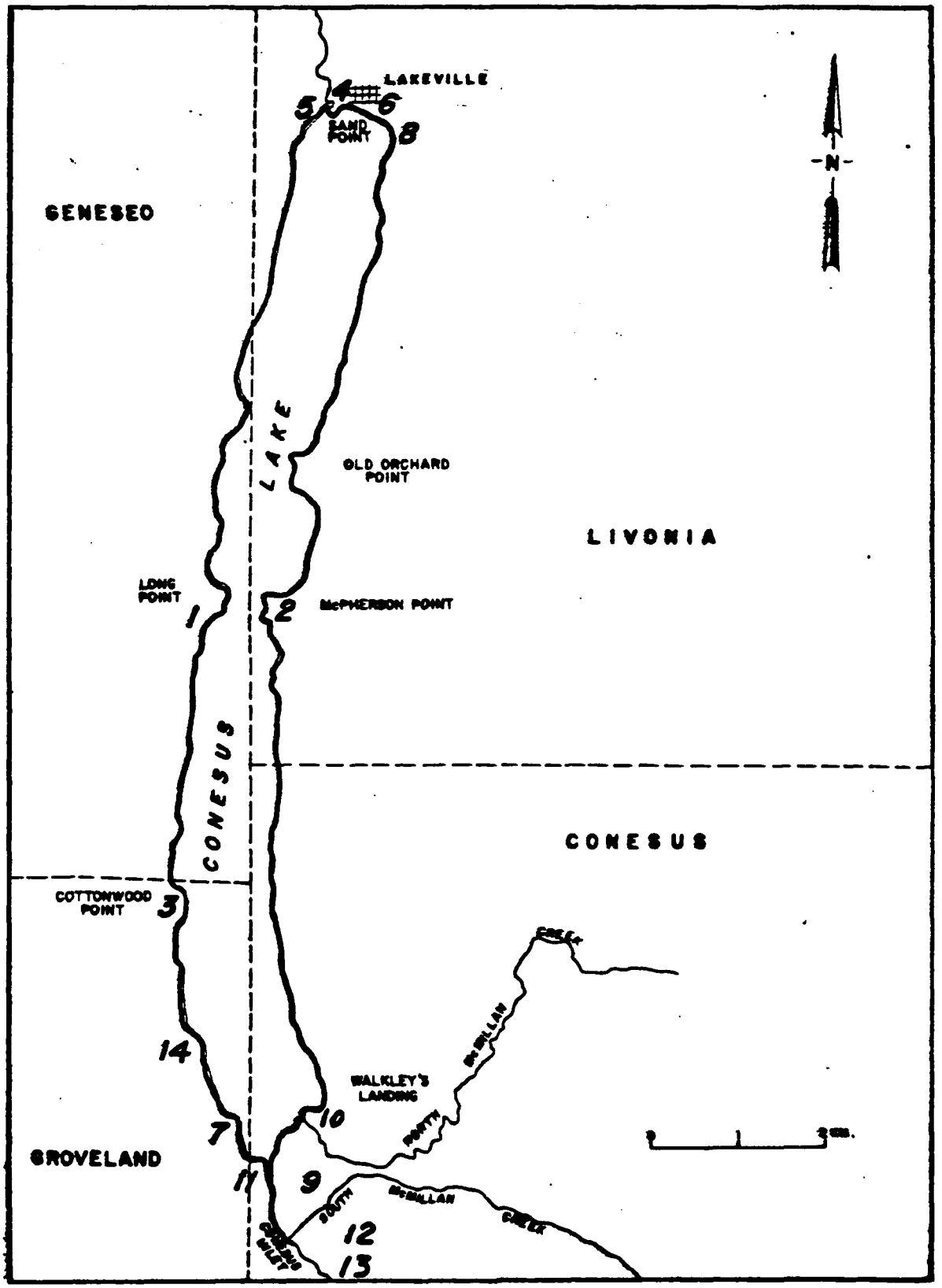

Figure 3. Map of Conesus Lake showing approximate locations of known prehistoric sites within the project area. Numbers refer to descriptions in Appendix A and to Table 1.

TABLE I

Known Prehistoric Sites Within the Conesus Lake Project Area

SITE	CULTURE AFFILIATIONS	NYS MUSEUM SITE FILE #	REFERENCES	MAP #	REMARKS
Long Point Refuse I	Prehistoric, Iroquois and European goods recovered.	#1029	Wright 1950	# 1	
Long Point Refuse II	Archaic, Point Peninsula , Owasco, prehistoric Iroquois, historic Iroquois.		Hayes and Bergs 1969,Parker 1922, Witthoft 1951, Wray and Schoff 1953, Wright 1950.	# 1	Seasonal fishing camp. Completely excavated in 1941 by Wright. Considered important as ceramics recovered may serve as key to understanding prehistoric Seneca cultural development.
McPherson's Point	Archaic	#3697	Parker 1922 Wright 1950	# 2	
Cottonwood		#3761	Parker 1922	# 3	Campsite, no further description.
Lakeville village	Historic Seneca	#3682	Doty 1876 Houghton 1922 Parker 1922, 1926	# 4	Indian and European goods, skeleton unearthed in 1840s during construction at Lakeville.
Lakeville Cemetery			Houghton 1922	# 4	Excavated by Prof. Putnam, results not published.
Lakeville Campsite	Historic Seneca		Parker 1922	# 6	
Lakeville Campsite		#3696	Parker 1922	# 5	
Undescribed Site		#3695	Parker 1922	# 8	Undescribed; location tentative
Conesus village	Seneca	#3712	Beauchamp 1968 Doty 1876 Houghton 1922 Parker 1922	# 9 (# 14)	Location tentative. No indication whether actual artifacts have been recovered to mark site. Parker gives conflicting locations for village. N.Y. Museum accepts western location.

TABLE I (cont.)

SITE	CULTURE AFFILIATIONS	NYS MUSEUM SITE FILE #	REFERENCES	MAP #	REMARKS
Cemetery			Smith 1881		Located by local historian at "Head of Conesus Lake". 10 m burial mound. Smith may be referring to Lakeville cemetery (foot of lake) excavated by Putnam.
Campsite			Parker 1922	# 7	No description or specific location given. Referred to only on Plate 181 of Parker (1922).
Joy Farm Site	Lamoka	#902		#10	Located at Walkley's Landing
Flannigan Site		#904		#12	
Campsite			Parker 1922	#12	"Small campsite."
Site		#3768	Parker 1922	#13	Described by Parker as "area of occupation."
Buchanan Site	Lamoka	#1033		# 5	
Hanna Site	Lamoka, Laurentian, Early Woodland	#1034		# 5	

CHAPTER IV

HISTORIC OVERVIEW

Early European Explorations

At the time of European contact Livingston County, along with Ontario and southern Monroe counties, was the homeland of the historic Seneca Indians. The Seneca were the largest and the westernmost located tribe of the League of the Iroquois. The League of the Iroquois was a confederacy of the Mohawk, Oneida, Onondaga, Cayuga and Seneca tribes that, at the time of initial contact with European explorers, occupied middle New York State from the Mohawk River Valley to the Genesee River Valley.

Archaeological and documentary evidence suggests that there were two Seneca groups, an eastern and a western one. Sometime during the first half of the sixteenth century, the scattered villages of these groups consolidated into fewer and larger villages. These are all located a few miles north of Hemlock Lake which is east of Conesus Lake. In the course of relocating villages, caused by the declining fertility of fields, the Seneca moved their settlements northward out of Livingston County. The Seneca hunting territory, however, extended into Livingston County as well as lands west of the Genesee River Valley throughout the seventeenth century (Abler and Tooker 1978).

Champlain's map, dated 1612, is the first published indication of European knowledge of the Genesee River, Honeoye Lake and the intervening lands. Stewart (1970:5-6) suggests that Etienne Brule was the first white explorer to travel in the lands south of Lake Ontario. Stewart proposes that Brule's travels provided the information about the Genesee River, Seneca villages, and other landmarks which appear on Champlain's map.

The next significant direct contact between Europeans and native populations took place when French Jesuit and Recollect missionaries came to western New York after 1634 (Stewart 1970:26). However, one can infer that the gradually increasing extent of indirect participation in the European fur trade network reached western New York before this time.

1642 to 1650 was a period of warfare between the Iroquois and Huron during which the Iroquois made periodic invasions into Huron territories in Canada. Following Iroquois victories in 1655, the Seneca controlled all of western New York and important portage routes. French contact in western New York was increased after

this period as Christian Hurons captured by the Iroquois asked that French priests come into the area. As a result, Jesuit missions were established at a number of Indian villages. Jesuit missions in the Genesee River Valley were located at the Indian villages of Tatiakon (Rochester Junction), at Gandougarae, and at Ganaota (Lima) (Stewart 1970:41,50).

La Salle established a series of forts along Lake Ontario in 1678-1679. This act was a reflection of the increasing conflicts between the Iroquois and the French arising from attempts by both groups to control the trade in furs with Indians west and northwest of New York State. In July, 1678 a French war party under the command of Marquis de Denonville proceeded as far as the Seneca village Ganaota, at Lima, 9.6 km north of Conesus Lake. En route to Ganaota Denonville burned all Indian villages and crops as he encountered them. He destroyed the village of Ganaota and then returned north. Following Denonville's expedition the Seneca resettled in new locations. The western Seneca moved further westward and settled in the flats of the middle Genesee River (Abler and Tooker 1978; O'Callaghan 1846:237-241; Stewart 1970:68). French and Indian hostilities continued until 1696. Jesuit missions were restored in some of remaining Seneca villages in 1701 and remained until the Jesuits left western New York in 1709-1710 (Stewart 1970).

There are recordings of other scattered visits to the Genesee River country during the mid-eighteenth century. Father Charlevoix in 1721 and Father Picquet in 1751 described the upper Genesee River region. Two Moravian ministers visited the Indian village of Chemussio on the Genesee River in 1750. The famous captive Mary Jemison, "White Woman of the Genesee", was captured in 1755 by Indians in Pennsylvania. She was adopted and incorporated into Seneca culture. About 1756 she moved to what is now western Livingston County (Stewart 1970:82,86-87).

The first official English visitor to Livingston County was Wentworth Greenhalgh who came in the 1670s. French influence, however, continued to predominate until the conclusion of the French-Indian Wars in 1754-1763. The Genesee Valley itself was not directly affected by the Colonial Wars of 1689-1763 (Rayback 1957-59:29-30; Stewart 1970:68,87).

Throughout this period of early exploration Conesus Lake and the surrounding territory was first covered by the Massachusetts Bay Company's Grant of 1629 and by William Penn's proprietary grant of 1681. In this period 1681-1770 both the New York and Massachusetts Provinces claimed this region (Rayback 1957-1959:24).

A deed executed by Iroquois Indian leaders and S. William Johnson at Fort Stanwix on November 5, 1768 established boundary lines between the northern colonies and Indian lands. Western New York State was part of the Indian lands recognized in this treaty (Figure 4).

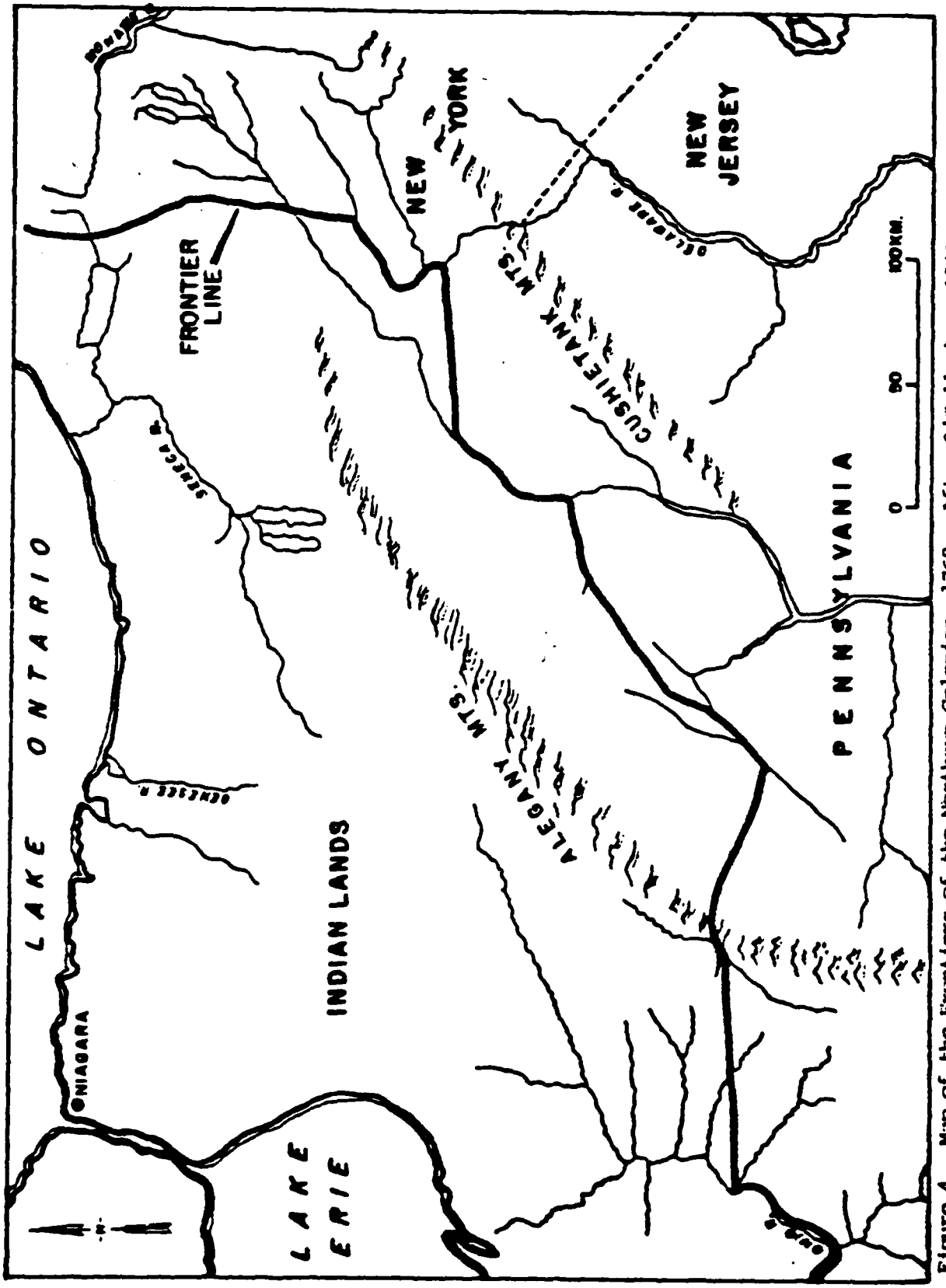

Figure 4. Map of the Frontiers of the Northern Colonies, 1768. After O'Callaghan (1849).

A significant event in the history of Conesus Lake was General John Sullivan's advance around the southern side of the lake as part of the Sullivan-Clinton Campaign of 1776. In the course of the Revolutionary War the British encouraged Iroquois and Loyalists to attack the frontier settlements in eastern and central New York as these settlements were the source of supplies for the Continental Armies. In order to counteract this British strategy American military leaders determined to break the power of the Iroquois. The objective of the Sullivan-Clinton Campaign was to destroy the Seneca (Boyd 1881:14; Doty 1879; Ellis et al. 1973:115-116). Boyd quotes from the journal of Major Norris, September 13, 1779 who describes Sullivan's actions at Conesus Lake:

> Marched at 7 o'clock (from Foot's Corners) proceeded two miles to a town called Kaneysas or Yucksea, consisting of 18 houses, situated on an excellent intervale near a small lake (Conesus Lake) where we found a large quantity of corn, beans, squash, potatoes, cucumber, water melons, etc., and in about this town the army halted four hours to destroy the Town, the corn, and to build a bridge over the Creek (Boyd 1881:140).

Two scouts of this expedition, Lt. Thomas Boyd and Sergeant Michael Parker were captured and killed by the Indians. The scouts' burial southwest of the head of Conesus Lake was subsequently located and they were reburied in Rochester in 1841 (Doty 1876; Livingston County Historical Society 1928).

European Settlement

There was no permanent European settlement in the Genesee Valley until General Sullivan's expedition of 1779 broke Indian domination of the region. Clarification of the disputed legal sovereignty over the region also facilitated the initiation of settlement. Sovereignty over what is presently central and western New York State was ceded by Massachusetts to New York with Massachusetts retaining the right to pre-empt soils from the Indians. The Pre-emption Line was established in December 16, 1786 (Figure 5). On April 1, 1788 Oliver Phelps and Nathaniel Gorham purchased the pre-emptive rights from Massachusetts and began to encourage land sales and settlement of the Genesee lands (Smith 1881:71-73; Turner 1851; Figure 5).

By 1790 some land sales had been made in the tracts northeast, northwest, and southwest of Conesus Lake. These tracts correspond roughly with the present townships of Livonia, Genesee, and Groveland (Figure 6). A tract of the Phelps-Gorham Purchase which included Conesus Lake was sold in 1791 to Sir William Pultney, John Hornby, and Patrick Colquhoun. This became known as the Pultney Estate (Smith 1881:73; Turner 1851).

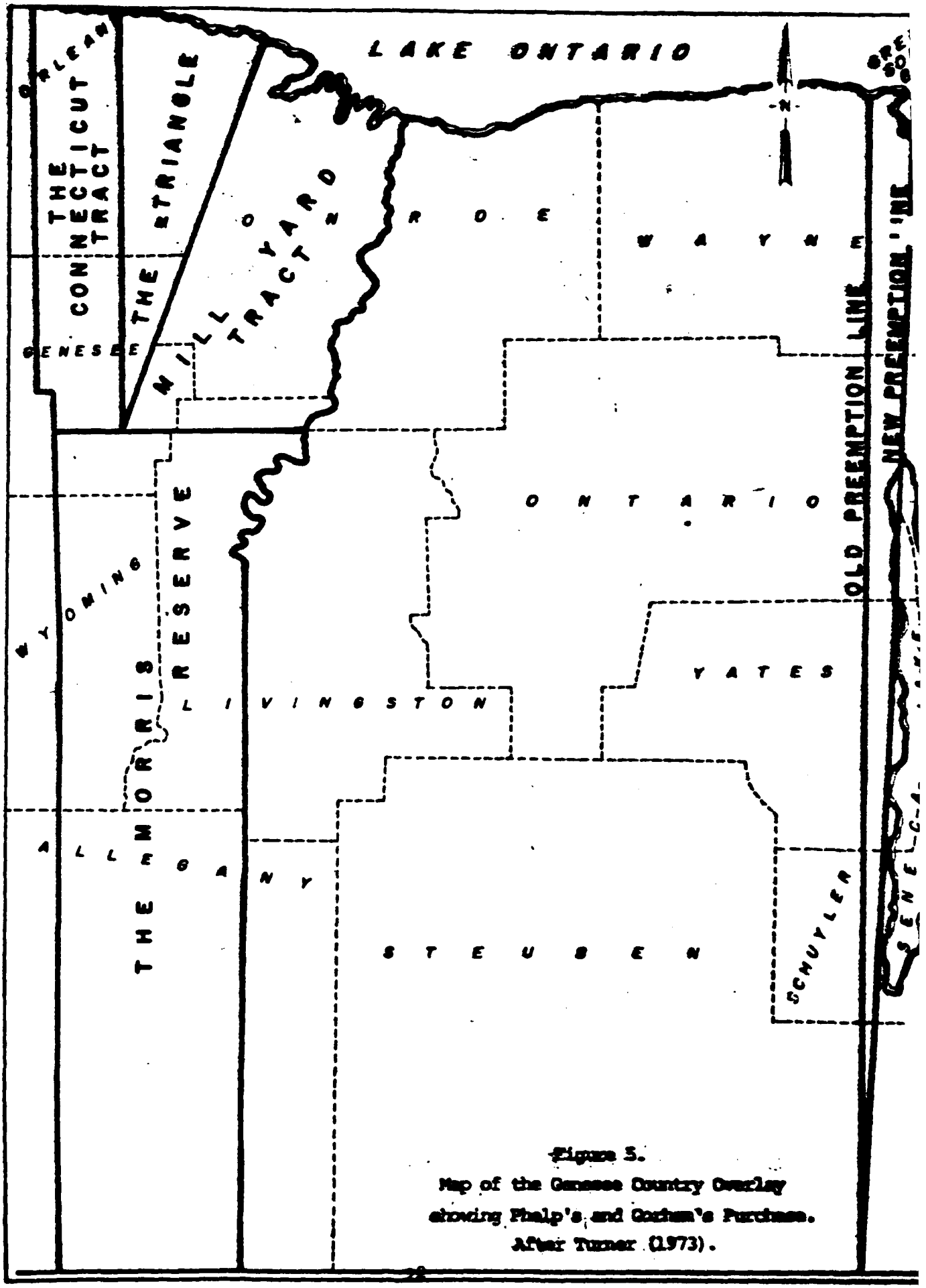

Figure 5.
Map of the Genesee Country Overlay showing Phelp's and Gorham's Purchase. After Turner (1973).

Settlement itself had begun in the northwest tract which corresponds roughly with the present Genesee Township (Figure 6). The first settlement in present Groveland Township was in 1792. The first settler in Conesus Township was James Henderson in 1794. Lakeville was settled before 1800 by John Bosley (Doty 1879:514,557,610).

Farming was the major activity in the upper Genesee Valley and Livingston County from the beginning of initial settlement. Fertility of the land was the chief inducement offered to buyers by the Gorham-Phelps Purchase owners (Turner 1851). The first settlers were farmers from Pennsylvania and Connecticut. A letter written in 1797 notes the increasing numbers and respectability of substantial farmers coming to the region of Genesee Valley from Pennsylvania, Maryland, the Jerseys and New England (Williamson 1849).

A final treaty with the Indians, the Treaty of Big Tree in September 15, 1797, promoted continuing settlement as it resulted in the movement of the Seneca to lands west of the Genesee River. The Seneca sold all of their land east of the Genesee River with the exception of some tracts reserved for their own use. Several of these reservation tracts were located in Livingston County along the Genesee River. These were Squawkie Hill, Big Tree, Little Beard's Town, Caneadea, Canawaugus, and Gardeau. Between 1803 and 1826 the Seneca sold their remaining lands on the Genesee River and moved to other Seneca reservations outside of the Genesee River Valley Region (Abler and Tooker 1978).

Livingston County was formed from Ontario and Genesee counties in 1821. It initially included eight towns. Subsequently, more towns were annexed in 1846 and 1856 to arrive at the present total of seventeen towns (Smith 1881:77-78).

In the early 1800s major turnpike roads crossed the Genesee region at several points, although they did not come into the immediate Conesus Lake project area. These significant transportation routes crossed through the northern, western, and southwestern sections of Livingston County (Figure 7). The Genesee River itself was a major transportation artery carrying intensive river traffic between Rochester, New York and Pennsylvania. This water route was of such importance to commerce that the river was declared a public highway in 1828 (Smith 1881:78).

In the 1850s the Genesee Valley Canal connected Danville, the Genesee River, and the Erie Canal. This completed the major north-south transportation route up the western side of Livingston County (Rayback 1957-59:46; Doty 1876:439). These significant transportation routes crossed through the northern, western, and southwestern sections of Livingston County. The associated upsurge in business activity and land sales thus was concentrated away from Conesus Lake.

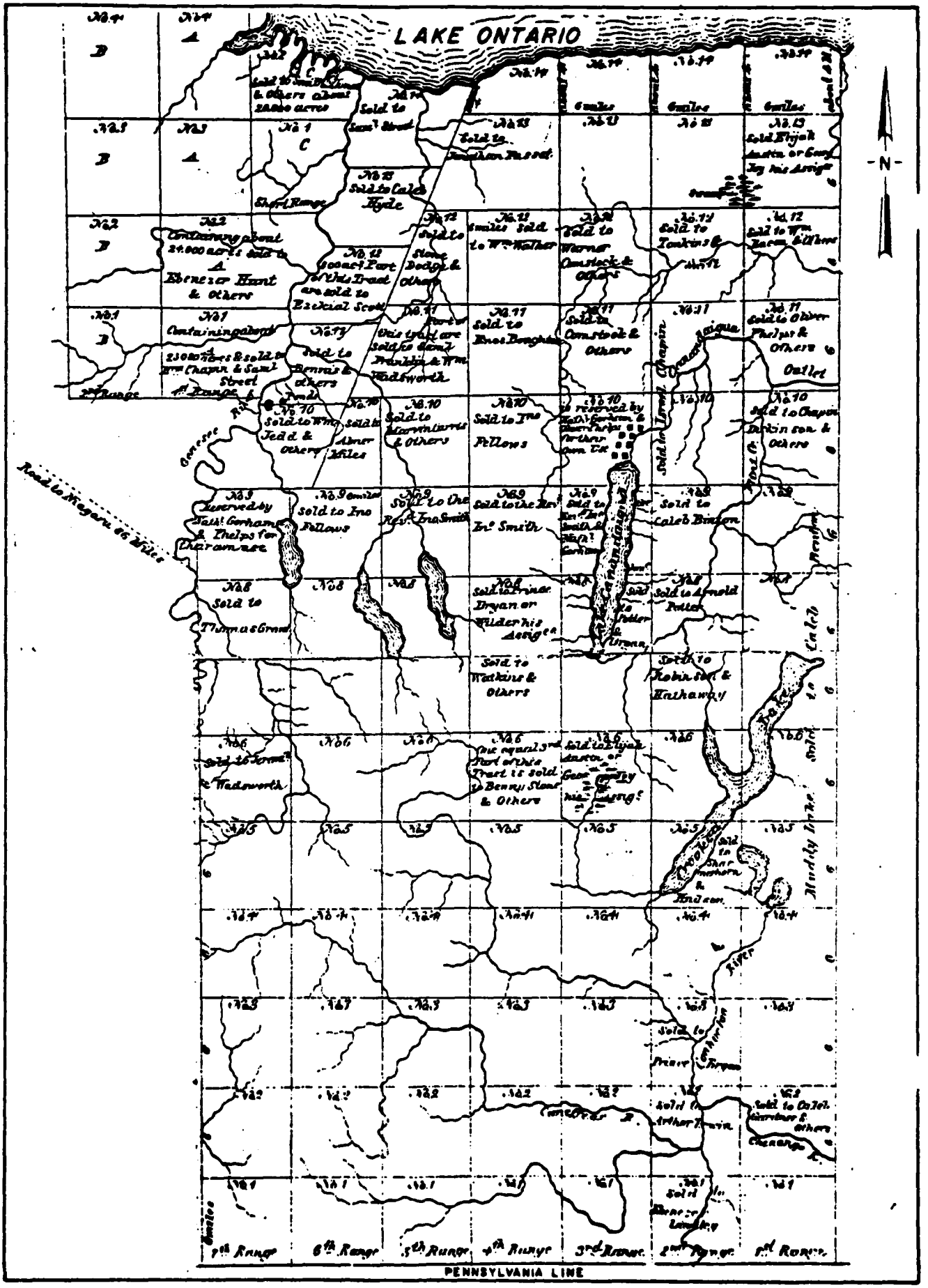

Figure 6. Map of Phelps and Gorham's Purchase, 1790. After Turner (1851).

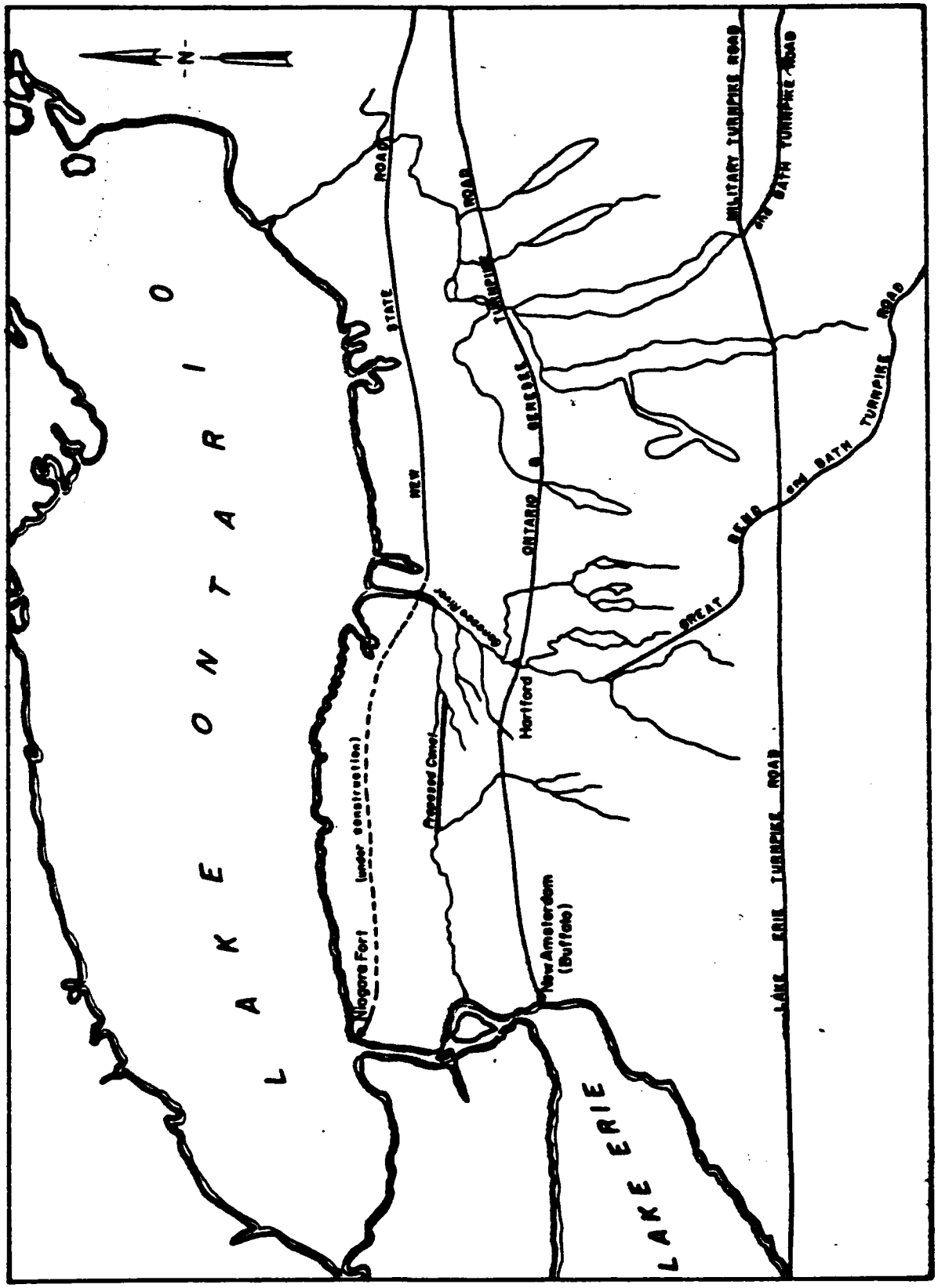

Figure 7. Western New York in 1809. After O'Callaghan (1849c).

Not until 1853 was there a major transportation route near Conesus. The Conesus route of the New York and Erie Railroad ran north-south 2.8 km east of the shoreline. The Rochester-Genesee Route of the railroad was opened in 1859 (Boyd 1887:110; Doty 1876:438-439). The presence of trains, canals, telegraph service, and turnpikes in the 1850s lead to an increasing prosperity for Livingston County, but this did not change the agricultural base of the economy.

The economy of Livingston County was exclusively agricultural from the first European settlement through the 1800s. Grain, hemp, timber, and cattle were cited as major products in 1804 (Monro 1849; Smith 1881:81). As late as the 1950s,80 per cent of the Livingston County land area was in farmland (U.S. Department of Agriculture 1956). The region of Turkey Hills adjacent to the southeastern border of Conesus Lake remained forested through the late 1800s, as did the valley which extends from the head of Conesus Lake to Scottsburg. Boyd notes that in 1887 the center of this valley was still covered in timber (Boyd 1887:10).

Study of the tax maps of 1872 and 1902 (Figures 8-13) clearly reveals the impact of recreational use on development at Conesus Lake. In 1872 houses beyond the towns are scattered, separated by large tracts of land. Those on the Conesus Lake shore are often on the inland side of the perimeter roads. By 1902 there has been an increase of homes on small pieces of property with most located immediately on the lakeshore.

This recreational use continues today. It has increased to such an extent that one writer considers Conesus Lake to be the most heavily utilized warm water lake in the Genesee Drainage Basin (Stout 1970:2). Location and ownership of lakeshore properties in 1872 and 1902 are identified on Figures 8, 9, 10, 11 12 and 13. The approximately 1,800 present owners of lakeshore lands are listed in the Conesus Lake Directory (Conesus Lake Association, Inc. 1979). Homesite locations as of 1946 and 1951 are plotted in the Conesus and Livonia Quadrangles topographic maps (U.S. Geological Survey 1946,1951). A comparison of these maps clearly reflects the increasing utilization of the Conesus Lake shoreline.

Conesus Lake also serves as the source for the water supply for the towns of Genesee, Avon, and Lakeville (Stout 1970:3). Its importance in this regard was established in the early 1900s. By 1914 residents were expressing concern with the problem of pollution of the lake waters and the impact on the water supply (Livingston County Review 1914).

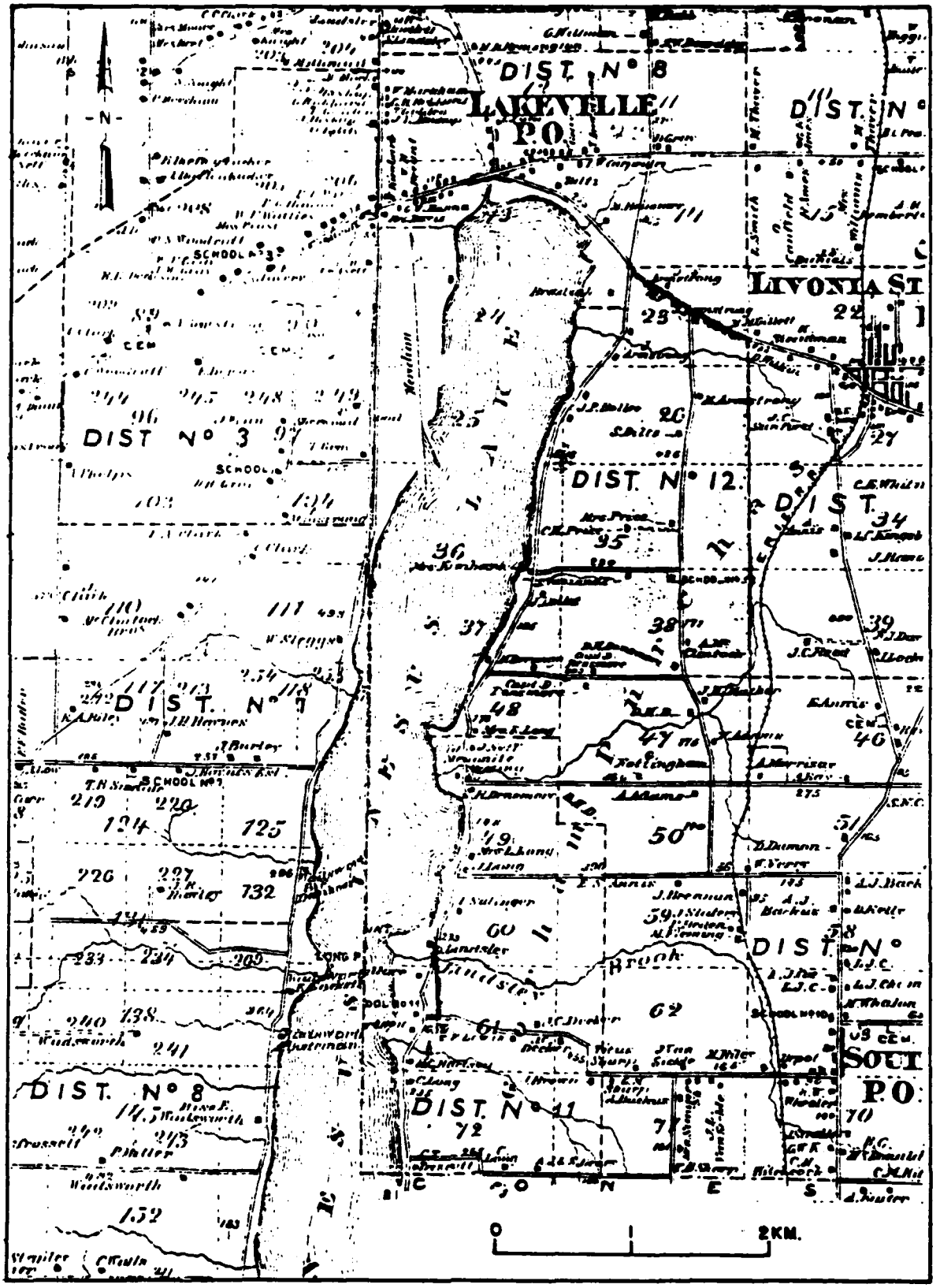

Figure 8. Map of Conesus Lake, 1872 - northern section. (Beers 1872).

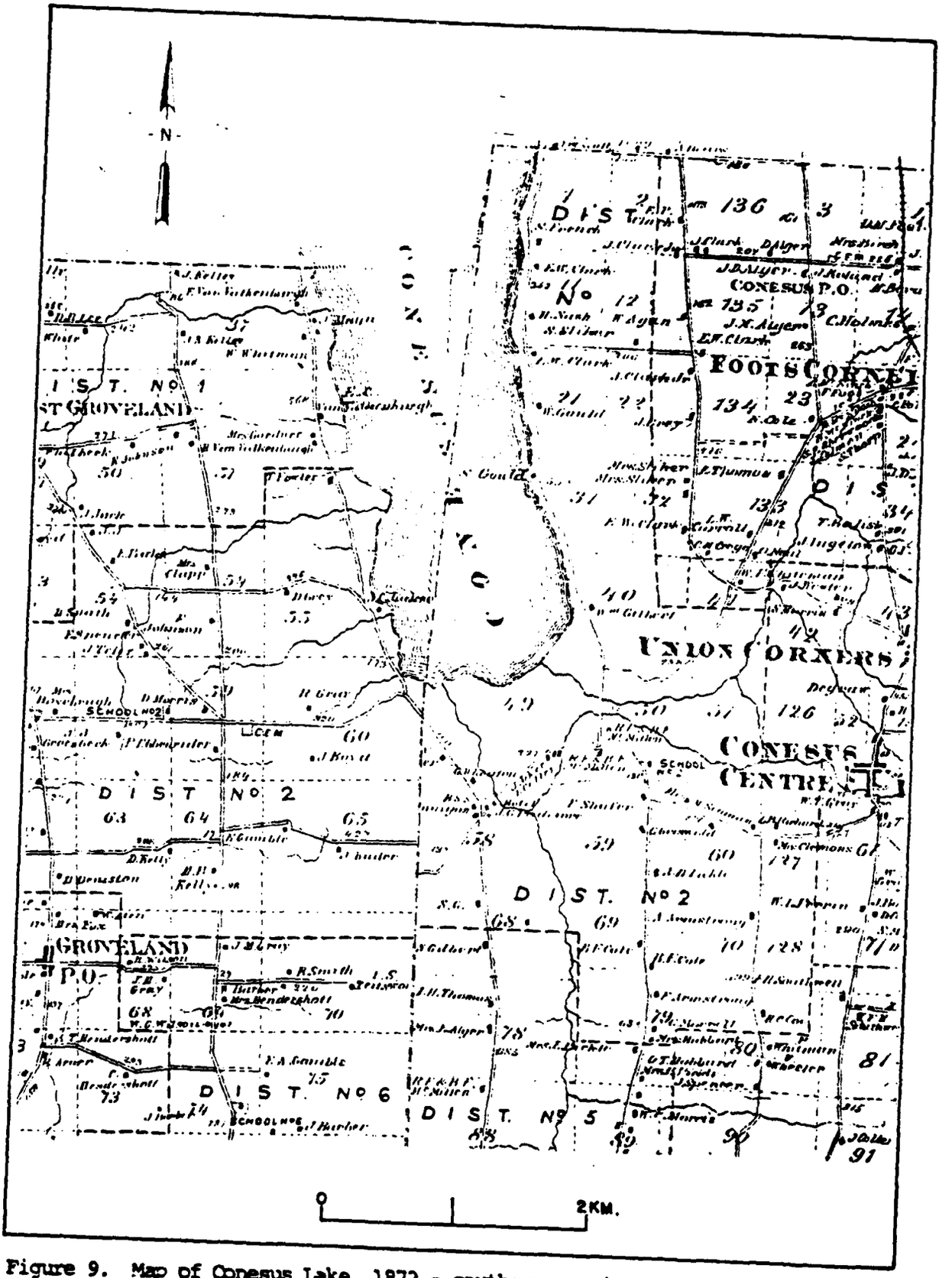

Figure 9. Map of Conesus Lake, 1872 - southern section. (Beers 1872).

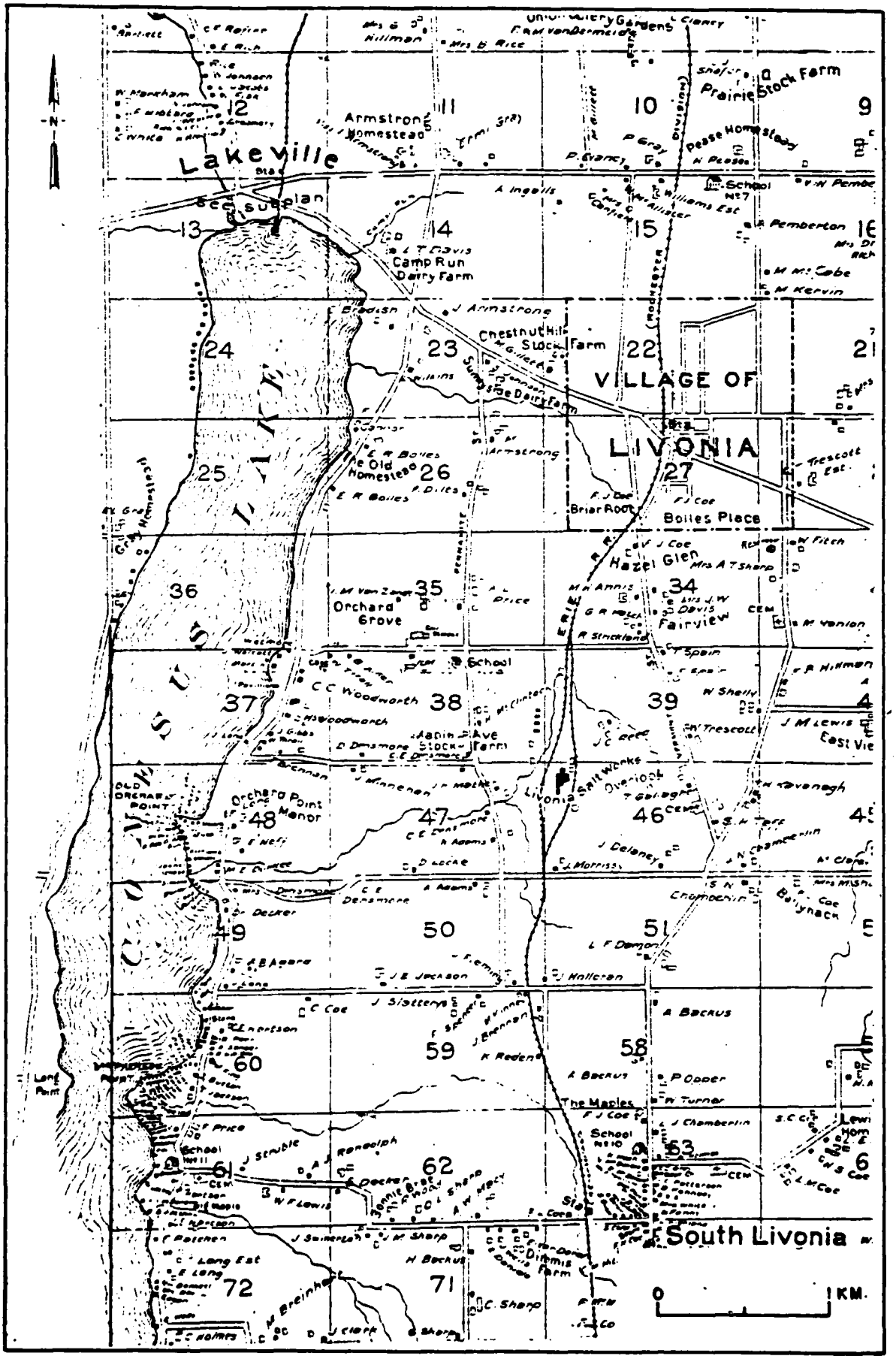

Figure 10. Map of Conesus Lake, 1902 - northern section. (Westgard and Barthel 1902).

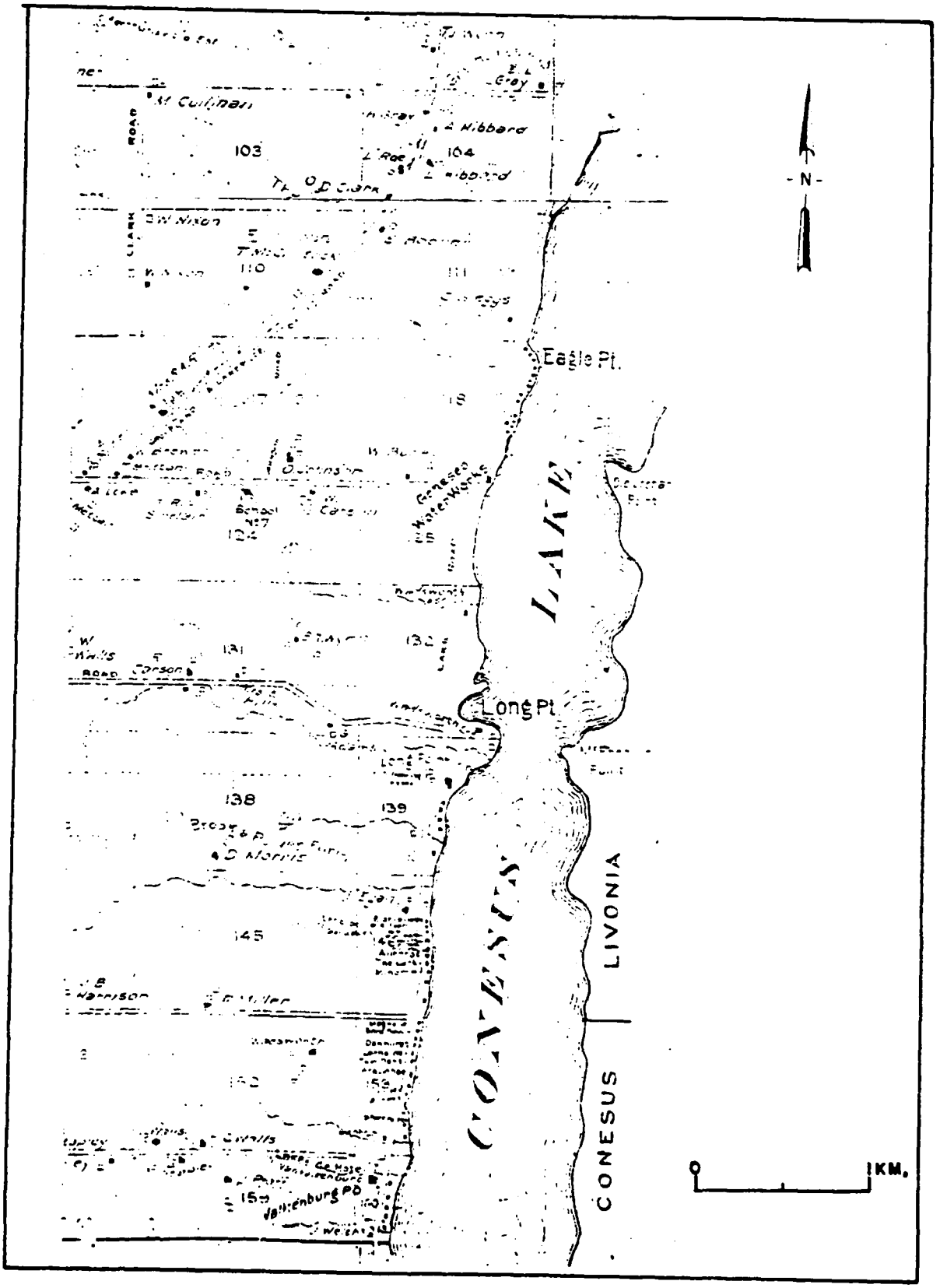

Figure 11. Map of Conesus Lake, 1902 - central section. (Westgard and Barthel 1902).

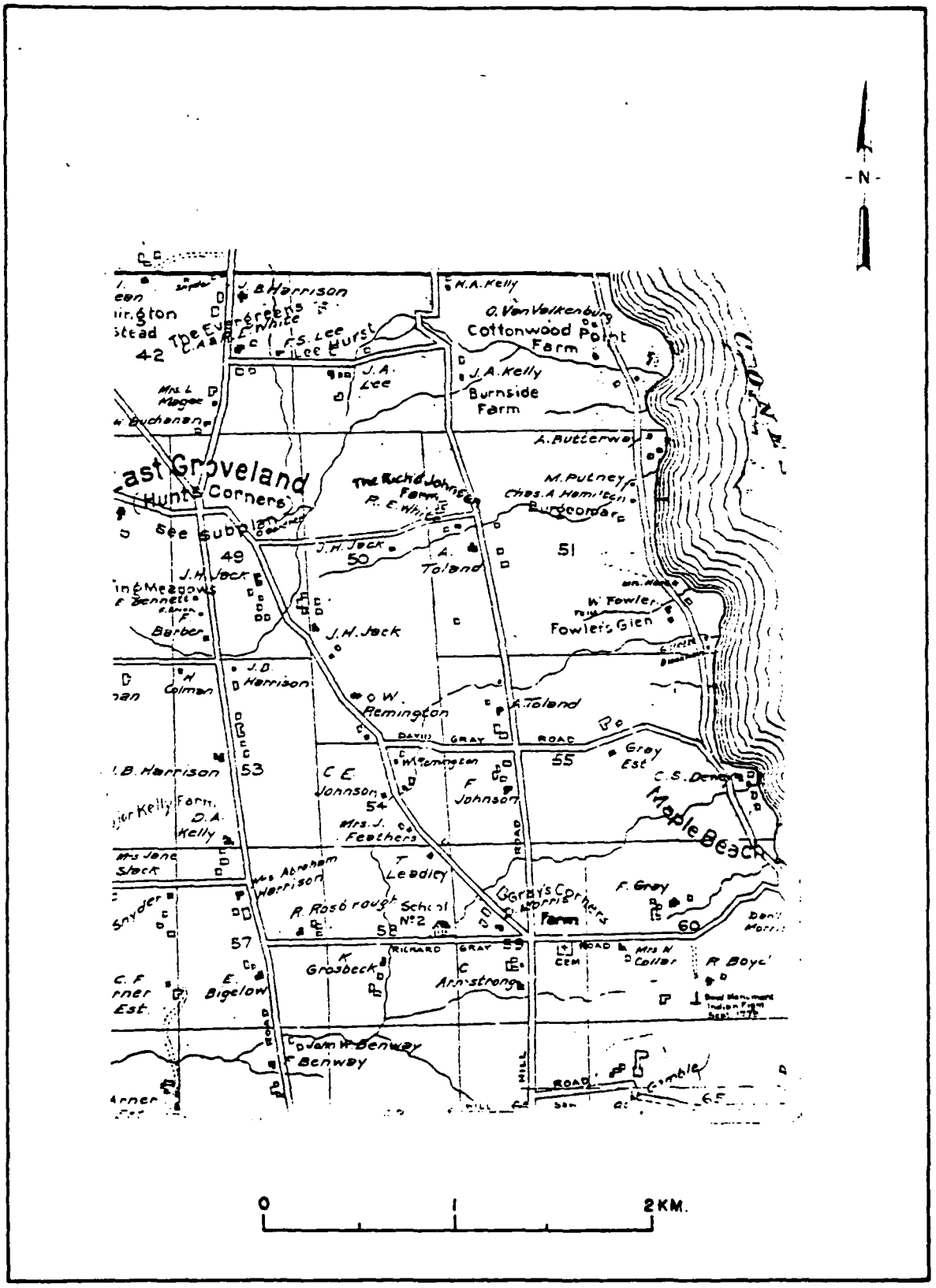

Figure 12. Map of Conesus Lake, 1902 - southwestern section. (Westgard and Barthel 1902).

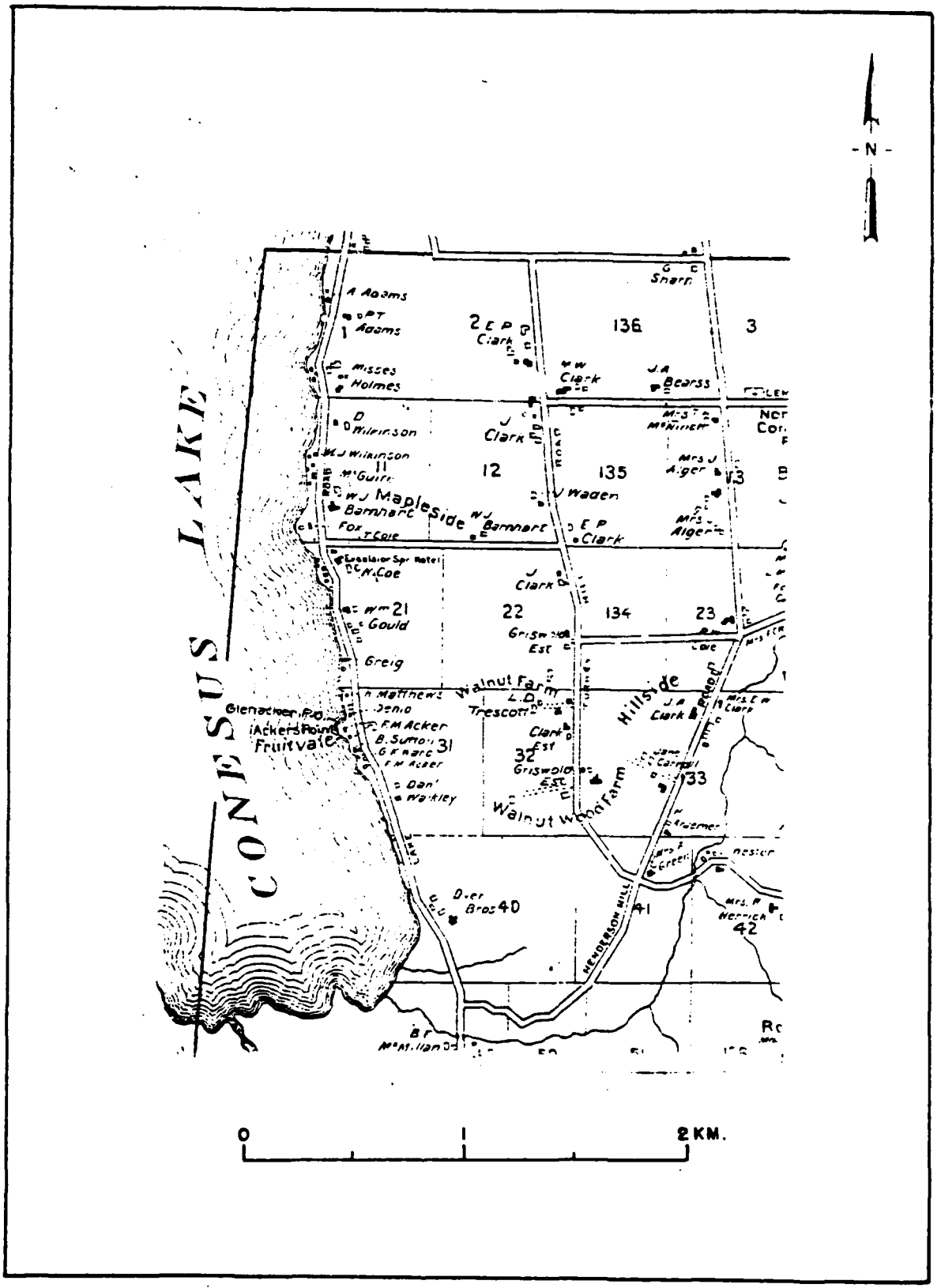

Figure 13. Map of Conesus Lake, 1902 - southeastern section. (Westgard and Barthel 1902).

CHAPTER V

SITE PREDICTION MODEL

The regional site prediction model on file at the New York State Historic Preservation Office (Hammer 1979) was designed to indicate the relative prehistoric site sensitivity of areas in New York State as they are distinguished by large-scale topographic features such as mountains, glaciated uplands, seasonally wet floodplains, drained features on floodplains, swamps and marshes, and terraces and bluffs. This regional predictive model is based upon the specific variables of soil ph (basic, neutral, acidic), drainage (poor, good), and absolute elevation (above 1000',1000-6000', below 600') in addition to the above mentioned topographic variables.

Hammer considers these variables to be significant determinants of potential human habitation. His predictive model is based upon the assumption that the major motivation for site location decisions was the availability of food. Thus he chooses as variables elemental factors that directly indicate variations in vegetational cover, and indirectly indicate variations in animal populations. Plant distributions are dependent upon the factors of soil quality, temperature, water, and sunshine. Hammer does not deal directly with the factors of sunlight as he considers the New York State project area as one climatic region. He considers that variations in elevation will reflect local variations in temperature. Variations in both elevation and drainage,he states,are more indicative of water availability than simple rainfall statistics. Soil type is expressed by the factor of soil ph (Hammer 1979:1-3).

This regional prehistoric site prediction model for New York State identifies four separate zones of site predictability at Conesus Lake (Figure 14). These zones are based upon four separate environmental zones. According to the model,zones 3 and 6 have poor site potential and zones 17 and 18 have moderate site potential. These are only relative terms which indicate that there is a greater likelihood that prehistoric sites were located in zones 17 and 18, but that there is less likelihood that prehistoric sites are located in zones 3 and 6. Zones 17 and 18 are distinguished from zones 3 and 6 by presence of soils characterized by basic ph and good drainage (Hammer 1979). Zones 17 and 18 include the Conesus Lake outlet and northern floodplain, in addition to those glaciated uplands northeast and north of Conesus Lake. Zones 3 and 6 include the lower southeastern shoreline and the western shoreline with their steep slopes and gullies, the forested region of Turkey Hills, and the marsh-filled floodplain south of the Conesus Lake outlet. Moderate site sensitivity is predicted for those lands north and northeast of Conesus Lake between the shoreline points of Pebble Beach and Walkley's Landing.

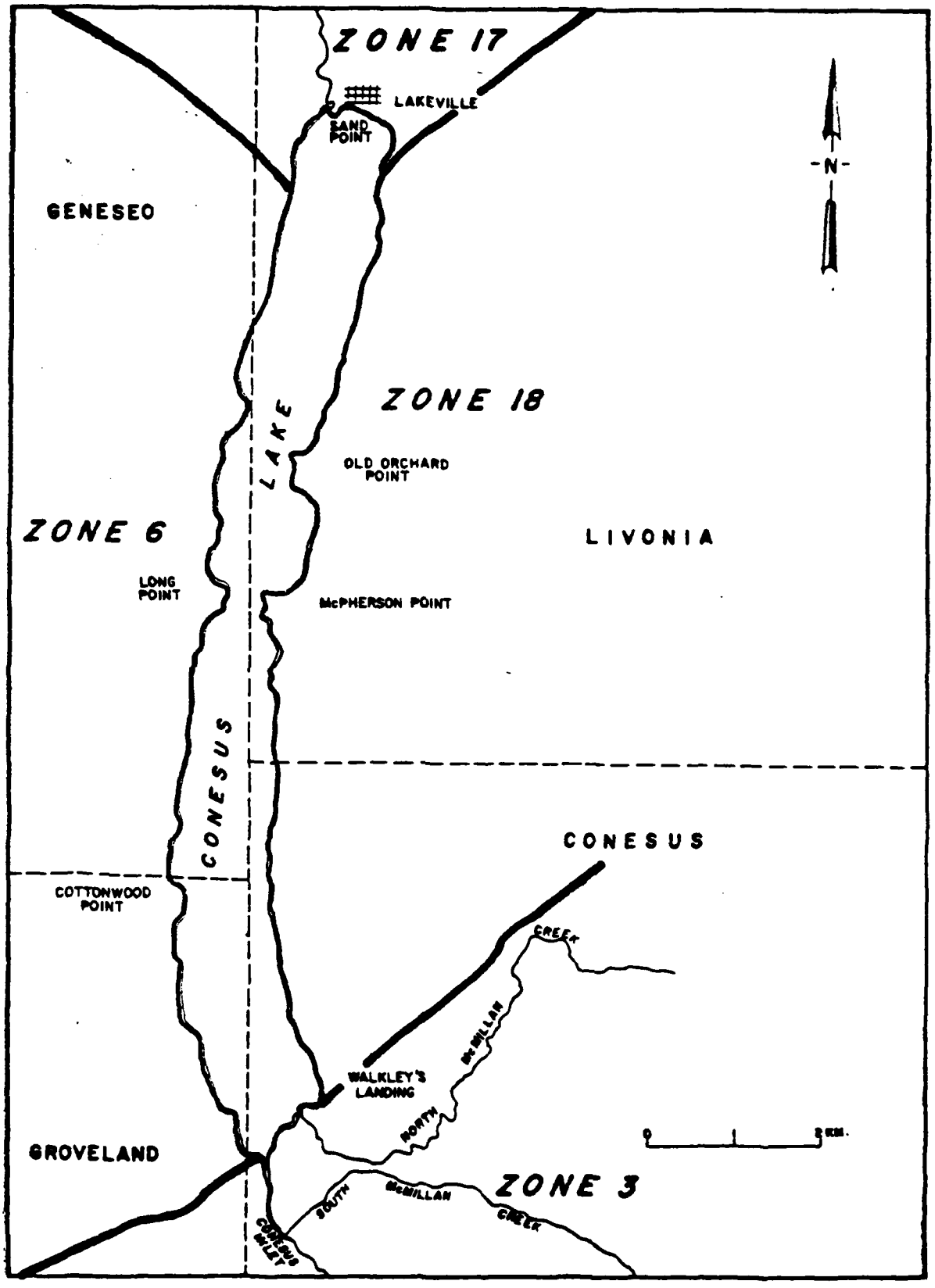

Figure 14. Map of Conesus Lake showing zones of regional site prediction model. After Hammer (1979).

This regional model was designed to indicate the relative prehistoric sensitivity of areas distinguished by large scale topographic features and the regional zones on the map are generalizations. Thus it is necessary to develop a micro-regional project-specific predictive model in order to assess the prehistoric sensitivity of Conesus Lake Project Area more accurately. A micro-regional predictive model was developed by applying those environmental variables used by Hammer, but on a more detailed scale. The variables used were soil ph (acidic, neutral, basic), drainage (good, poor), and degree of slope (0-8%, 8-15%, 15-30%, 30-60%). Degree of slope was utilized as a variable instead of the variable of gross changes in absolute elevation. These environmental variables were chosen for their ability to reveal environmental variability in a small and specific geographical area. The environmental information was obtained from USGS topographical maps and U.S. Department of Agriculture Soil Surveys.

For the micro-regional prehistoric site predictive model we arbitrarily divided the project area into seven zones (Figure 15). Predominant soils, drainage conditions, and degree of slope of these zones are presented in Table 2. Analysis reveals that drainage throughout the project area is generally good with the exception of Zone MR-6, the inlet floodplain. Soil ph was acidic in zones MR-1, MR-2, and MR-4. In zones MR-3, MR-5, MR-6, and MR-7 soil ph was slightly acid to neutral. The most significant differentation in the prime variables is found in the degree of slope in the zones. This ranged from 0% to 60%. Based on the study by Quilty and Versaggi (1979:93), we consider that slopes of over 15% provide less suitable occupational environments; this becomes an important determinant in the micro-zone predictive model when the factors of drainage and ph are equal. Those zones with the majority of land area having a slope of 15% or more we evaluate as having poor site sensitivity. On that basis we consider zones MR-1, MR-2, MR-5, and MR-6 to have poor site sensitivity and zones MR-3, MR-4, and MR-7 to have moderate site sensitivity. This conclusion is generally consistent with the results of the Hammer regional site prediction model with the exception of the indications for the alluvial fans present on the lake perimeter.

In applying this micro-regional prehistoric site predictive model, two factors must be considered. The strength of the model, and therefore the confidence with which one can use it as a planning tool, lies in the correlation between the environmental variables and known sites. The initial lists of known sites upon which the original regional predictive model was formulated are from the site files of the New York State Historic Preservation Office and of the New York State Museum and Science Service. These files do not represent the results of statistically random surveys, nor do the sites identified in them represent a random,unbiased sample of known sites in the state. There is a bias in that these known sites come from areas which have been most surveyed and studied (Hammer 1979:IV-1).

The second factor is that development of the regional and micro-regional prehistoric site predictive models is still in an evolving state. Due to limited resources, the testing necessary to develop an optimum statement of confidence, statistical and archaeological has not yet been executed.

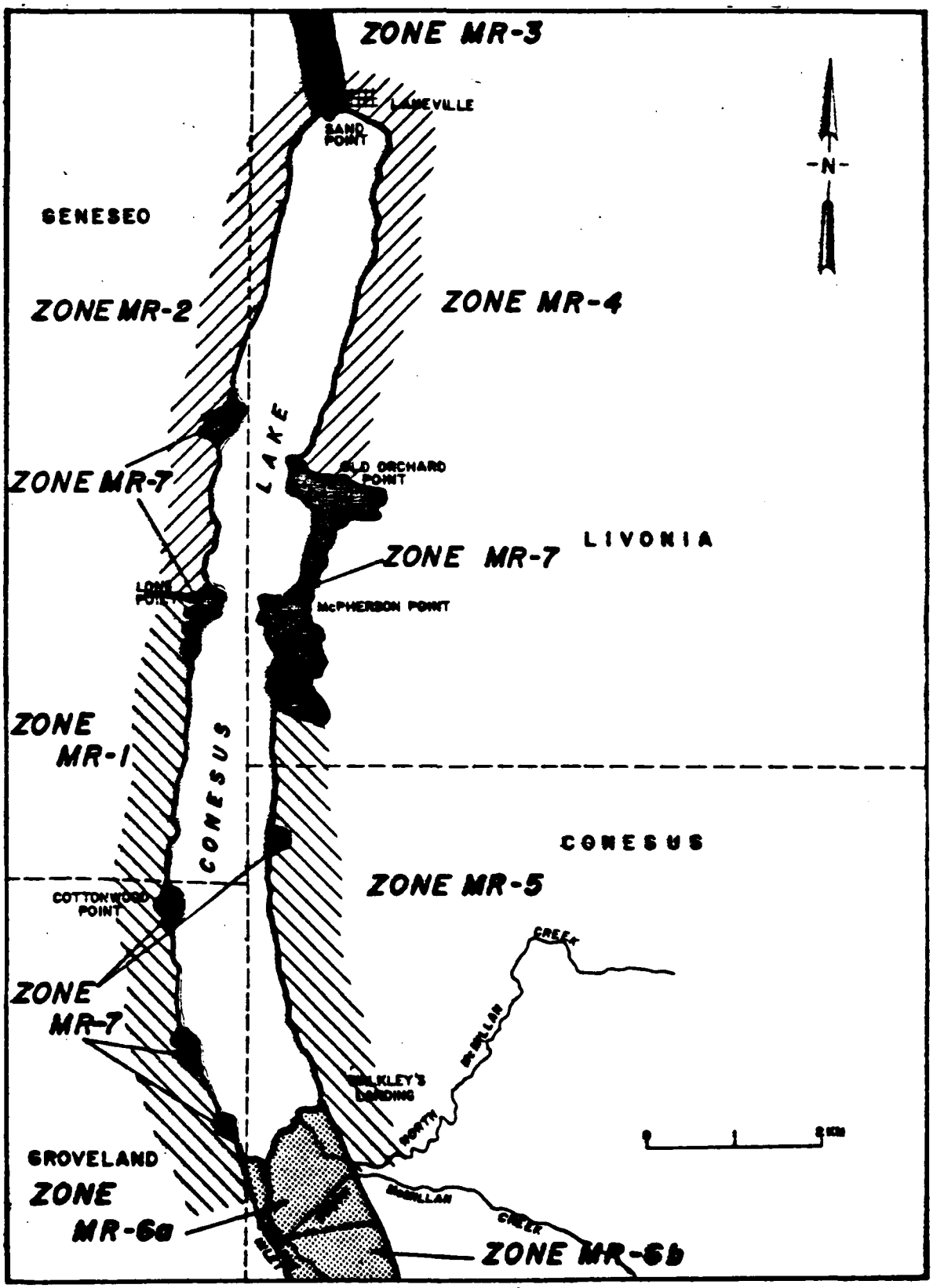

Figure 15. Map of Conesus Lake showing zones of micro-regional site prediction model.

TABLE 2

Micro-Regional Prediction Model Variables

SOIL	DRAINAGE	Ph	DEGREE OF SLOPE
Zone MR-1. Long Point - Conesus Lake Inlet			
Lansing	good	acid	15-30%
Lansing	good	acid	8-15%
Lansing	good	acid	0-8%
Zone MR-2. Long Point/Eagle Point - Lakeville			
Cazenovia	good	acid-neutral	8-15%
Lansing	good	acid	8-15%
Lansing	good	acid	15-30%
Caneadea	good/poor	acid	5-10%
Zone MR-3. Lakeville - 1 mile north on Conesus Creek			
Odessa	good	acid-neutral	0-5%
Schoharie	good/poor		0-2%
Alluvial soils	good	neutral	0-5%
Zone MR-4. Lakeville - Old Orchard Point/Hartson Point			
Ovid		acid	3-8%
Cayuga	good	acid	15-30%
Cazenovia	good	acid	0-8%
Cayuga	good	acid	0-8%
Berrien	good	acid	0-5%
Zone MR-5. Old Orchard Point/Hartson Point - Walkleys Landing			
Cazenovia	good	acid-neutral	8-15%
Lansing	good	acid	15-30%
Palmyra	good	acid-neutral	15-25%
Zone MR-6. Inlet floodplain			
Wayland	poor	acid-neutral	8-15%
Carlislse	poor		0-1%
Eel	moderate	neutral	0-2%
Zone MR-7. Alluvial Points			
Palmyra	good	acid-neutral	0-5%
Chagin	good	acid	0-15%
Eel	good	neutral-base	0-2%
Howard	good	acid	0-5%

CHAPTER VI

SUMMARY

The historical documentary search and the resultant study of the historical overview reveals that the only significant historical activities which occurred in the Conesus Lake project area were the establishment of the community of Lakeville before 1800 at Conesus Lake outlet and General Sullivan's advance across the marsh at Conesus Lake inlet. There is also one unsupported reference by Boyd (1887:81) to the Head of the Lake Village, supposedly established in 1793 with taverns, hotels, and a blacksmith shop. Boyd states that no further references or records exist for this village. There is no indication of such a village on any of the maps that were consulted during this investigation.

One informant referred to a mill located at the site of a present bait shop and the flood control dam at Lakeville. This mill may have been Olmsted's Mill, built in the 1840s (Doty 1876).

The National Register of Historic Places, current through 1971, has no listings for Livingston County (U.S. Department of the Interior 1972). The Register of Historic Places in New York State has one listing in Livingston County (New York State Department of Parks and Recreation 1976). However, this site lies outside of the Conesus Lake Project area.

When assessing historical, cultural resources one must recognize potential data for future research questions as well as sites of present historical and theoretical significance. King (1977) advises that to date there has been little concern in western New York State with cultural patterns of the 1800s. Representative farmhouses of this period may provide needed data in future studies. As Conesus Lake is between western and central New York State we inquired about the existence of nineteenth century houses in the project area.

A school was established in 1823 on Schoolhouse Road (Boyd 1887). This Schoolhouse #5 is located outside the project area and the extended project area. It cannot be determined through preliminary on-site inspection and conversation with Patricia Schaap, Livingston County Historian whether the present structure (Plate 1) is the original schoolhouse.

Contrary to our expectations regarding the presence of historic sites, conversations with Patricia Schaap, Livingston County Historian, Donald Auble, President of the Conesus Lake Association, Inc., and with local residents, together with results of the vehicular survey, did not reveal the presence of a structure or site having potential local or national historical significance in the Conesus Lake project area.

It is our conclusion that there was varied prehistoric utilization of the Conesus Lake floodplains and alluvial fans. This consideration is based upon the two predictive models, the locations of known prehistoric sites in the project area, and the indications of the SUNY/Buffalo Genesee Highway Project. Normally, in this situation we would suggest further investigation in the form of systematic subsurface testing of those zones having moderate site sensitivity.

Disturbance in these zones, however, is evident. Over 1,800 houses and cottages have been erected on the narrow floodplain and the projecting alluvial fans of the western and eastern shorelines of Conesus Lake (Auble 1979, personal communication). With the exception of the inlet floodplain, the resulting housing pattern runs in a dense line around the perimeter of the lake. The absence of undisturbed land is readily apparent in photographs of the Conesus Lake perimeter (Plates 2 and 3).

The count of 1,800 houses does not include the construction involved for a century and a half at the community of Lakeville. The construction of Highway 20A, the bridge crossing Conesus Creek at the lake outlet, and a small flood control dam have also contributed to disturbance of subsurface resources in zones of moderate site sensitivity (Plate 4).

The shoreline has been altered by major landfills at Lakeville, at Long Point, and at the inlet of Conesus Lake. Sand Point itself has been formed by recurrent landfilling (Stout 1970; Figure 16). Of primary consideration is the fact that, with the exception of the inlet and outlet floodplains, the actual area of impact is an extremely narrow band of land along the eastern and western shorelines of Conesus Lake. This area has been disturbed by the construction of bulkheads and docks (Plate 5). A sewer system serving all 1,800 houses was installed in 1973. Prior to this, septic tanks and drain fields had been utilized. The construction involved added to the considerable disturbance present in the project area 100m east and west of the lake (zones MR-1, MR-2, MR-4 and MR-5 on Figure 15).

Flooding is another source of disturbance. Minor flooding occurs annually in the spring. Livingston County histories describe a major flood in 1835 (Doty 1876; Smith 1881). The highest flood stage on record for Conesus Lake occurred March 1956. Substantial flooding is also recorded for the years 1936, 1954, 1960, and 1972 (Army Corps of Engineers 1977).

In addition to the annual flooding, fluctuations in the lake water levels have been recorded. Boyd notes a drop in the water level since from the late 1790s until the 1880s (Boyd 1887). Elderly Seneca Indians in the mid 1800s stated that the Conesus Creek floodplain south of the lake inlet was marshland in their youth and not forested (Turner 1851:129). One infers from this that a higher

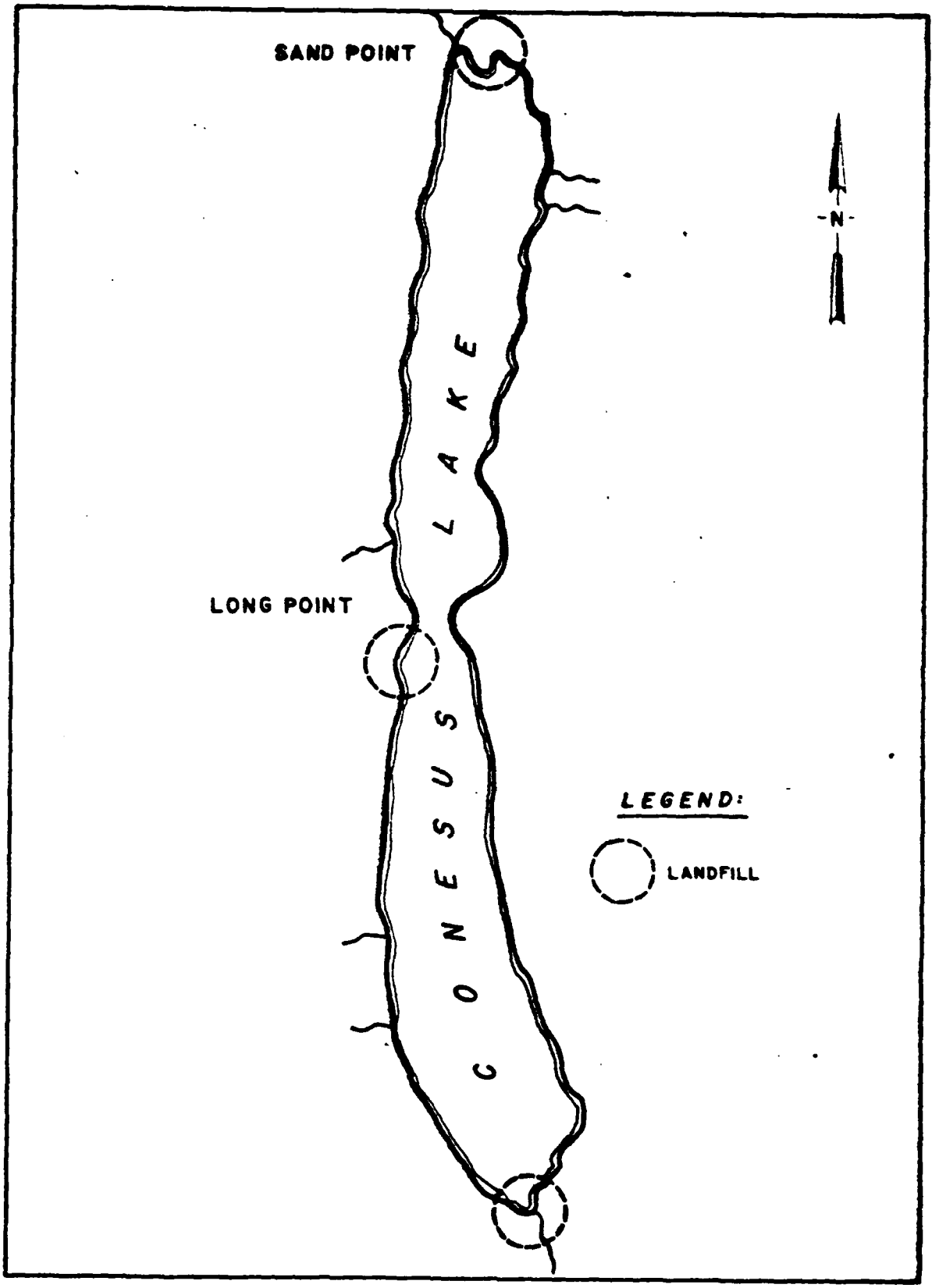

Figure 16. Landfill at Conesus Lake. After Seaverd (1968).

water level existed in the early 1800s. In the last twenty-five years the water level has risen 60.96cm (Lewis 1979, personal communication). Such fluctuations make it difficult to determine the boundaries of the prehistoric shoreline. This is an important factor as most Archaic sites in the central New York State sub-area were located along the shores of lakes, large rivers, streams, and large marshes. If similiar fluctuations occurred throughout the prehistoric period some sites may be preserved underwater and other sites may have been disturbed by erosion.

CHAPTER VII

RECOMMENDATIONS

Taking into assessment our findings regarding historic and prehistoric site sensitivity and the degree of local disturbance in the proposed area of impact, we make the following recommendations:

1. It is not necessary to do further testing of the 100 m bordering the northern, eastern, and western shoreline of Conesus Lake (zones MR-1, MR-2, MR-4, MR-5, and MR-7 on Figure 15). Although the nature of disturbance is such that presently unknown subsurface prehistoric and historic site or culture remains may be present in small open areas between houses, sewer lines, gas lines, cesspools, roads, and bulkhead construction, we limit these recommendations of subsurface reconnaisance due to the fact that no direct effect is expected along the eastern and western shorelines from the proposed new flood control measures other than a stabilization of the lake waters at their present height.

2. There are approximately 8,094 sq m of relatively undisturbed farmland on Old Orchard Point (Plate 6). In view of the moderate site sensitivity of these alluvial points we recommend reconnaissance level subsurface testing of this small area (Figure 17).

3. One section of the inlet floodplain (zone MR-6a on Figure 15; Plate 7) has a different soil composition and therefore better drainage than the rest of zone MR-6; and is relatively undisturbed. There are references to European-Indian contact sites in this approximate area and General Sullivan's march crossed Conesus Creek somewhere in this vicinity. Therefore, subsurface testing is recommended for zone MR-6a. The remaining section of zone MR-6 is a Fish and Wildlife Management Area under control of the New York State Department of Environmental Conservation. We do not recommend any further testing for this section (Figures 15 and 17) as it is in a protected state. Nor is it expected to be affected by any changes of water level which may result from dam construction.

4. The floodplain of the outlet north of Lakeville is relatively undisturbed, with the exception of the presence of one house. The area is covered by wet woodlands. Subsurface testing and reconnaisance is recommended for this section of the project area (Figure 17).

5. At the time of actual construction of the proposed new flood control dam we advise that the Army Corps Engineers archaeologist be present to properly recover and record those cultural materials which may be unearthed in the process (flood control dam at outlet, zone MR-3 on Figure 15). As previously noted, Indian and European artifacts were recovered at the outlet at Lakeville during previous construction.

Recommendation Summary

Based upon the findings of the two prehistoric site predictive models, and information about known prehistoric and historic sites, we would normally recommend reconnaisance level subsurface testing of zones MR-3, MR-4, MR-6a, and MR-7 (Figure 15). However, due to the disturbance of many of these areas and the limited range of expected impact we limit these recommendations of reconnaisance level subsurface testing to the following areas; (a) zone MR-3 from the northern limits of Lakeville to the project area boundary 1.6 km north on Conesus Creek, (b) 8,024 sq m of farmland at Old Orchard Point, and (c) zone MR-6a of the lake inlet.

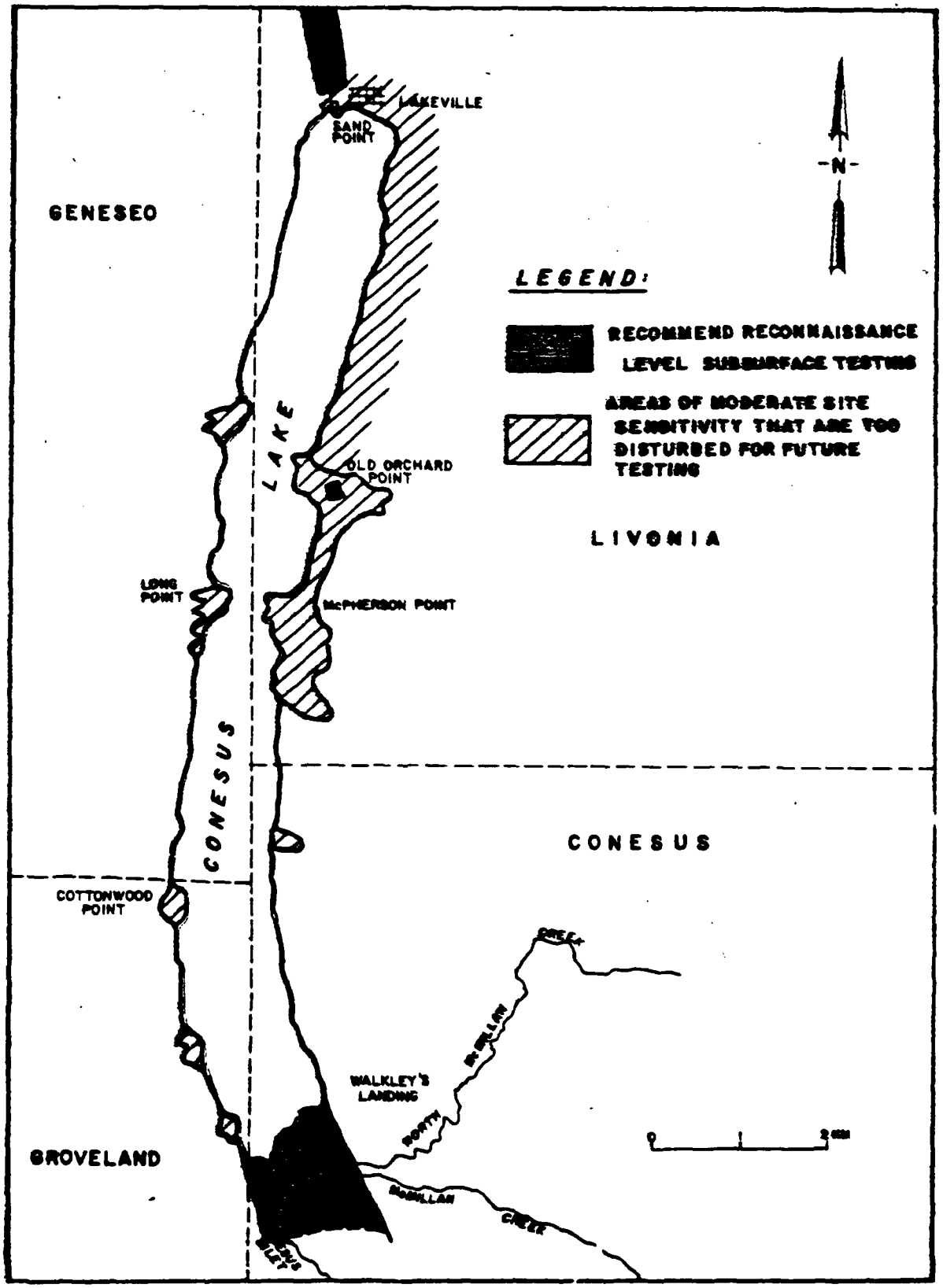

Figure 17. Map of Conesus Lake showing zones of recommended testing.

REFERENCES CITED

Abler, Thomas S. and Elizabeth Tooker
1978 Seneca. In Handbook of North American Indians: Northeast, Vol. 15, edited by Bruce G. Trigger, pp. 505-517. U.S. Government Printing Office, Washington.

Apfel, E.T.
1941 Origin of the New York State Finger Lakes. General Services Administration Bulletin 57.

Beauchamp, William
1907 Aboriginal Place Names of New York. New York State Museum Bulletin 108.

Beers, Frederick W.
1872 Atlas of Livingston County. F. W. Beers and Company, New York.

Boyd, William
1887 History of the Town of Conesus, Livingston County, New York. Boyd's Job Printing Establishment, Conesus, New York.

Chadwick, G. H. and E. U. Dunbar
1924 Genesee Glacial Lakes. General Services Administration Bulletin 35.

Coates, D. R.
1976 Quaternary Stratigraphy of New York and Pennsylvania. In Quaternary Stratigraphy of North America, edited by W. C. Mahaney, pp. 65-90. Dowden,Hutchinson and Ross, Stroudsburg, Penna.

Conesus Lake Association, Inc.
1978 Conesus Lake Directory. Livonia, New York.

Dice, Lee R.
1943 The Biotic Provinces of North America. University of Michigan Press, Ann Arbor.

Doty, Lockwood L.
1876 A History of Livingston County, New York. Edward E. Doty, Geneseo, New York.

Ellis, David M., James A. Frost, Harold C. Syrett and Harry J. Carman
1973 A History of New York State. Second printing of revised edition, 1976. Cornell University Press, Ithaca, New York.

Fairchild, H. L.
1928 Geologic Story of the Genesee Valley and Western New York. H.L. Fairchild, Rochester, New York.

1932 Closing Stage of New York Glacial History. General Services Administration Bulletin 43.

1934a Cayuga Valley Lake History. General Services Administration Bulletin 45.

1934b Seneca Valley Phsiographic and Glacial History. General Services Administration Bulletin 45.

Fitting, James E.
1978 Regional Cultural Development, 300 B.C. to A.D. 1000. Handbook of the North American Indians; Northeast, Vol. 15, edited by Bruce Trigger, pp. 44-57. U.S. Government Printing Office, Washington.

Funk, Robert E.
1972 Early Man In The Northeast And The Late-Glacial Environment. Man in the Northeast 4:7-39.

Guthe, Alfred
1958 The Late Prehistoric Occupation in Southwestern New York; An Interpretive analysis. Researches and Transactions of the New York State Archeological Association, Vol. 14.

Hall, James
1843 Geology of New York, Part IV. Albany.

Hammer, John
1979 Testing Correlations Between Cultural and Environmental Data In New York, New York State Historical Preservation Office, Albany.

Hayes, III, C.F. and L. Bergs
1969 A Progress Report on an Archaeological Site on the Farrell Farm: The Cole Gravel Pit 1966-1968. New York State Archaeological Association Bulletin 47:1-15.

Houghton, Frederick
1922 The Archeology of the Genesee Country. Researches and Transactions of the New York State Archeological Association, Vol. 3.

King, T.F., P.P. Hickman and G.C. Berg
1977 Cultural Resource Management: An Anthropological Approach. Academic Press, New York.

Livingston County Historical Society
1928 Boyd and Parker, Heroes of the American Revolution. Livingston County Historical Society, Geneseo. New York.

Livingston County Review
1914 Conesus Lake Water. September, pp. 3-5.

Map of New York State
1973 Rand McNally Company.

Munro, Robert
1849 A Description of the Genesee Country, in the State of New York. In The Documentary History of the State of New York, Vol. II, edited by E. B. O'Callaghan, pp. 1169-1189. Originally printed in 1804. Weed, Parsons and Company

New York State Department of Parks and Recreation
1976 Register of Historic Places in New York State, Vol. II. 1969-1973.

O'Callaghan, E. B. (editor)
1849a A Map of the Genesee Lands in the County of Ontario and State of New York according to an accurate Survey which was made of the same 1790. In The Documentary History of the State of New York, Vol. II. Weed, Parsons and Company, Albany.

1849b Papers relating to M. de Denonville's Expedition to the Genesee Country and Niagra 1687. In The Documentary History of the State of New York, Vol.I, pp. 191-277. Weed, Parsons and Company, Albany.

1849c Western New York in 1809. In Documentary History of the State of New York, Vol. II, O'Callaghan, ed. Weed, Parsons and Company, Albany.

Parker, Arthur C.
1922 The Archaeological Hisory of New York . New York State Museum Bulletin, Nos. 237-238.

1926 The History of the Seneca Indians, reprinted in 1976. Ira T. Friedman, Port Washington, New York

Quilty, Kenneth and Nina M. Versaggi
1979 Binghamton 201 Facilities Plan Cultural Resources Reconnaissance Survey. Public Archeology Facility at State University of New York, Binghamton.

Rayback, Robert T.
1957-1959 Richards Atlas of New York State. Frank E. Richards, Phoenix, New York.

Ritchie, William
1936 New Evidence Relating to the Archaic Occupation of New York. Researches and Transactions of the New York State Archaeological Association, Vol. 8.

1938 A Perspective of Northeastern Archaeology. American Antiquity 4 (2):94-112.

1944 The Pre-Iroquois Occupations, Rochester Museum Arts and Science Memoir 1.

1954 Dutch Hollow, An Early Historic Period Seneca Site in Livingston County, New York. Researches and Transactions of the New York State Archaeological Association, Vol. 13.

1969 The Archaeology of New York State, revised edition. Natural History Press, Garden City, New York.

Ritchie, William and Robert Funk
1973 Aboriginal Settlement Patterns in the Northeast. New York State Museum and Science Service Memoir 20.

Savavd, Peter G.
1968 Plant Production in Conesus Lake, New York, As A Guide to the Effects of Pollution in the Great Lakes. Ms. cited by Stout 1970.

Smith, James H.
1881 History of Livingston County, New York with illustrations and biographical sketches of some of its prominent men and pioneers. D. Mason, Syracuse.

Stewart, Alexander
1970 French Pioneers in the Eastern Great Lakes Area 1609-1791. Occasional Papers of the New York State Archeological Association, No. 3.

Stout, Gayle
1970 Land Use In The Conesus Lake Watershed, Livingston County, New York 1930-1970. Master's thesis on file at State University of New York College/Geneseo. Geneseo, New York.

Thornburg, W.D.
1965 Regional Geomorphology of the United States. Wiley, New York.

Tuck, James
1971 Onondaga Iroquois Prehistory: A Study in Settlement Archaeology. Syracuse University Press, Syracuse.

Turner, James
1851 History of the Pioneer Settlement of Phelps and Gorham's Purchase, and Morris' Reserve, Vol. I. William Alling, Rochester.

1973 Index to the History of the Pioneer Settlement of Phelps and Gorham's Purchase and Morris Reserve, reprint of 1851 edition. Wayne County Historical Society, Lyons, New York.

Trubowitz, Neal
1973 State University of New York/Buffalo Archaeological Survey Highway Project Annual Status Report.

1974 State University of New York/Buffalo Archaeological Survey Highway Project Annual Status Report.

1975 State University of New York/Buffalo Archaeological Survey Highway Project Annual Status Report.

1976 State University of New York/Buffalo Archaeological Survey Highway Project Annual Status Report.

1977 Archaeological Research Design for the Genesee Expressway. In Conservation Archaeology: A Guide for Cultural Resource Management Studies, edited by Michael Schiffer and George J. Gumerman, pp. 145-149. Academic, New York.

U.S. Army Corps of Engineers/Buffalo District
1977 Section 205 Reconnaissance Report on Conesus Lake, New York.

U.S. Department of Agriculture, Soil Conservation Service
1965 Soil Survey of Livingston County, New York. U.S. Government Printing Office, Washington.

U.S. Department of Interior
1972 The National Register of Historic Places. U.S. Government Printing Office, Washington.

U.S. Geological Survey
1946 Conesus, New York, Livingston County Quadrangle.

1951 Livonia, Quadrangle.

Von Engeln, O. D.
1961 The Finger Lakes Region, Its Origin and Nature. Cornell University Press, Ithaca, New York

Westgard, A. L. and Otto Barthel
1902 New Century Atlas of Livingston County, New York: With Farm Records. Century Map Company, Philadelphia.

White, Marian E.
1961 Iroquois Culture History in the Niagara Frontier Area of New York State. University of Michigan Museum of Anthropology Anthropological papers 16.

Williamson, Charles
1849 Description of the Settlement of the Genesee Country in the State of New York. In a series of letters from a Gentleman to his friend, reprint of 1799 publication, In The Documentary History of the State of New York, Vol. II, edited by E. B. O'Callaghan, pp. 1127-1168. Weed, Parsons and Company, Albany

Witthoft, John
1951 Iroquois Archaeology at the Mid-Century. Proceedings of the American Philosophical Society 95(3): 311-321.

Wray, Charles and Harry Schoff
1953 A Preliminary Report on the Seneca Sequence in Western New York, 1550-1687. Pennsylvania Archaeologist 23:53-63.

Wright, Gordon
1950 The Long Point Site. Reprint from Pennsylvania Archaeology Bulletin 20(3-4):1-12.

Wright, James
1966 The Ontario Iroquois Tradition. Anthropological Series 75, National Museum of Canada Bulletin 210.

APPENDIX A

Known Prehistoric Sites Located Within The Conesus Lake Project Area

Known Prehistoric Sites Located Within The Conesus Lake Project Area

Known prehistoric sites in the Conesus Lake project area are defined by the Scope of Work and by personal communication with Richard Lewis*are described below. Due to the vague nature of some site descriptions, location of certain sites is tentative and will be so indicated. The number in parentheses refers to location on Figure 3 in text. Sites noted in the course of the expanded documentary search, but which lie outside of the actual project area, are not listed.

1. Long Point-Refuse Site I (#1)

   Located immediately south of termination of Long Point site was located in an area 60.9cm to 91.4cm higher than the surrounding land. Eastern border of site was being eroded by lake action. William Ritchie and Edmond Kelly trenched the site in 1924, recovering Indian and European goods. The Rochester Museum of Arts and Science recovered an intrusive Iroquois burial in 1930. Wright and Kershaw excavated the site in 1940 (Wright 1950).

2. Long Point-Refuse Site II (#1)

   Multi-component seasonal fishing camp. Located at Long Point. Mounded site with an approximate area of 168 sq m. It was completely excavated in 1941 by Wright. Evidence of Archaic, Point Peninsula, Owasco, prehistoric Iroquois, and historic Iroquois occupations was recovered (Hayes and Bergs 1969; Parker 1922; Witthoft 1951; Wray and Schoff 1953; Wright 1950). Long Point is considered an important site as the cermaics recovered may serve as a key to understanding prehistoric Seneca cultural development (Hayes and Berg 1965; Witthoft 1951).

3. McPherson's Point Site (#2)

   Parker (1922) and Wright (1951) briefly mention this site located at McPherson's Point. Site comprised an area of approximately 8094 sq m. Wright considers it to be Archaic (Parker 1922; Wright 1951).

4. Cottonwood Site (#3)

   Campsite; no further description available (Parker 1922).

*Richard Lewis - Archaeologist, Corp of Engineers, Buffalo

5. Lakeville Village (#4)

Located at Conesus Lake outlet. Lakeville village was proposed by Houghton (1922) as possible site of historic Seneca village of Totiakton. Subsequent study, however, located Totiakton west of Boughton Hill at Rochester Junction in Monroe County (Stewart 1970: Appendix B). Indian and European goods, and a skeleton were unearthed in the 1840s during mill construction at Lakeville (Doty 1876; Houghton 1922; Parker 1922, 1926).

6. Lakeville Cemetery (#4 tentative)

Cemetery excavated by Prof. Putnam who did not publish results. Houghton suggests this is "late site" (Houghton 1922).

7. Lakeville Campsite (#6)

Located .8 km east of Lakeville on the north side of road at foot of Conesus Lake. Parker (1922) considers this to be historic Seneca site.

8. Lakeville Campsite (#5 tentative)

Located along shore, near two creeks, approximately .8 km south of Lakeville village site near Conesus Outlet (Parker 1922).

9. Site (#8)

Undescribed: tentatively located "near foot of Conesus Lake" (Parker 1922:602).

10. Conesus Site (#9)

Site located .8 km south of Conesus Lake on the flat between Henderson's Creek and Conesus Creek inlet. Doty and Houghton identify it as the Seneca village destroyed by Gen. Sullivan in 1779. Writers do not indicate whether actual artifacts have been recovered from area to mark site (Beauchamp 1921; Doty 1876; Houghton 1922).

11. Conesus Site (#14 tentative)

Parker cites a different location for the Conesus village. Unfortunately, site location is unclear as Parker gives conflicting location descriptions which place the village simultaneously southwest and southeast of southern end of Conesus Lake (Parker 1922:603; Plate 181). New York State

Museum site files locate this site (#3712) approximately one-half km west of Maple Beach in Groveland Township. Thus accepting the southwest location of the two locations given by Parker.

12. Cemetery (#4 tentative)

Located by local historian at "Head of Conesus Lake". Site is a ten meter mound, covered with stones, from which a number of skeletons were recovered (Smith 1881:329). Whether this may have the cemetery at Lakeville (foot of lake) which was excavated by Putnam is not known.

13. Campsite (#7 tentative)

Parker gives no description, or specific location. It is located only on Plate 181 (Parker 1922).

14. Joy Farm Site (#10)

This is a Lamoka site #902 on file with the New York State Museum and Science Service. It is located at Walkleys Landing.

15. Flannigan Site (#11)

Site #904 on file with the New York State Museum and Science Service. Approximate location is between Lake Road and the Conesus Lake inlet.

16. Campsite (#12)

Described by Parker as a "small camp site on the farm of G. W. Durkee, Conesus" (Parker 1922). Approximate location is on East Swamp Road, midway between Walkleys Landing and Schoolhouse #5 Road.

17. Site (#13)

Site #3768 on file with the New York State Museum and Science Service. Described by Parker (1922) as area with traces of occupation. Approximate location is on East Swamp Road, 2 km north of Schoolhouse #5 Road.

18. Buchanan Site (#5)

Lamoka site, #1033 in the New York State Museum site files.

19. Hanna Site (#5)

Multi-component site, Lamoka, Laurentian, Early Woodland. #1034 in the New York State Museum site files.

The following sites are adjacent to, but outside of project area. All are on file with the New York State Museum and Science Service. They will not be listed in the accompanying table and map. Adjacent sites: #2185, #3759, #2186, #1032, #1035, and #3698 as listed in the New York State Museum and Science Service files.

APPENDIX B

Plates

Plate 1. Old Schoolhouse #5.

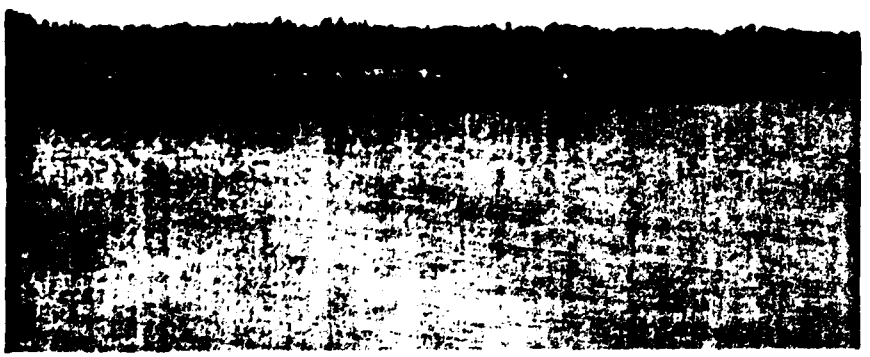

Plate 2. Development Along Eastern Shore, North of Old Orchard Point

Plate 3. Development Along Western Shore of Conesus Lake, North of Long Point.

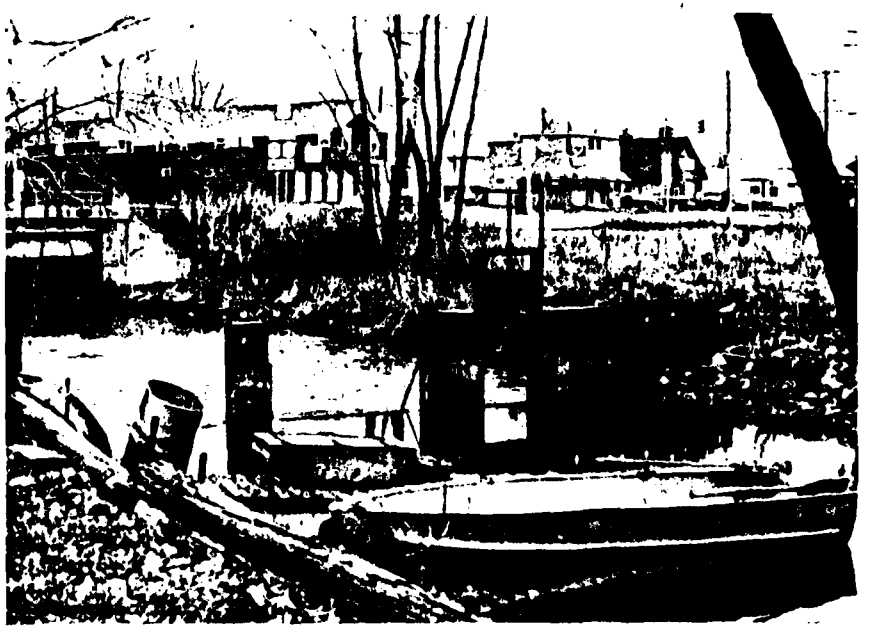

Plate 4. Flood Control Dam and Stores at Conesus Lake Outlet, Lakeville

Plate 5. Bulkhead Construction South of Old Orchard Point.

Plate 6. Open Field at Old Orchard Point

Plate 7. Concesus Lake Inlet Floodplain.

APPENDIX C

Project Personnel

MARTIN F. MURPHY

PRINCIPAL INVESTIGATOR and
ARCHEOLOGY PROJECTS ADMINISTRATOR

EDUCATION:

Ph.D., (in progress) Anthropology, Columbia University

M.A., Anthropology, Syracuse University (1977)

B.A., (Licenciatura), Anthropology, Universidad de las Americas, Puebla, Mexico (1973)

RESEARCH POSITIONS:

1979 - Principal Investigator and Archeology Projects Administrator. P/RA Research, Inc., 1905 Hempstead Turnpike East Meadow, New York, 11554

1977 - Graduate Research Intern. U.S. Department of State, Agency for International Development, Washington, D.C.

1976-1977 - Research Assistant, Health Studies Program, Maxwell School of Citizenship and Public Affairs, Syracuse University, Syracuse, N.Y.

TEACHING POSITIONS:

1979 - Adjunct Instructor. LaGuardia Community College (CUNY) Long Island City, N.Y.

1979 - Adjunct Instructor. St. Joseph's College/C.W. Post College, Brentwood, N.Y.

1976-1977 - Teaching Assistant. Department of Anthropology Syracuse University, Syracuse, N.Y.

ARCHEOLOGICAL RESEARCH EXPERIENCE:

1979 - Ft. Devens Cultural Resources Survey. Ft. Devens, Massachusetts and off-base facilities, Affiliation: P/RA Research, Inc.

1979 - Ft. Sheridan Cultural Resources Survey. Ft. Sheridan, Illinois, Affiliation: P/RA Research, Inc.

1979 - Lake Frederick and Indoor Athletic Facility Survey. U.S. Military Academy, West Point, N.Y. Affiliation: P/RA Research, Inc.

1973 - Pre-Columbian Burial Site Excavation. Cholula, Puebla; Mexico. Affiliation: Universidad de las Americas

1972 - Pre-Columbian Ceremonial Site Survey. State of Mexico Affiliation: Universidad de las Americas

1971 - Paleolithic Kill Site Excavation. Greenville, Ohio Affiliation: Kent State University

ACADEMIC AWARDS AND HONORS:

M & F Scholarship. Columbia University; New York, New York (1979 - 1980)

President's Fellow. Columbia University; New York, New York (1978 - 1979)

Graduate Research Intern. U.S. Department of State Graduate Student Intern Program. Agency for International Development Washington, D.C. (6/77 - 9/77)

Research and Teaching Assistantship. Department of Anthropology and Health Studies Program, Maxwell School of Citizenship and Public Affairs. Syracuse University; Syracuse, N.Y. (9/76 - 5/77)

ANNETTE SILVER

SENIOR ARCHAEOLOGIST

EDUCATION:

M.A., Anthropology, New York University, New York. Financed partial expenses with one-year University Scholorship awarded on basis of merit.

B.A., Anthropology, Bryn Mawr College, Bryn Mawr, Pennsylvania.

Additional Graduate Study in Anthropology: Columbia University School of General Studies. Graduate School of New School of Social Research.

WORK EXPERIENCE:

1979	P/RA Research, Inc., 1905 Hempstead Turnpike, East Meadow, New York. Senior archaeologist.
1979	Vollmer Associates, 65 Fifth Avenue, New York, New York. Archaeologist.
1979	Slaughter Creek Cultural Resources Survey, State of Delaware, Dover, Delaware. Archaeologist.
1977	Archaeologist Field School, New York University. Dr. Bert Salwen, Director.
1972-1976	Nassau County Museum, Garvies Point Facility Docent and Field crew member.

PUBLICATIONS: Cultural Resource Predictive Model Literature and Records Search for Conesus Lake, New York. February 1980. (co-author: Martin Murphy).

PAPERS IN PROGRESS: "Further applications of Pollen Diagram Studies in Archaeology"
"Cherokee Myth and Ritual"

PROFESSIONAL ORGANIZATIONS:
American Anthropological Association
Society for American Archaeology
Suffolk County Archaeological Association

APPENDIX D

Scope of Work

SCOPE OF WORK

Cultural Resources Predictive Model Literature and Records Search for Conesus Lake, NY

General Requirements

1. The purpose of this contract is to provide a cultural resources overview of the environmental impact area of the proposed project, through a regional or basin-wide summary of cultural resource literature and a predictive model study which will show in part where sites are and are not to be expected as well as the probability of finding sites in a given area. This action is being taken pursuant to the following legislation:

The National Historic Preservation Act of 1966 (P.L. 89-665); the National Environment Policy Act of 1969 (P.L. 91-190); Executive Order 11593, "Protection and Enhancement of the Cultural Environment," 13 May 1971 (36 F.R. 8921); Preservation of Historic and Archeological Data, 1974 (P.L. 93-291); the Advisory Council on Historic Preservation, "Procedures for the Protection of Historic and Cultural Properties" (36 CFR Part 800); and Identification and Administration of Cultural Resources, (33 CFR Part 305).

2. This cultural resource survey report will serve several functions. The report will be used as a planning tool which will aid the Corps in meeting its obligations to preserve and protect our cultural heritage. It shall also be a comprehensive, scholarly document that not only fulfills mandated legal requirements but also serves as a scientific reference for future professional studies. As such, the report's content must not only be descriptive but also analytic in nature (P.L. 93-291, proposed rule-making 36 CFR Part 66).

3. The Contractor shall perform this work in a manner which will insure the greatest contribution to the history and prehistory of New York.

4. The Contractor shall conduct this work in close cooperation with the State Historic Preservation Officer. Evidence of such cooperation will be documented in the report.

5. The extent and character of the work to be accomplished by the Contractor shall be subject to the general supervision, direction, control, and approval of the Contracting Officer.

Specific Requirements

6. The Contractor shall conduct a cultural resources reconnaissance survey as defined in 33 CFR Part 305.4e. and 33 CFR Part 305.7c.

Final

This survey shall consist of a cultural resources literature and records search to identify known sites in the basin. Information gained through this portion of the study shall be correlated with geological, soils, topographical, and hydrological data of the basin in order to produce a predictive model of probable cultural resources locations. In addition, any known or readily apparent settlement patterns in the area shall be reported.

7. The Contractor shall prepare a report detailing the work done, study rationale, results, recommendations for additional work, and testing. The report shall include but not be limited to the following sections: an abstract, an introduction, a brief section summarizing the regional literature search, a section on the methodology employed in constructing the predictive model and the rationale for employing it, a discussion of the uses and limitations of the model for predicting locations of cultural resources sites.

8. The abstract shall be a synopsis of the report where the reader may find the general conclusions and recommendations resulting from the cultural resource reconnaissance survey.

9. The introduction shall include but is not limited to the following: the purpose of the survey, delineation of the study boundaries, and a general statement on the nature of the study conducted.

10. The regional setting, including environmental factors affecting the location of cultural resources and the known culture history, should be briefly summarized.

11. The methodology used for data collection analysis, and construction of the predictive model, shall be described in sufficient detail for a reviewer to understand what was done and why. This shall include but not be limited to a discussion and sampling procedures, the types of data collected, classifactory schemes, methods of chronological determination, and any special analytical methods and techniques used. Maps which show the area surveyed, locations of known sites, and location of areas where cultural resources can and cannot be expected.

12. There shall be a brief summary of the study findings and recommendations. It should be clear from this exactly what, if any, additional studies are recommended prior to construction of the proposed project. If there are no sites in the project area and no additional work is deemed necessary, a statement to this effect shall be included in the summary.

13. All references cited and/or utilized shall be listed in American Anthropological Association format. Contacts with other individuals shall also be cited.

14. Information shall be presented in textual, tabular, and graphic forms, whichever are most appropriate, effective, and advantageous to communicate necessary information. The Contractor shall give every consideration to the use of nontextual forms of presentation, particularly profile (cross section) drawings in combination with maps, to maximize the quantity and quality of information presented.

15. If the report is authored by someone other than the principal investigator, the principal investigator shall prepare the foreward describing the overall research context of the report, the significance of the work, and any other related background circumstances relating to the manner in which the work was undertaken.

16. The following items shall be included as appendices to the report: the vitae of the principal investigator and any consulting professionals, this Scope of Work, the research design submitted as a result of this procurement action, any letters of comment on the draft report from other agencies forwarded by the Contracting Officer, and the comments on the draft report offered by the Contracting Officer.

Submittals

17. The Contractor shall submit six copies of a double-spaced draft report within 60 calendar days after receipt of the Notice to Proceed. The Contracting Officer will provide the Contractor with comments on the draft report within 30 days after receipt of the draft. If for any reason this review period is not sufficient, the Contracting Officer shall so notify the Contractor. The Contractor shall submit one original and 10 copies, single-spaced, of the final report, including appropriate revisions in response to the Contracting Officer's comments within 15 days of receipt of those comments.

18. Neither the Contractor nor his representatives shall release any sketch, photograph, report, or other material of any nature obtained or prepared under the contract without specific written approval of the Contracting Officer prior to the time of final acceptance of the report by the Government.

APPENDIX E

Comments

NEW YORK STATE PARKS & RECREATION Agency Building 1, Empire State Plaza Albany, New York 12238 Information 518 474-0456
Orin Lehman, Commissioner

January 16, 1980

Mr. Donald M. Liddell
Chief, Engineering Division
Dept. of the Army
Buffalo District, Corps of Engineers
1776 Niagara Street
Buffalo, New York 14207

Dear Mr. Liddell:

Conesus Lake
Cultural Resource Predictive Model

I have reviewed the Predictive Model you provided on the Conesus Lake project. It is very encouraging to see the model developed by this office was of use to your consultant. We are also pleased to see that the model was taken one step further and applied in principle to the specific location.

The recommendations appear to be well justified with the possible exception of the monitoring. Before you authorize any such activity, you may wish to discuss the situation with this office. Overall, I am impressed with the report and hope it meets your requirements. Should you have any questions regarding this matter, please contact us at your convenience.

Sincerely,

Bruce Fullem

Bruce Fullem
Sr. Scientist (Archaeology)
Historic Preservation Field Services

mr

Sheet 1 of 2

BUFFALO DISTRICT

Branch/Office Environmental Resources Reviewer Richard Lewis Ext. No. 2171

Subject: Cultural Resources Predictive Model Literature Search for Conesus Lake, NY. Date 10 December 1979

CMT. NO.	Dwg. or Para. No.	COMMENT
1	Pg1 Para.2	The spelling of Dr. Rhoades is incorrect. The correct spelling is Rhodes.
2	Pg.4 Para.2	"Otherwise, sites having direct impact upon the project area can be overlooked considering the narrow limits of the project area." What does this sentence mean?
3	Pg.10 Para.1	What is the meaning of the term "subparallel"?
4	Pg.12 Para.3	"alkes" should be lakes
5	Pg.16 Para.1	Suggest "C-14" be replaced by Carbon-14 (C-14).
6	Pg.48 Para.1	It is suggested the discussion of the New York State Historic Preservation Office's Regional Site Prediction Model be expanded.
7	Pg.48 Para.2	Do the zone numbers mean anything other than the site potential for each zone.

BUFFALO DISTRICT

Branch/Office Environmental Resources Reviewer Richard Lewis Ext. No. 2171

Subject: Cultural resources Predictive Model Literature Search for Conesus Lake, NY. Date 10 December 197?

CMT. NO.	Dwg. or Para. No.	COMMENT
8	General	The report is generally well written and concise. However, the chapter on Site Prediction Models should be expanded to allow the uninitiated reader to understand what was done and why. This would include both the Macro and Micro Predictive Models. In addition this explaination should clairfy the limitation of predictive modeling in general and specifically the limitations of the predictive model constructed for this report. In the recommendations chapter the explaination of why certain areas should not be further tested should be expanded to substantiate the authors' opinions.

THE UNIVERSITY OF THE STATE OF NEW YORK
THE STATE EDUCATION DEPARTMENT
CULTURAL EDUCATION CENTER
ALBANY, NEW YORK 12230

NEW YORK STATE MUSEUM

DIVISION OF HISTORICAL AND ANTHROPOLOGICAL SERVICES

January 10, 1980

Mr. Donald M. Liddell, Chief
Engineering Division
Buffalo District Corps of Engineers
Department of the Army
1776 Niagara Street
Buffalo, NY 14207

Dear Mr. Liddell,

RE: DACW49-79-0091
Cultural Resources Report
Conesus Lake
Livingston County

I appreciate your request for comment on this report. I believe the report provides important information and identifies the need, in this area, for consideration of archeological resources, both historic and prehistoric, in any review of environmental impact.

I will make brief comments and hope that further discussion will be forthcoming as a result. At that time, more detailed comments may be made by this office.

I note that this report is primarily designed as a statement of known data resulting from file and literature searches and some interviews, and is also a statement of archeological sensitivity by area for the margins of the lake. Since the "project" referred to on page 1 is not defined, it is difficult to say whether the scope of the study is comprehensive enough. In particular, the marshlands at the southern end of the lake might be correctly considered part of the lake itself for purposes of prehistoric resources surveys, as water levels several thousands years ago may have expanded the shoreline to encompass this area as well.

I note also that sources cited for documentary data on known prehistoric sites did not include the Office of State Archeologist (NYS Museum/State Education Department) nor did it include a file search of the statewide archeological site files maintained by that office (see attached leaflet). A superficial survey of our files indicates a distribution of 21 prehistoric archeological sites on the margins of this lake (see attached map, small numbers). Some of these sites no doubt are the same as those cited in the report (large numbers). Some appear to be the same sites but mapped in slightly different locations. And some seem to have been overlooked by the study. I might point out that in plotting A.C. Parker (1922) sites on standard USGS 7 1/2' maps, we used the full-scale original Parker overlay maps coordinated with circa 1890 County Road maps, which are far more accurate than the small maps printed in the publication. This may account for some of the discrepancy noted.

As far as the predictive model is concerned, I would concur with the researchers here that Hammer's variables are to large in their scope (drainage, elevation and soil acidity) to be useful for the precise definition of potentially sensitive archeological areas of such small size as those being discussed for this large margin. It is clearly necessary to apply micro-environmental variables to such an area in order to obtain

meaningful mapping of sensitivity.

However, the micro-environmental variable settled on by the researchers is "degree of slope", a factor which is obvious from a technological/physical standpoint. People don't cling to steep hillsides during prehistoric times. Since all other variables are either unselected (orientation, proximity to water, etc.) or equalized (ph, drainage), the "predictive model" becomes one of a single variable, which makes the application of the term "predictive model" a bit of an overstatement. While the application of slope is entirely correct, and even the 15% maximum cited in the report may stand up as a reasonable cut-off point in that application (page 51), there are a multitude of useful predictive variables at hand that could have been used in these micro-environments (see SUNY Binghamton's predictive models for the Seneca Lake area; DOT PIN 6108.05, report under contract to State Museum 1979) which would constitute a more meaningful model.

In addition to being common sense for prehistoric occupation, use of the single "slope" variable is very misleading when it comes to historic/archeological resources. This is a shortcoming of all such models. Historic settlement and activity was not as constrained by topographic or geographic variables in the environment as was prehistoric. Certain activities were purposesly located in areas that aborigines would have avoided (mining, water-powered mills, etc.) and the ability of historic settlers to manipulate the environment to overcome the negative selective impact of these factors (most notable being land clearing) seems to override most micro-environmental variables and render mapping of potentially sensitive areas (for historic archeology) useless except from historic maps and records. Since the predictive model seems to focus, in this report, on prehistoric sites, the conclusion (page v) that there "are no historic sites of significant integrity" seems unsubstantiated, and the inference that areas of low sensitivity are valid for <u>all</u> cultural resources is misleading.

Furthermore, the issue of prehistoric rockshelters has not been addressed in this study. These would no doubt exist in areas defined here as low sensitivity (greater than 15% slope), yet they would represent archeological resources of tremendous value. Since such sites usually occur in limestone, and since the report cites limestone as the lowest exposed bedrock formation at the lake margins (page 10) and mentions limestone outcrops (page 11), this issue has certainly got to be dealt with in detail.

It is unclear from the introduction to the study what scope of cultural resources (prehistoric/archeological, historic/archeological; historic/structural) is being addressed by the literature search, field map and predictive model. Various phrasings are used, such as: "site prediction model" "pre-historic and/or contact sites" "historic sites" "sites" "cultural resources" (all on page v) "model which predicts... prehistoric sites" "prehistoric and historic sites" "cultural resources sensitivity" (page 1) and so on. It must be clarified as to what sites are being documented and what resources are being predicted by the maps and models. Otherwise, a planner might assume all cultural resources are being identified by the model, when in fact it seemsonly the prehistoric/archeological sensitivity should be referred to here. In this regard, the phrase "no historic sites of significant integrity" certainly needs both clarification and documentation. There seems to be no section that adequately deals with archeological and architectural properties of the historic period. Page 55 contents itself with with a windshield survey and local interviews. We have found in our program of field survey that intensive documentary research and subsurface testing is required to even begin to define the historic potential of an area, and often important archeological sites previously unrecorded and unknown to local informants are found through such reconnaissance survey efforts. The phrase (page 59) that introduces the Recommendations section needs clarification ("the problem of obtaining

releases") and documentation ("the extensive degree of local disturbance").

The element of disturbance, which is cited as the major reason for negating a recommendation for systematic subsurface investigation (page 55) is introduced but unsubstantiated. It is cited as "extensive" (page 55 bottom). Yet the factors on which that judgement is based do not support the usage. Page 56 cites housing that "runs in a dense line around the perimeter of the lake" as the source of this disturbance. While there can be little doubt that this, and construction in the village of Lakeville, does constitute disturbance of subsurface levels which may have contained prehistoric deposits, there is no substantiation of the fact here stated that these areas no longer have significant archeological potential. To cite but four cases in point of recent experience; an important prehistoric site was located in the lawn area beside a cottage in an area of Lake George (Warren County) where the shoreline is saturated with lakeside homes and cottages, and which is probably more densely populated then is the majority of this lake's shoreline. Another intact prehistoric occupation on the Mohawk River was found in a narrow strip of floodplain preserved within the heart of a major urban and industrial/commercial area (Cohoes Albany County); a revolutionary war period Dutch house site was found preserved in a tiny vacant lot between a major industrial complex, a truck staging area, and a junkyard (Cohoes, Albany County) and an important Indian occupation was discovered in the city of Rensselaer preserved under a street, when this paving was removed for installation of a sewer line.

These, and dozens of similar examples seem to suggest that the potential of an area to produce prehistoric archeological data is not destroyed by this level of construction and development, an certainly the potential for intact early historic sites being buried within such an area is extremely high. It is also not clear whether landowners were interviewed to determine if they ever found any artifacts on their properties, a natural first phase of such survey.

The event of periodic flooding is cited (page 56) as another source of site disturbance, yet flooding is often the preserver of sites under water-carried silts. To hypothesize that flooding has eliminated the archeological potential of an area, a geologist would have to determine that soils dating to the appropriate time period (prehistoric, 17th or 18th century, etc.)have been scoured away during flood stage and replaced by other more recent soils which were not then subsequently occupied in any historically significant manner. This has not been shown in this report.

Fluctuating lake levels are also cited as sources of site disturbance. While it is true that lakeshore positions at various times prehistorically may not be here reconstructed with any precision, it has not been shown that sites have been inundated or eroded away. Until there is offered up some concrete evidence for this, the researchers are not warranted in their conclusion that this factor has contributed to the diminution of sensitivity for certain areas of the lakeshore.

The final situation cited as a basis for eliminating certain areas from further consideration is the difficulty of obtaining permission from landowners for subsurface survey. There is no relationship between modern landowners' attitudes toward archeological survey and the existence of archeological resources on the margins of a lake such as this. If your Department's purpose in contracting for this study was to define the probability of encountering archeological resources during the construction phase of any particular project proposed for these lake margins, than you have yet to ascertain the probability of such occurring in those areas for which landowner reluctance is cited as a factor. While it is certainly not appropriate at this preliminary stage of research to tear apart the lawns and gardens of private residents, it is also not appropriate to assume the lack of sites without such subsurface data obtained when

exact impact zones have been defined.

It is our opinion that significant amounts of additional field study and associated documentary research are required in order to provide your Department with the level of data and predictability that you apparently desire for this study area (see "Reconnaissance Survey (Prelim)" in our field program Work Scope Specifications, which I feel parallels your own goals in this study).

If you would like to discuss this report further, please feel free to contact this office.

Sincerely,

Philip Lord
Senior Scientist

js

United States Department of the Interior

HERITAGE CONSERVATION AND RECREATION SERVICE
INTERAGENCY ARCHEOLOGICAL SERVICES-ATLANTA
Richard B. Russell Federal Building
75 Spring Street S.W.
Atlanta, Georgia 30303

IN REPLY REFER TO:
W540
1201-02(a)

MAR 6 1980

Mr. Donald M. Liddell
Chief, Engineering Division
Buffalo District, Corps of Engineers
1776 Niagara Street
Buffalo, New York 14207

Dear Mr. Liddell:

Enclosed are one reviewer's comments concerning the report "Cultural Resource Predictive Model Literature and Records Search for Conesus Lake."

We appreciate the opportunity to review the report.

Sincerely,

Stephanie H. Rodeffer
Acting Chief

Enclosure

UNITED STATES GOVERNMENT

memorandum

DATE: FEB 14 1980

REPLY TO ATTN OF: Archeologist, Interagency Archeological Services-Atlanta

SUBJECT: Report Review of "Cultural Resource Predictive Model Literature and Records Search for Conesus Lake, New York."

TO: Archeologist, IAS-A

I have read the above report, which presents a literature search, formulates a predictive model, and provides recommendations for future cultural resource management of the Conesus Lake project area. My comments are as follows.

Chapter V references Hammer's 1979 regional site prediction model, and proceeds to make recommendations based on a more detailed version of this model. A thorough explanation of Hammer's criteria should be presented at the beginning of this section.

All plates (1 through 7) referenced in the text are missing from the report.

A legend should be included with Figure 15 (as in Figure 17) which explicitly shows which symbols represent which areas. It is difficult to tell exactly which sections constitute zones MR 1, 2, 3, 4, and 5.

Chapter VII presents recommendations in the form of a summary, and this will be valuable to the Corps in making management decisions. It would be helpful to the reader to include a section preceding this which lists each Micro Region and the reasons why no further testing is recommended. For example, on page 59, #3, why is the Fish and Wildlife Area in Zone 6 not recommended? Figure 17 does not show it to be disturbed. Is this an area of poor drainage or high slope? Rather than flipping through the report for the various charts and tables, it would be easier to have the information spelled out in one place.

Regina Pitaro

Regina Pitaro