

# Orwell's East Creek Valley: A Window Into Vermont's Early Woodland Past

by Giovanna M. Peebles

## Introduction

Mount Independence rises precipitously above Lake Champlain at the mouth of East Creek in the town of Orwell, Vermont (Figures 1 and 2). The best known cultural landmark in the East Creek drainage, Mount Independence is famed as the best preserved Revolutionary War site in the country.<sup>1</sup> However, long before its role in recent American and Vermont history,<sup>2</sup> the Mount was revered by hundreds of generations of Native Americans throughout the prehistoric Northeast as a source of excellent quality chert for tool making. Since Paleoindian times, its blue/black chert, unique clustering of topographic and environmental features, and biological bounty channeled Native Americans into this tiny Lake Champlain watershed. The Vermont Division for Historic Preservation's (VTDHP) 1977 East Creek Archeological Survey project assembled what was then known about the prehistoric archeology of East Creek and its environs and dramatically confirmed the importance of this locale to prehistoric Native Americans.

A steep sided valley surrounds and shelters East Creek, a sluggish, wide-to-narrow stream draining an area of only 34 square miles. Unusually extensive wetlands fill the valley bottom along the main stem of the creek and its South Fork into which project numerous, finger-like knolls of varying elevation. The valley slopes, threaded by relict drainages, rise steeply to the rolling tablelands that are typical of this drainage's upland country (Figures 3 and 4). Springs are abundant on these lands (Murray 1967:109). To the west, the land gradually descends towards the Lake Champlain shoreline. The two hundred foot high limestone promontory, known to us as Mount Independence, flanks the western side of East Creek's mouth and overlooks the landscape.

1. On land and underwater archeological investigations and associated intensive historic research since 1989 uncovered extraordinary details about the big and little events of life and history on Mount Independence and its unique place in American history. Various published summaries of the last 15 years of historic and archeological research are found in Volumes 1, 2, and 4 of the Vermont Archaeological Society *Journal*, specifically Starbuck and Murphy (1994); Howe, Robbins, and Murphy (1994); Crisman and Cohn (1994); Porsche (1997); Kingsley (1997); Kingsley and Chiamulera (2003); and McLaughlin (2003). See the back of this journal for a complete Table of Contents for the four past volumes of the VAS *Journal*.

2. East Creek in Orwell was home to one of Vermont's first blast furnaces, supposedly in operation in 1788, built by early Vermont impresario and businessman Matthew Lyon, a contemporary and political antagonist of Ira Allen (Rolando 1992:10, 88-89). Using the 1796 Whitelaw map, Rolando found the site of Lyon's furnace (VT-AD-300) in 1981.

Prehistoric exploitation of the East Creek valley focused on several special environmental qualities whose combination is arguably unique in the Lake Champlain Basin. First, Mount Independence supplied a concentrated, reliable, and prized source of premium quality chert, evident by its ubiquitous presence in Champlain Valley archeological sites and across the length and width of prehistoric Vermont and much farther a field.<sup>3</sup> Found in nodular form or bedded within the Whitehall and Ticonderoga dolostones, which underlay the Mount, the blue/black chert varies considerably, from coarse grained and full of impurities, to a flawless, fine grained, lustrous variety (Noel 1977:6-7; Welby 1961). Mount Independence chert is the predominant, and sometimes exclusive, lithic material in all the recorded prehistoric sites within the East Creek watershed.

Second, the dark, slow moving East Creek and its wet-lands (Figures 4 and 10) supply a rich habitat for a wide range of flora and fauna, including twenty five species of migratory and nesting waterfowl, as well as muskrat, otter, rabbit and deer, and beaver "as large as sixty three pounds" (Murray 1967:113). East Creek and its tributaries support diverse and abundant fisheries, as well as provide spawning grounds for northern pike, and host several species of fresh water mussels. In spite of an overall 15-foot rise in the level of Lake Champlain over 4,000 years (Peter Thomas, Personal communication, 1983), the present day distribution of lakeshore sites and creekside knoll sites (adjacent to, but higher than, the marsh) suggest that the East Creek wetlands existed since at least the Late Archaic, beginning approximately 6,000 years ago.

3. Identifying lithics is mostly based on macroscopic, eye ball observations. Thus, many archeologists safely label blue/black chert specimens as "Champlain Valley" and decline to specifically ascribe them to the northern cherts from the St. Albans Bay area (Hathaway cherts) or cherts from sources in the central and southern parts of Lake Champlain (Clarendon Springs) -- Mount Independence is the biggest quarry but elsewhere as well. For example, Richard Boisvert, State Archeologist of New Hampshire, recovered a channel flake (produced when making Paleoindian fluted projectile points) "that could have been derived from chert sources in western Vermont or New York" at one of the Paleo sites in Jefferson, New Hampshire (Boisvert 1998: 103). Subsequent lithic analyses confirmed that there are Vermont Champlain Valley cherts in the assemblages from the Jefferson Paleo sites in the White Mountains, as well as in the Paleo sites further north in Colebrook, New Hampshire (Richard Boisvert, Personal communication, August 2004). Maine State Archeologist Arthur Spiess reports a big, 10- to 12-cm long side scraper from the Michael Dam Paleoindian site west of Augusta, Maine, of Mount Independence chert (personal communication, August 2004). Beyond Noel's (1977) detailed macroscopic descriptions of various Vermont stone used in prehistory for tool making, a few researchers such as Stephen Pollack (Boisvert 1998:102-103) and Adrian Burke (1997:43-52) are working on quantitative, non-destructive (and hopefully inexpensive) ways to reliably match specific artifacts to specific quarry sources across the northeast.

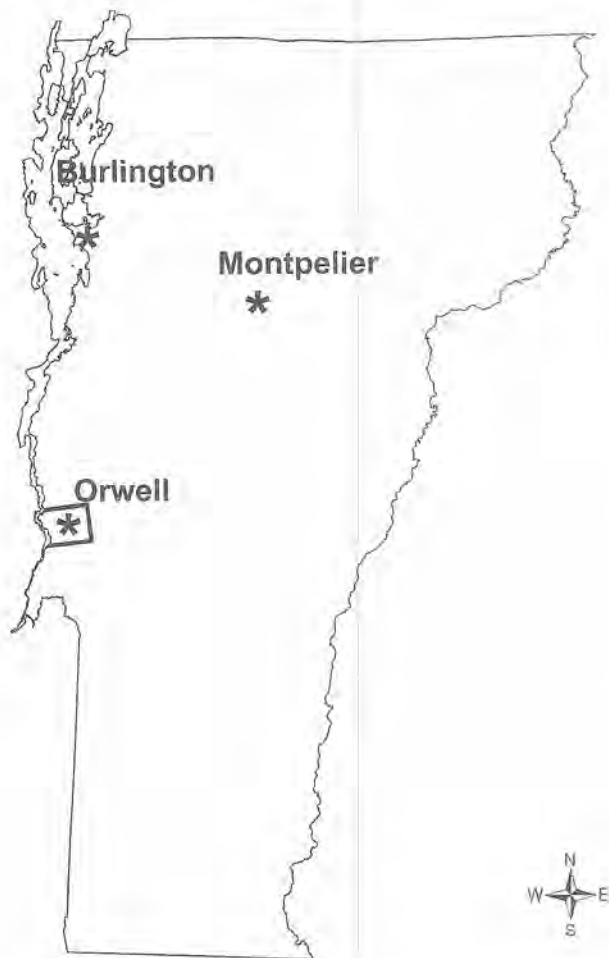


Figure 1. Map of Vermont with the Town of Orwell at the southern end of Lake Champlain.

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as evident in Figure 2, East Creek's seclusion (sheltered, nearly "hidden" behind the Mount as one travels northward, down-lake), numerous tributaries, extensive wetlands, and deeply incised topography combine an atypical suite of traits in the Lake Champlain Basin.

Lastly, the proximity of the sheltered East Creek valley and its richly productive stream and wetlands to the alternative food resources and other assets of Lake Champlain afforded two, immediately accessible, subsistence bases to aboriginal peoples in the watershed.

### Summary of Archeological Investigations

All students of Vermont archeology who cut their teeth in the 1970s pored over a small collection of archeological literature about the state. East Creek and Orwell were well-known place names in the lore of Vermont archeology, woven through the large body of Vermont antiquarian literature and the small

body of published archeological research before World War II. Scott McLaughlin and Peter Thomas' bibliography in their historic overview of prehistoric Vermont archeology attests to this early interest in East Creek and adjacent areas of Lake Champlain (McLaughlin and Thomas 1994:24-29).

The East Creek drainage witnessed sporadic archeological investigations since the 1930s. In 1933, under the auspices of the Heye Foundation, Museum of the American Indian (MAI), Godfrey Olsen excavated an Early Woodland cemetery site at the mouth of East Creek where it enters Lake Champlain (Olsen 1934; Olsen no date; Gifford 1948). Listed on the National Register of Historic Places in 1976 (Gibbons 1976), the East Creek Site (VT-AD-12)<sup>4</sup> included large habitation areas containing extensive Woodland occupations. An Early Woodland residential component was contemporary with the cemetery. Stephen Loring's 1985 documentation and analysis of this collection and of the other three, scantily documented and unanalyzed Vermont Early Woodland cemetery collections at MAI were at the time of publication (and even today, upon rereading) a cornerstone of Vermont prehistory (Loring 1985). Now conserved through easement by The Nature Conservancy, the site may retain undisturbed habitation areas for future research.

The East Creek Site contained many items representative of the extensive trade networks evident during the Early Woodland in the Northeast: Meadowood leaf-shaped cache blades of Mount Independence and Onondaga cherts; Meadowood projectile points; a variety of copper artifacts; blocked end tubular pipes; birdstones; and bifaces and points made of exotic cherts (Loring 1985:98-102, 110-124). The second Early Woodland cemetery in the East Creek area, the less known Bennett Site (VT-AD-298), was discovered in 1941 during gravel pit quarrying operations outside of the village of Orwell. Some human remains as well as burial goods were salvaged but much of the site was destroyed (Loring 1985:102). Ritchie in the 1940s provided the only extant documentation for this site (Ritchie 1944:199-200).

In 1938, the now-defunct Champlain Valley Archaeological Society excavated the Chipman Point Rockshelter (VT-AD-4), a very interesting stratified site occupied during Late Archaic, Middle Woodland, and Late Woodland times on the lakeshore near East Creek. Undertaken at a time when professional interest in Vermont archeology was just emerging from an entirely antiquarian framework, the Society's project comprised one of the first systematic archeological investigations ever conducted in Vermont (Bailey 1940; Haviland and Power 1994:148-149).

No other archeological investigations were undertaken in the East Creek area until 1972. In a little known episode in Vermont archeology, the Vermont Electric Power Company (VELCO) contracted with the University of Vermont's (UVM) Department of Anthropology to conduct a survey in the East Creek drainage for the purpose of "determining what archaeo-

<sup>4</sup> Vermont Archeological Inventory designations such as this VT-AD-12 are scattered throughout the text when discussing specific sites. "VT" stands for Vermont, "AD" for Addison County, and "12" for the 12<sup>th</sup> site recorded in Addison County in the Inventory.

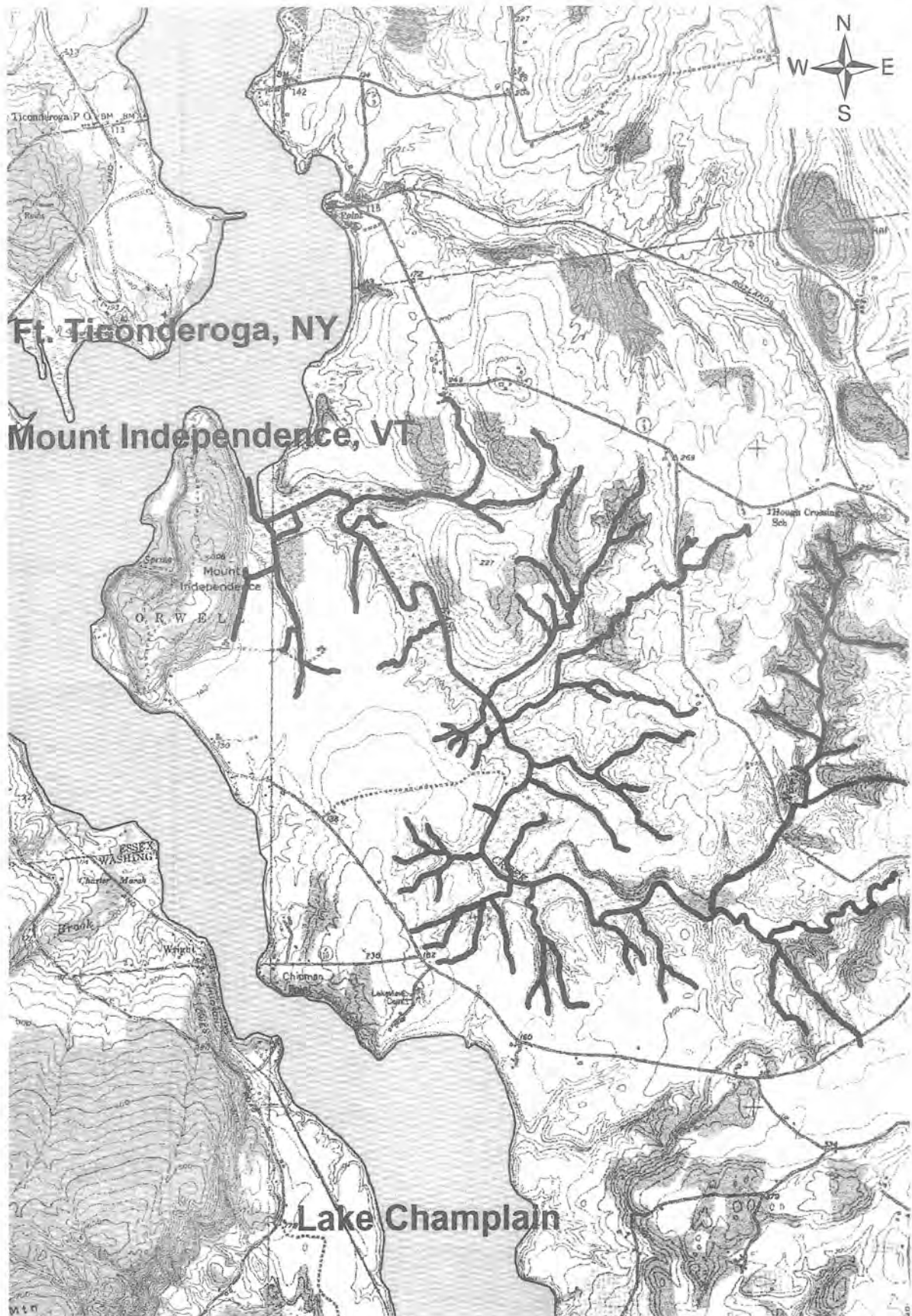


Figure 2. Topographic map showing Mount Independence, and East Creek with its main tributaries.





Figure 3. Main stem of East Creek, showing its deeply incised valley and the creek's characteristic steep relict drainages, leading up to the surrounding flat tablelands (James B. Petersen photo; courtesy of VTDHP).

logical resources might be endangered by VELCO's Hough Crossing project, should this be undertaken" (Haviland 1972a:1). The project, remembered by few Vermonters unless they lived near Orwell in the late 1960s and early 70s, proposed construction of a nuclear power plant. With a project area of 2,200 acres, "a 1,700-acre cooling pond would be created by placing a dam across East Creek about 1 mile above its confluence with Lake Champlain" (Vermont Electric Power Company 1970:1). UVM recorded nine sites, several from information provided by avocational archeologist, and at the time University of Vermont entomologist, Gordon R. Nielsen. UVM's report does not specify whether test pits were dug anywhere or if all the sites were surface finds in plowed fields. All but one of the sites were situated on knolls projecting into the marshes adjacent to East Creek; one site was located on the shore of Lake Champlain. Based on projectile points and pottery, Haviland suggested a Middle/Late Woodland occupation at three sites while a plummet at another site hinted at a Late Archaic occupation (Haviland 1972a:6-7; see Timeline, page 16). More investigations were recommended at several of the sites if VELCO decided to move the nuclear

power plant forward (Haviland 1972a:1-9; Haviland 1972b). For a variety of reasons, the project died, not the least being that the project was  $1\frac{1}{2}$  mile from a known fault line (Vermont Electric Power Company 1970:4).<sup>5</sup>

The entire Lake Champlain shoreline neighboring East Creek

5. The East Creek archeological survey, under contract to VELCO, was the first time that archeology was done in Vermont in advance of proposed construction. This survey occurred prior to the passage of the 1975 Vermont Historic Preservation Act and at a time when compliance with the 1968 National Historic Preservation Act was not yet a concern in Vermont. The East Creek survey was conducted by Bill Haviland and UVM students Pamela Currence and Anne E. Stensrud during 8 trips to Orwell between June 14 and September 1, 1972 and cost \$ 574.35 (Haviland 1972a; 1972b). There may have been several reasons why VELCO requested the archeological assessment. VELCO President (also President of Central Vermont Public Service) James Griffin was an avocational archeologist and an early member of the Vermont Archaeological Society. A Rutland native and regional artifact collector, he was personally familiar with the archeological richness of the Orwell area having collected at a number of sites, some along East Creek itself. Additionally, then VTDHP Director William Pinney and historian and Shoreham resident Robert Maguire (Maguire 1972) were both very concerned with the potential threats of the proposed nuclear power plant to the venerable Mount Independence, owned by the State of Vermont (southern portion) and Fort Ticonderoga Association (northern half), and likely expressed them to VELCO.

(from Larabee's Point, on the north, to Benson Bay, on the south - see Figure 2) has drawn artifact collectors for decades. For example, the late Maurice Crandall of Springfield, Vermont, had a collection of over 1,300 artifacts from this stretch of shoreline. Although many of the stone tools show heavy water wear with smoothed surfaces and edges, his collection contains an unusually high percentage of exotic raw materials, including projectile points of Onondaga chert from New York State and numerous artifacts of orange Pennsylvania jasper (VTDHP 1978a: 9-9A; Pinello 1977). During the VTDHP's remarkably fruitful "Vermont Collections Survey" in 1978, Stephen Loring recorded many specimens from the Mount Independence - Orwell shoreline in numerous privately owned collections scattered throughout the state. A friend of Maurice Crandall's and himself a legend among Vermont collectors of the mid-20th century, the late Judge Milford Smith was a frequent visitor to the Orwell lake shore near Mount Independence as seen in Figure 5 (VTDHP 1978b). Since that time, other Vermont collectors have reported collections to the VTDHP from this locale that span all of Vermont prehistory. Three Paleoindian fluted projectile points are known from the lake shore in Orwell, two reported by collectors (Vermont Division for Historic Preservation Vermont Archeological Inventory files; Vermont Division for Historic Preservation Paleoindian Subject file) and one reported to Stephen Loring by former New York State Archeologist William Ritchie (Loring 1980: Appendix I, No. 21).

### The Vermont Division for Historic Preservation's 1977 East Creek Archeological Survey

In 1977, under the direction of State Archeologist Giovanna Peebles (then Neudorfer), the VTDHP undertook eight days of intensive archeological survey of portions of the East Creek valley. The project goal was to gather additional archeological information, building on the finds recorded by UVM in 1972, and then prepare a National Register of Historic Places nomination for this important prehistoric and historic archeological area. The summer and early fall of 1977 provided intense "on the job" training for Vermont's fresh State Archeologist, hired in July of 1976, and a new generation of young Vermont archeologists.<sup>6</sup> Recruited by the State Archeologist for their enthusiasm in all things archeological, the mixed crew included UVM and Middlebury College undergraduates, one recent graduate of Johnson State College, and one recent graduate of Montpelier High School: William A. Bayreuther, Michael Cohen, Kevin J. Crisman, Donna Jerry, Davis Koier, William Noel, James B. Petersen, Antonia Rosencrantz, Jean Sbardellati, and Mark Wesner.

Local artifact collectors and nearly all landowners adjacent to East Creek were contacted and interviewed about local his-

6. The VTDHP's Chittenden County Archeological Survey project took most of the summer of 1977 and propelled both the State Archeologist and the field crew to a new understanding of the number, variety, and location of prehistoric and historic period archeological sites that likely existed in Vermont. That project is another story for a future VAS *Journal*.



Figure 4. Main stem of East Creek and surrounding marshes, flooded with springtime high water with a typical finger-like knoll extending down to the creek in the background (Giovanna Peebles photo; courtesy of VTDHP).

tory and potential sites near the river. Many of the property owners were farmers and a number had collected artifacts from the surface of their fields. Beginning approximately 2 miles upstream from its mouth and immediately upstream of UVM's survey area, the VTDHP crew peppered the main stem of East Creek and the lower sections of the North and South Forks with intuitively placed subsurface test pits. The field crew followed the contours of the creek, walking parallel to each other at different elevations between the edge of the marsh and the top of the valley slope. Test pits (40-cm or 50-cm square by 30-cm deep minimally) were dug at random intervals along these transects and all dirt was screened with 1/4-inch mesh; all exposed surfaces and eroding banks were inspected (Figure 6 and also the *Journal* cover photograph). Figure 7 illustrates a typical, final field map drawn by one of the two especially talented young archeology draftsmen on the crew.

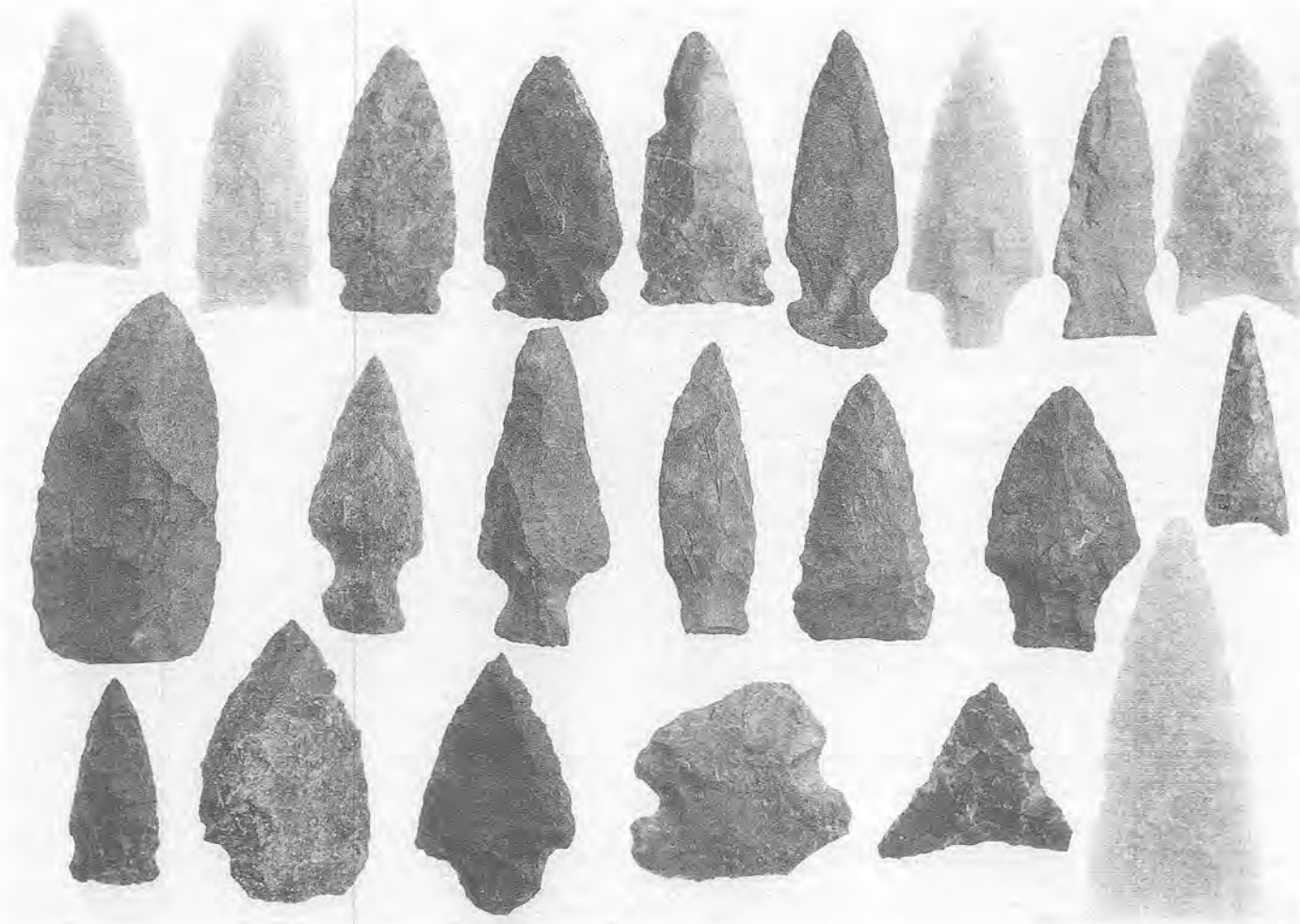


Figure 5. A small part of Judge Milford Smith's collection from the Orwell shore of Lake Champlain, neighboring East Creek. Materials represented include Mount Independence chert, Cheshire quartzite, Onondaga chert, and dark brown Hudson Valley chert (Stephen Loring photo; courtesy of VTDHP).

Seventeen new prehistoric sites were discovered in 1977 through interviews with landowners and collectors (11 sites) or solely from subsurface testing and surface survey by the field crew (6 sites). Two sites reported to UVM by avocational archeologist Gordon R. Nielsen during the 1972 survey were confirmed and further documented through subsurface testing. As so vividly demonstrated the following year during VTDHP's 1978 Vermont Collections Survey project (VTDHP 1978b), interviewing collectors<sup>7</sup> and carefully recording provenienced artifact collections revealed, in spite of collecting biases and incomplete-ness of the data, important information about a site's

location, approximate age, varieties of data, and stone used in tool making. The VTDHP's 1977 survey was biased toward an intensive examination of lands next to the marshes of East Creek's main stem. In fact, all the sites newly discovered through subsurface testing and eroding surfaces were found within the generally unplowed knolls projecting into the marshy lands along the creek. Sites were located on the main stem of the creek, on the South and North Forks and their tributaries, on the shore of Lake Champlain, and on the high tableland between the lake and the East Creek valley (Figure 8). Table 1 (see pages 16-18) summarizes all the prehistoric sites currently

7. Some individuals who collect artifacts on plowed fields or other exposed surfaces, such as beaches or shorelines, are "avocational archeologists," carefully recording the location of each discovery and describing what was found. Many others collect with little or no documentation of their efforts, sometimes because they are too busy with other work, such as farmers who are busy cultivating fields from which they – or their parents or grandparents before them – may have picked up artifacts over many years. Other collectors are just too busy with the frenzy and addiction of collecting to keep

any records (although their memory and visual recall of each individual find is often great). Most collectors in Vermont have been unstintingly generous with sharing their collections information with the State Archeologist and past and present VTDHP archeologists. These individuals have made significant contributions to the building blocks of Vermont archaeology, as testified in this paper. Throughout this paper, I mainly use the word "collector" for the sake of simplicity, except for a rare use of "avocational archeologist" when the label truly applies to a specific collector.





Figure 6. VTDHP's 1977 East Creek Archeological Survey crew members Davis Koier (with measuring tape) and Jean Sbardellati (at right) measuring the depth of their shovel test pit at site VT-AD-67 (James B. Petersen photo; courtesy of VTDHP).

recorded in the East Creek watershed and nearby Lake Champlain shore, including those discovered before and since the 1977 survey.

The small test pit investigations and occasional, associated surface collections from eroding contours provided the smallest glimpse into the potential prehistoric activities represented at the sites. Still, they offered some clues about prehistoric lifeways in the East Creek. Tools or bifaces were made, reshaped, and sharpened in many East Creek sites given the ubiquitous presence of small and medium sized flakes. For example, at site VT-AD-149, one 50-cm square test pit excavated to 20 centimeters (about 9.5 inches) produced 258 flakes of various kinds, from core reduction flakes with cortex (the outside rind of the original quarry rock) to biface thinning flakes to fine pressure flakes. While the collection was mainly composed of the blue/black Mount Independence chert, a few Cheshire quartzite and non-local ("exotic") pressure flakes were evident. Perhaps used to scrape hides, tubers or other foods, spear shafts, or other necessities of life, scrapers are a common tool type in the East Creek sites. A number of scrapers were recovered from site VT-AD-150, the majority of

quartzite. A local surface collection from sites VT-AD-152 contained three large quartzite end scrapers and a quartzite spoke-shave (a tool for smoothening; for example, the wood shafts of arrows and spears). In contrast to the majority of tested sites with their preponderance of Mount Independence chert flakes, site VT-AD-153 had a high percentage of quartzite flakes with a 1:1 chert to quartzite ratio. Judge Smith's collection, as did many others from the nearby Lake Champlain shore (see Figure 5), contains quartzite projectile points as well. The routine use of Cheshire quartzite from the western flanks of the Green Mountains within a half mile (often less) of the Mount Independence chert quarries suggests that quartzite played a sustaining role in prehistoric tool making, perhaps for certain tool types such as scrapers since quartzite was harder and produced a more durable scraping edge than other stone.

A number of the tested sites produced pressure flakes of "exotic" cherts, sometimes in quantity. For example, at site VT-AD-154, forty-one small pressure flakes in one test pit included at least twenty-four described as non-Vermont material. The label "exotic" was based on macroscopic, visual observations to de-

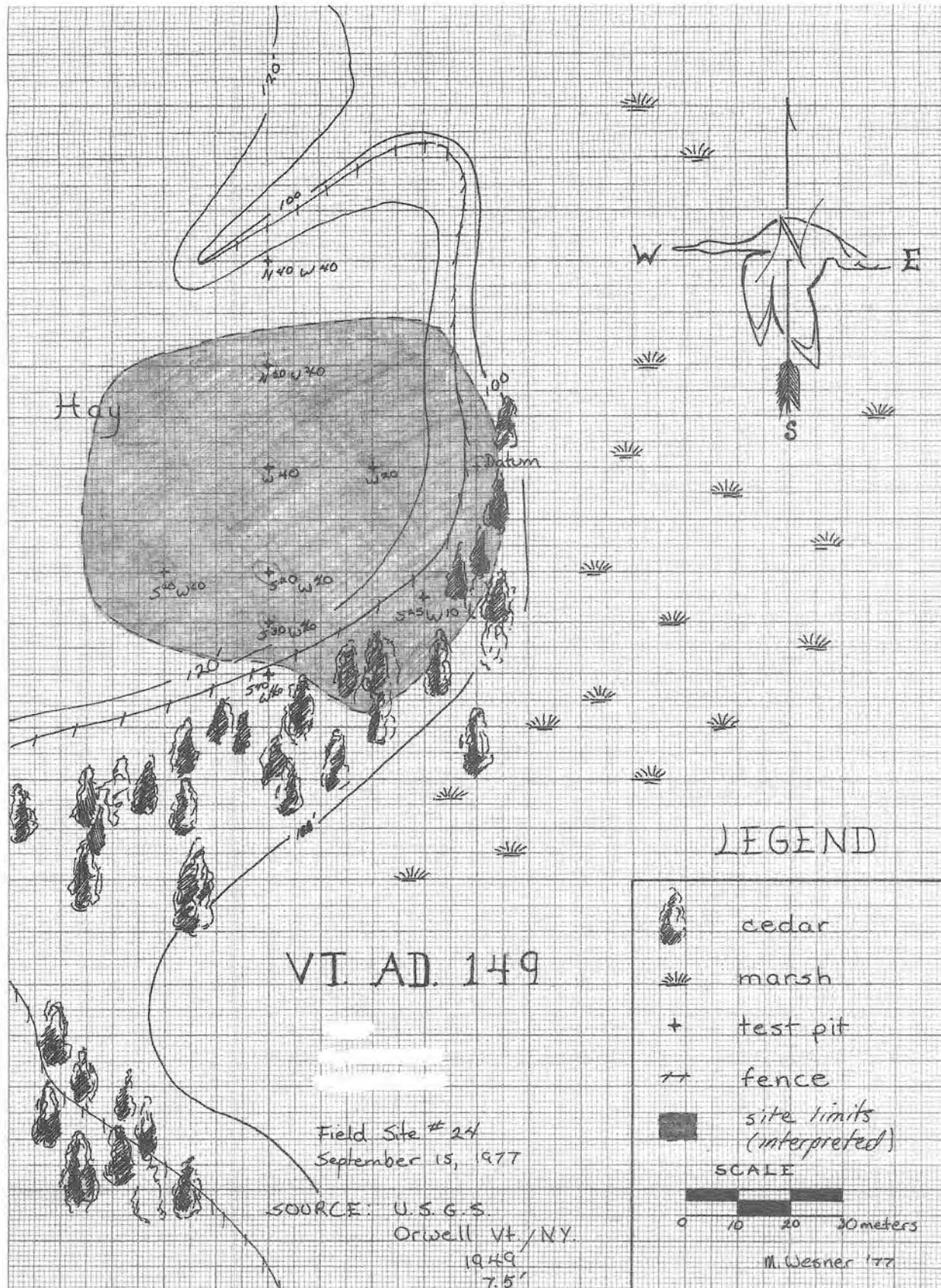






Figure 8. A view of the flat tableland overlooking the East Creek Valley and its wide marshes (James B. Petersen photo; courtesy of VTDHP).

scribe translucent, very fine grained, highly waxy dark red, brown, grey, or dark yellow flakes that suggested non-Vermont materials. Some of these pressure flakes reminded the author of western agates and chalcedonies. A few exotic flakes exhibited pot lid fractures (tiny concave pits), as did some of the Mount Independence chert flakes. While a major topic of study in western states and elsewhere in the country, northern New England archeologists have devoted little time in researching heat treatment of local materials and how that process might affect their macroscopic look. The East Creek sites suggest that study of heat treatment of Mount Independence and the northern Lake Champlain cherts might be a fruitful topic for Vermont archeologists.

It was difficult to discern hearths and other features in the 50 cm square, Vergennes clay test pits and none were recorded. However, fire-cracked rock, split apart by a direct or indirect heat source, was found in six of the tested sites, either in test pits or in nearby eroding surfaces. Such fractured rocks represent stone boiling or roasting over a fire or other food preparation tasks. Fire hearths or other cooking related features may lie undisturbed within these unplowed sites or below plowzone in the plowed surfaces.

From the information recorded in 1977 and in earlier years, prehistoric sites in the East Creek valley and surrounding environs demonstrate a wide range in site type, size, information, age, extent of disturbance (integrity), and locational context. Site types include isolated surface projectile point finds; discrete activity areas, for example, for tool making and resharpening; small single component camps; multi-component camps or villages; and cemeteries. Based on surface evidence, limited testing, and topographic limitations, sites appear to be generally smaller in

the East Creek valley and larger on the Lake Champlain shore and the tablelands between the creek and shorelands. The predominant, and sometimes exclusive, raw material in all the sites is the blue/ black chert found in beds and nodules on Mount Independence. Reflecting their proximity to the quarry, nearly all sites display a little or a lot evidence of tool or biface making. In addition to several "netting needles," numerous awls, and a barbed bone fishhook recovered in 1941 at the Bennett Site (Ritchie 1944:199-200), fragments of a plummet and milling stone represent fishing or fowling and nut or seed processing. In contrast to the rare projectile point from the 1977 testing, hundreds of projectile points in privately owned surface collections from all parts of the East Creek area attest to the importance of hunting in the prehistoric lifeways of the East Creek valley and surrounding lands.

Many of the projectile point types found within the watershed generally mark Late Archaic and Woodland occupations (see "Timelines," page 16), but only a few East Creek Sites contained pottery. In fact, there was enough reported pottery in surface collections at East Creek to lure MAI archeologist Godfrey Olsen to this area in 1933. He recovered both Middle and Late Woodland pottery at the East Creek Site (Loring 1985:98-99). For most collectors, however, the hardpan, Vergennes clay within which the sites are found may have hampered their recognition of pottery fragments. Difficulties in detecting pottery fragments may also have been a factor in the VTDHP's 1977 survey since no pottery was identified in the many test pits excavated.

Published site data and diagnostic artifacts in dozens of private collections confirm that the East Creek valley and adja-

cent Lake Champlain shore were occupied through much of Vermont's prehistory. A Paleoindian fluted projectile points from the lakeshore mark the earliest use of this locale.

### The Early Woodland Period in the East Creek Valley

The VTDHP's 1977 survey of the East Creek valley did not recover a single diagnostic artifact in any of the excavated small test pits. However, several lines of evidence suggest that some of the sites discovered at East Creek in 1977, and by previous researchers and collectors at other times, may be Early Woodland habitation sites contemporaneous with the two near-by Early Woodland cemeteries. Considering the importance of excellent chert in the economic, social, and technological life of Early Woodland people, there should be some degree of correlation between the distribution of source areas of prized, high quality chert and Early Woodland residential sites. It's also reasonable to suggest that Early Woodland sites, both mortuary and habitation, adjacent to local chert sources should contain very high frequencies of that particular material.

The 1,000-year span between approximately 2,800 and 1,850 years ago was a transformative time for the aboriginal people of Vermont and the greater northeastern United States. While most of these changes in traditions, social and economic patterns, and technologies began in the Late Archaic, archeologists distinguish the Early Woodland by the first widespread use of pottery, increased sedentism, far reaching and complex trade networks, and an elaboration of earlier burial ceremonialism (see "Timelines," page 16). Until the late 1980s, virtually all our knowledge of Vermont's Early Woodland resulted from the extraordinary, but poorly documented, finds in the four Early Woodland cemeteries (two in Swanton and two in Orwell). Habitation sites were virtually unknown or at least unrecognized. Fortunately, considerable progress has been made in learning about Vermont's Early Woodland since William Haviland and Marjory Power wrote the first edition of *The Original Vermonters* in 1981 and Loring's 1985 Early Woodland synthesis.

Haviland and Power's revised, 1994 edition of *The Original Vermonters* refreshed their characterization of Vermont's Early Woodland using updated analyses of the Boucher and East Creek cemetery sites (Heckenberger et al. 1990; Heckenberger, Petersen, and Basa 1990; Loring 1985) and information from newly discovered habitation sites throughout Vermont (Haviland and Power 1994:87-111).

Intensive investigations at the Canaan Bridge site on the Connecticut River in Vermont's northeasternmost corner (Bolian and Gengras 1994) and at the Pearl Street Park site in Essex (Petersen, Heckenberger, and Thomas 1988) added some details to the sketchy Early Woodland picture. Diagnostic Early Woodland bifaces and projectile points, for example, lobate-base "Adena" points, ovate Meadowood "cache" blades, Meadowood side-notched points, and Vinette I pottery from a variety of professionally tested sites offer additional glimpses of Early Woodland occupation across parts of the state. Both Haviland and Power's (1994:87-111) and Peter

Thomas' (1994:68-74) complementary summaries of Vermont's Early Woodland incorporate important but poorly publicized findings from archeological studies conducted for government agencies and developers. This ever-expanding body of knowledge offers the necessary toolkit to better recognize Early Woodland habitation sites, an identity problem with which Vermont, and probably all northeastern, archeologists struggle.

Diagnostic Early Woodland artifacts documented by the VTDHP 1978 Vermont Collections Survey project (VTDHP 1978b), subsequent collections documentation by Loring, Shelley Hight, Peebles, David Skinas and others, Squire's 1977 collections research (Squire 1977:13-14, 53-54), and Cassidy's (1991) review of Connecticut River site information suggest there is no lack of Early Woodland sites in Vermont. Concentrated in the Champlain Valley (because of collection bias) but certainly present in the Connecticut River Valley, these find spots (sites in most cases) demonstrate strong river-stream-lake- wetland associations, from the Missisquoi River to the Poultney River, from the Walloomsac River to the Ottauquechee watershed, and to many major and minor lakes, ponds, and streams in between. Assemblages of Onondaga Meadowood bifaces such as those collected by George Elliott near Bristol Pond and documented by Stephen Loring in 1978 (see Figure 9) are not uncommon in Vermont's major artifact collections.

All researchers on this subject describe a pond-lake-river orientation by "small mobile social groups or local bands (< 50 people)" (Heckenberger et al. 1990:140). While strongly biased towards the Lake Champlain Basin with its open agricultural areas and high growth zones of the state (primary places where collectors and archeologists have looked), VTDHP's Vermont Archeological Inventory files and extensive collections data certainly bear out this pattern.

Glimpses of Early Woodland life gleaned from both residential and cemetery sites reveal some amazing details about this period of Vermont history. The role of stone stands out. All prehistoric Vermonters were purposeful in procuring the right type of stone for tool making, either through trade or personal journeys. However, certain times in Vermont prehistory exhibited greater concern with non-local stone than other periods. Tools and flakes of Maine and New York cherts, Pennsylvania jaspers, New Hampshire rhyolites, and ramah chert from Labrador, among other lithics, found in Vermont Paleoindian sites communicate that sources of excellent stone, both local and from very far away, were a cornerstone of Paleoindian life. John G. Crock (2003) in an oral summary of Vermont Paleoindian, observed that "long distance trade has obviously been going on from earliest times. The quarry sites were probably sacred sites, featuring prominently on the [geographic and spiritual] landscape of New England's native people. These materials may represent more than just lithics, but special landscape connections as well."

Early Woodland people, perhaps arguably more so than in any other time period, deliberately procured, exchanged, used, hoarded, celebrated, and buried excellent quality stone of various

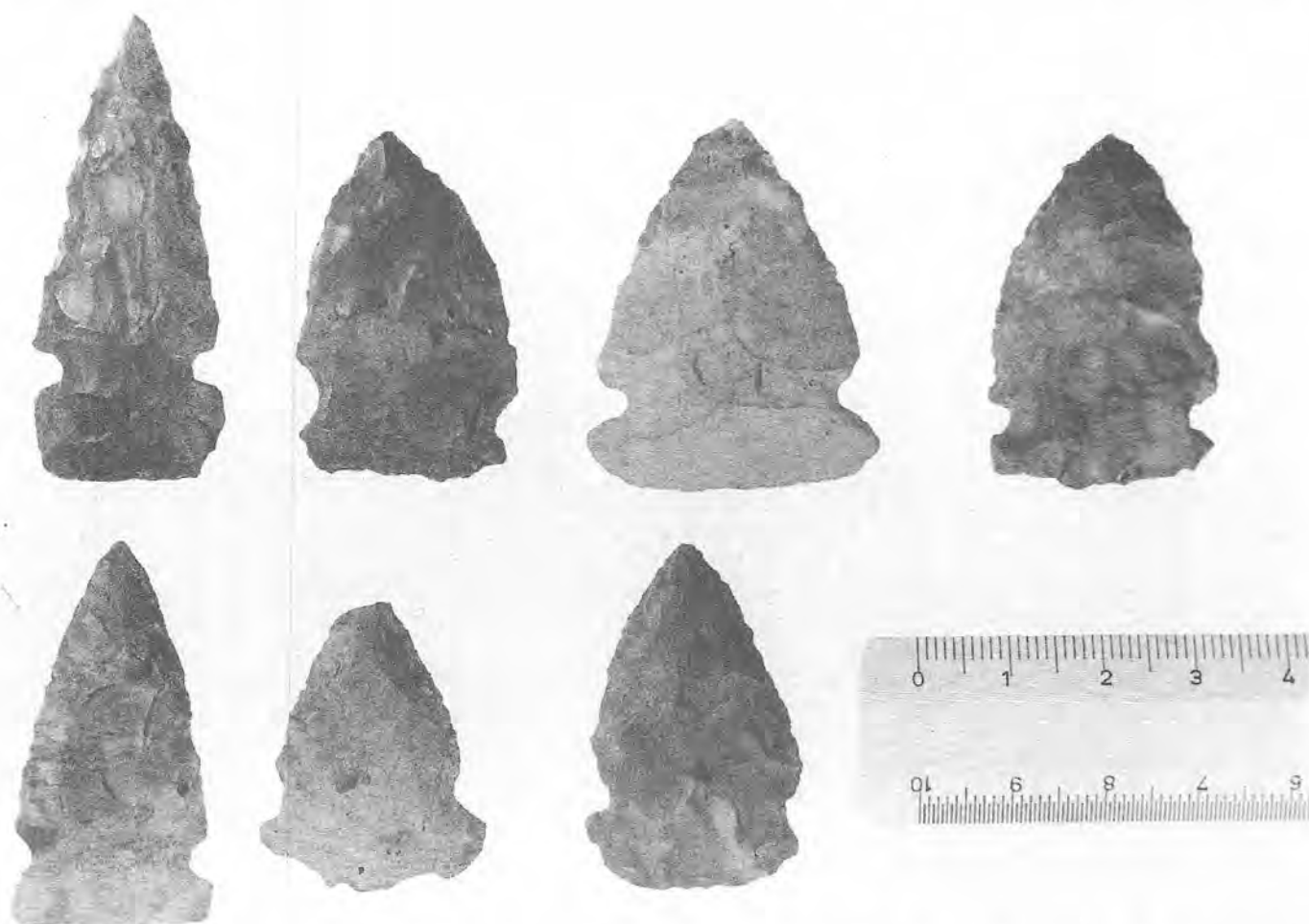


Figure 9. *An assemblage of Onondaga chert Meadowood projectile points collected by George Elliott from the Bristol Pond area (Stephen Loring photo; courtesy of VTDHP)).*

types. Using a wide array of non-local stone, they fabricated day-to-day tools and other implements as well as extraordinary ritual objects as discovered in the cemetery sites. A great expense of energy and time along with a great complexity of trade, exchange, rituals, and other social protocols conveyed to Vermont (as found in our sites) Onondaga cherts from New York State, cherts from Indiana and Ohio, translucent quartzite from northern Quebec, and rhyolites from Maine and New Hampshire, among other stone materials (Loring 1985; Heckenberger, Petersen, and Basa 1990; Heckenberger et al. 1990; Granger 1980). Heckenberger et al. (1990:213) hypothesize about the purpose of these complex material exchanges in the Early Woodland:

[At the Boucher cemetery] .the interment of artifacts during the burial rite facilitated the movement of important trade items by removing some items from circulation, thus creating a continued demand for trade goods, which, in turn, helped maintain ties to other, sometimes distant, groups. The visible

quantities of materials being exchanged are consistent with a system in which the primary motivation of trade was the circulation of goods rather than acquisition of a surplus.

Quarrying processes, getting and maintaining access to the quarries, and distributing and redistributing stone material must have involved intricate social and economic protocols and relationships that we may never understand through archeology. One example, out of many potential examples, that illustrates the yet unsolved complex dynamics of stone acquisition, exchange, and distribution is the Canaan site, in the northeast corner of Vermont. At this 2,500-year-old Early Woodland site on the Connecticut River, the stone tool assemblage is almost entirely composed of a wide variety of non-local stone, mostly cherts (Bolian and Gengras 1994:161-175). Loring (1985:104) elegantly summarizes the complex dynamics and interdependence between reliable sources of excellent stone and aboriginal people.

Vermont's Early Woodland cemetery sites show the enormous significance of important chert localities – such as the quar-





Figure 10. View towards East Creek's broad, rich marshes (James B. Petersen photo; courtesy of VTDHP).

ries in the St. Albans area and at Mount Independence -- to these ancient Vermonters. More specifically at East Creek, Loring (1985:98-102, 110) documents the large quantities of blue/black Mount Independence chert found in both the East Creek Site cemetery and residential areas. Whereas most of the trianguloid, leaf-shaped Meadowood cache blades in the cemetery were made from the distinctive grey, New York State Onondaga chert, the Meadowood cache blades in the village and crematory parts of the site were mainly made from the Mount Independence chert. Loring, using the East Creek and Swanton cemetery sites for supporting data, concludes that local chert sources were an important "factor in Early Woodland settlement patterns" with "cache blade production intended primarily to redistribute a valuable raw material to regional bands that were less favorably endowed" (Loring 1985:104).

The abundance of Mount Independence Meadowood chert cache blades in the East Creek Site supports the notion that they play a role in the distribution of this chert across Vermont and elsewhere during the Early Woodland. Early Woodland habitation sites in the East Creek area would surely contain tools and flakes of the nearby Mount Independence chert. Indeed, most of the sites recorded in the East Creek area predominantly contain the local blue/black chert. Based on the exotic cherts found in the East Creek cemetery and residential site (Loring 1985:101),

any Early Woodland campsite in the East Creek area might also be expected to contain some evidence of exotic raw materials, including Onondaga chert. In fact, at least four of the sites tested in 1977 contained flakes, usually small pressure flakes, of extremely fine grained, high quality, non-local materials. At VT-AD-154, a concentration of 24 pressure flakes made from exotic cherts were recovered from one 50 centimeter square test pit. This grouping included one flake made of a translucent red/brown chalcedony, possibly from the Mid-west or West. Surface collections from the nearby Lake Champlain shore contain unusually high frequencies of exotic materials.

Heckenberger et al.'s (1990:141) summary of the Early Woodland characterized regional Early Woodland residential sites as small, less than one acre. Ritchie and Funk's (1973:346-347) study of Early Woodland habitation sites in New York State described them as small camps, less than one acre, exhibiting low intensity of use and containing discrete tool kits and refuse representing one or more activities including hunting, fishing, gathering, and biface manufacture. Ritchie and Funk's (1973:348) preliminary conclusions that the Early Woodland economy focused on riverine and lake resources was later reinforced by Granger's (1978:55, 58, 62, 65-66) correlation of Early Woodland sites in western New York and elsewhere with a relatively homogeneous distribution near streams and marshes. Habita-

tion sites tended to cluster on perpendicular ridges that extended to the periphery of a lake or marsh. The VTDHP's 1977 survey supports the hypothesis that site distributions within the East Creek watershed conform to a fairly specific Early Woodland pattern evident elsewhere in the Northeast (and based on diagnostic Early Woodland artifacts in collections, elsewhere in Vermont as well). East Creek's rich marshes, seen in Figure 10, would have been very attractive to Early Woodland Vermonters, siting their camps on perpendicular ridges, or "fingers," jutting into the East Creek marshes such as those in Figure 11.

Detailed studies of Early Woodland sites in western and central New York State (Granger 1978:115-117) and in Quebec (Levesque 1964) record that the projectile point (biface) tool kit of this period included not only the typical Meadowood side-notched points but also an assortment of corner-notched and stemmed points resembling commonly designated Late Archaic types but contemporaneous with the Meadowood points. Loring's (1985:119, 125, 127) photographs of bifaces from the two East Creek cemetery sites in Orwell as well as Heckenberger et al.'s (1990:118) photos of the Boucher cemetery in Swanton show some stemmed and notched bifaces in the assemblage. Heckenberger et al. (1990: Figure 7, 118) notes that several of the stemmed and notched bifaces in the Boucher cemetery "are considered to be Late Archaic forms." Fiedel (2001:101-142), in his wide ranging summary "*What Happened in the Early Woodland?*" offers a detailed description of Early Woodland projectile points and associated radiocarbon dates from the broader northeast. He concludes that "the culture-historical importance of all this material is that some unknown fraction of the numerous side-notched points usually ascribed to the Late Archaic Brewerton complex may in fact be of Early or early Middle Woodland age" (Fiedel 2001:109-110).

Any number of so-called "Late Archaic" point types presently recognized in surface collections from the East Creek area may, in reality, be parts of Early Woodland habitation assemblages. Figure 5, depicting part of Judge Smith's collection from the Orwell lakeshore near Mount Independence and East Creek, illustrates the range of undated biface types that may or may not be parts of Early Woodland habitation sites. Are the three bifaces in Figure 12, collected on the surface of site VT-AD-76 near East Creek by Gordon R. Nielsen, Late Archaic or Early Woodland? A quick perusal of the collections documentation at VTDHP finds examples of New York State Onondaga chert bifaces and other tools of this material *not* seemingly associated with typical Early Woodland artifact forms. Do these represent Early Woodland sites? While our knowledge base for Early Woodland habitation sites has expanded in twenty years, recognition issues persist and continue to hamper our ability to discern Early Woodland sites that lack "obvious" Early Woodland traits (for example, Onondaga chert Meadowood cache blades or side-stemmed bifaces). As discussed in an earlier section, the Early Woodland site areas across Vermont mapped out from collections and limited professional testing were identified from conspicuous Early Woodland artifacts. As Haviland and Power (1994:109) point

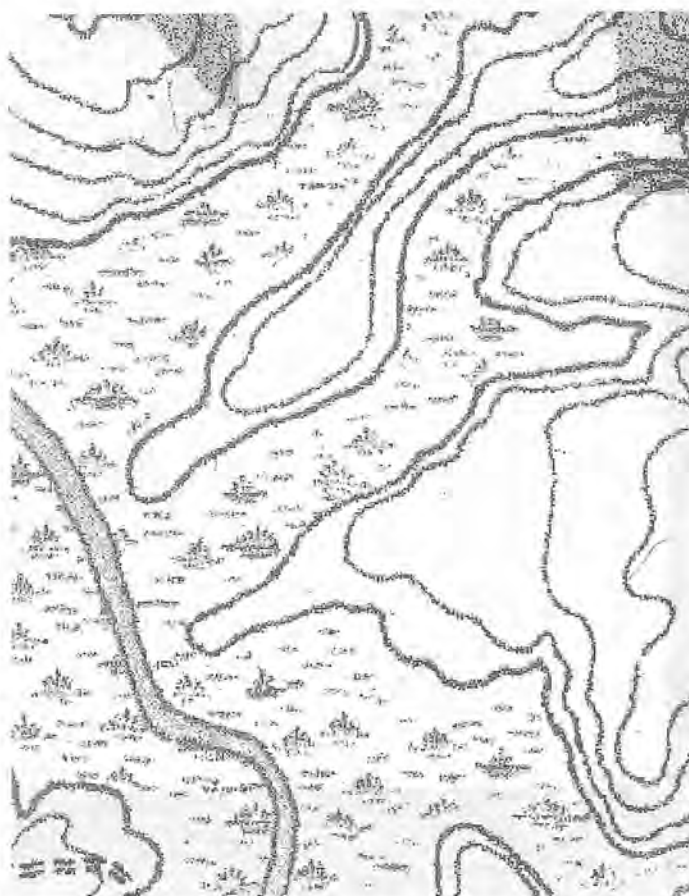


Figure 11. Enlargement of a USGS topographic map showing examples of the highly sensitive ridges, or "fingers," jutting into East Creek.

out, "it is unlikely that [the Highgate Converter site] VT-FR-161 would have been identified as an Early Woodland camp without the radiocarbon date, as diagnostic indicators were absent."

### The East Creek Valley: A Well-Preserved Opportunity to Understand Vermont Prehistory

The East Creek valley may provide us with a rare opportunity to examine what Vermont's Early Woodland and other habitation sites look like, especially habitation sites that neighbor a premier quarry location. The town of Orwell is a sparsely settled, rural agricultural area with a modest amount of residential development and few industrial/commercial operations. Cultivation of certain parts of the East Creek valley has been hampered by poor drainage and steep slopes. Thus, steep valley slopes, small terraces on these slopes, small knolls adjacent to the wetlands, and other marginal lands in the valley bottoms have never been plowed. Overall, this suggests very good site preservation, although shallow sites may have degrees of disturbance from freezing and thawing processes, burrowing rodents, and other natural factors. Furthermore, the East Creek Site demonstrates the potential for undisturbed sites deeply buried in alluvial deposits in some parts of the watershed. The East Creek drainage overall

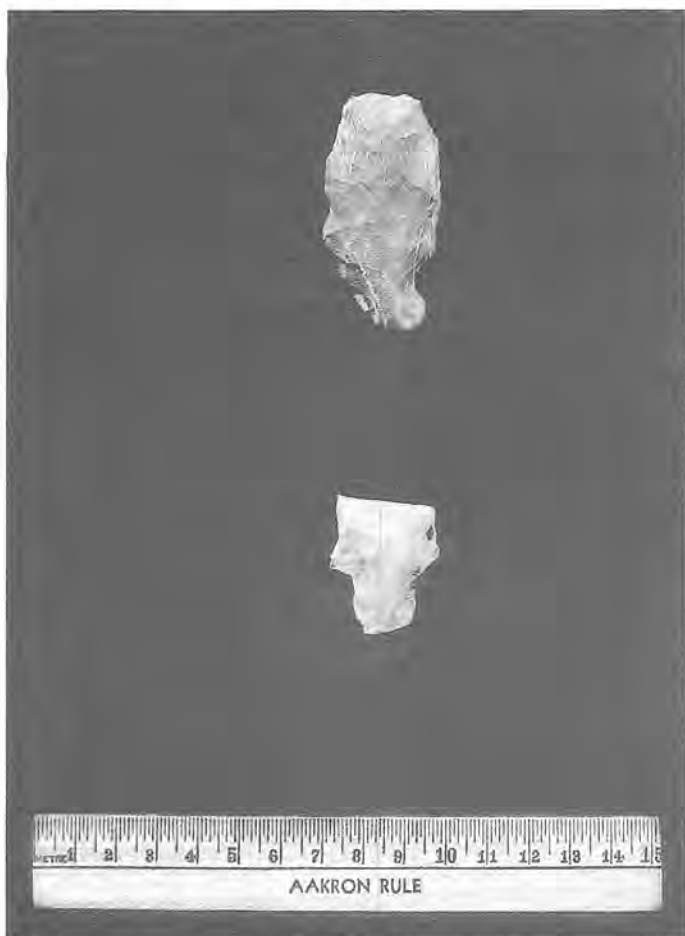


Figure 12. Projectile points collected by Gordon R. Nielsen from the surface of site VT-AD-76 at East Creek. Top: black chert; bottom: quartz crystal. (William Noel photo; courtesy of VTDHP).

demonstrates the kind of integrity rare in more heavily farmed and developed parts of the Champlain Valley. These conditions may provide a detailed picture of prehistoric Vermonters in a geographically small area through a long period of time.

More specifically, the dense concentration of sites located within the East Creek valley and environs has the potential of contributing important information on the following regional and local research topics.

Basic information on Early Woodland habitation sites needs to be systematically gathered. We still hold erroneous assumptions about Early Woodland sites that preclude their recognition. As we have already learned, sites that lack easily recognized Early Woodland artifacts such as Adena or Meadowood points and cache blades of Onondaga chert could still well be Early Woodland sites. Various lines of evidence including data from the two cemetery sites, survey data, private artifact collections, and comparative data from Vermont, New York, the Great Lakes region, and southern Quebec suggest that a number of sites in the East Creek valley may be contemporaneous with the Early Woodland cemetery sites. Some of these East Creek sites contain

undisturbed cultural deposits including activity areas with diverse lithic debris and tool types, as well as potential features that may yield radiocarbon dates, information on diet, and seasons of site use.

Although the East Creek valley is the source area for the abundant and desirable Mount Independence chert, sites nonetheless show varying (sometimes extensive) use of quartzite in tool manufacture and periodic use of exotic cherts. In the heartland of Mount Independence chert, questions of raw material preference by prehistoric Vermonters in relation to tool function or other variable can be studied with greater clarity since lack of chert would not have been a determining factor in raw material selection. Mount Independence chert samples from sites within the East Creek drainage exhibit a wide range of texture, luster and flaking characteristics. Differences among the chert samples are, in some cases, extreme and suggest that heat treatment of chert was undertaken to improve its flaking properties and increase the tool maker's ability to control fracturing during tool manufacture. Consequently, the presence of what may be heat treated cherts in sites within the East Creek area is a relatively uncommon (or at least uncommonly reported) occurrence in northern New England. It provides an opportunity to study a particular aspect of lithic processing in an area in which chert procurement and distribution and biface manufacture were principal activities of aboriginal populations.

If procuring Mount Independence chert was a central concern of prehistoric occupants or visitors to East Creek and its neighboring lake shore, one might expect sites to be randomly distributed as long as food and other critical resources could be readily obtained. The East Creek sites, as we imperfectly know them, exhibit a two-fold distribution pattern in which the majority of sites are either located along the lakeshore or along the creek and wetlands; only a few sites are located between these zones or in upland tributary areas. This pattern may well be a function of inadequate survey, however, questions about differential site location may be of special relevance in this geographically restricted area. Were sites located in different environments for functional reasons (such as near the falls in Figure 13 for fishing) or for seasonal reasons (such as winter camps)? Or were there different settlement preferences in different periods of time? Or were these Native Americans hedging their bets (with one eye towards the lake and the other towards the creek) since food was scarce in both environments? Fiedel (2001:101-142) offers various challenging questions and hypotheses about a significant decline (real or perceived?) in Early Woodland populations across parts of the northeastern United States. He persuasively argues for population declines in this period, resulting from increased cold and climatic instability, and suggests that Early Woodland burial "ceremonialism might represent an effort to cope with environmental stress" (Fiedel 2001:130). Peter Thomas (1994:71) states that "At about 2950 BP, as the Early Woodland period began, pollen cores recovered from bogs throughout Vermont and adjacent areas indicate that a climatic shift occurred." Com-





Figure 13. View towards the lovely East Creek falls, at the east end of the main stem of the creek (Giovanna Peebles photo; courtesy of VTDHP).

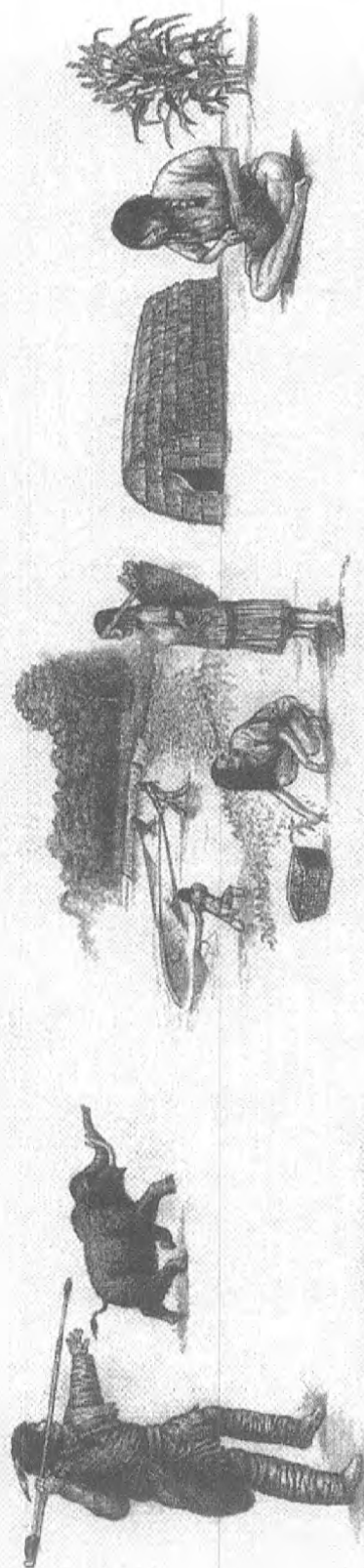
bined with archeological site data, pollen core data from the ancient East Creek marshes may address some of these questions.

Lastly, in contrast to some of the large, deep and repeatedly occupied sites found elsewhere in the Champlain Valley, in particular in flood plains of major river valleys, many of the East Creek sites appear to lack the structural complexity that often makes interpretation, analysis, and comparison of the archeological record so difficult. These sites show what archeologists call "clarity."

Two sites within the East Creek area are already listed on the National Register of Historic Places: the historic and prehistoric site of Mount Independence (VT-AD-125), also designated a National Historic Landmark in 1969, and the East Creek Site (VT-AD-12). The Nature Conservancy and the Vermont Land Trust, working closely with private landowners in the last 20 years,

have worked hard to protect important large, sections of the East Creek valley, tablelands, and Lake Champlain shoreline through purchase of conservation easements or outright land ownership. The State of Vermont and Fort Ticonderoga Association own and protect the Mount itself. Most private landowners in this area, many here for generations, revere their special lands along and above the creek and are exceptional site stewards. The East Creek valley and neighboring lands stretching to the lake shore to the northeast and southwest envelope an important research universe of Vermont prehistory and history. As a prehistoric archeological district, these lands deserve careful monitoring by those who honor Vermont's irreplaceable archeological heritage and dedicated protection by all its land stewards. Some key questions about Vermont's prehistory might be uniquely answerable here.

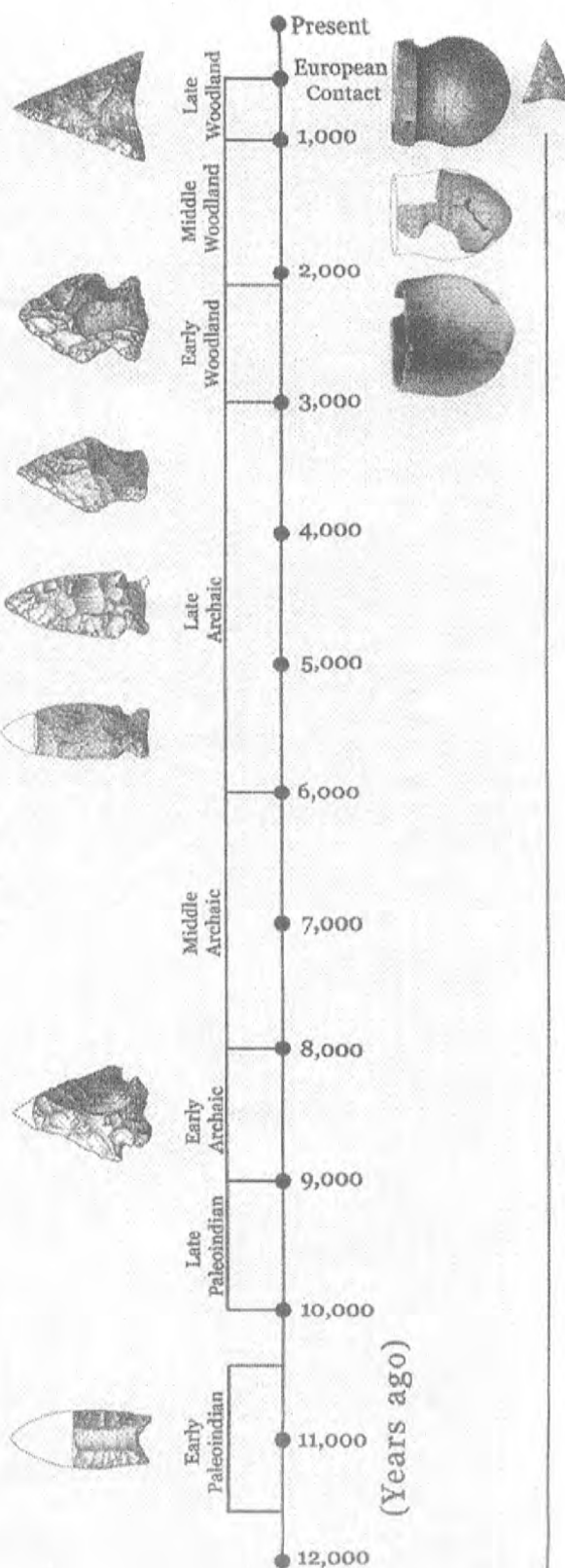
# Native American Archaeology Timeline



The Paleoindian Periods

The Archaic Periods

The Woodland Periods



Source: "An Introduction to Vermont Archaeology. Native American Archaeological Sites and the Chittenden County Circumferential Highway." A publication of the University of Vermont Consulting Archaeology Program, Burlington, VT, made possible through the support of the Vermont Agency of Transportation and the Federal Highway Administration, 2003. Courtesy of the University of Vermont Consulting Archaeology Program.

Table 1. Summary of Prehistoric Sites Currently Recorded in the East Creek Drainage or Nearby Lake Champlain Shore.  
(page 1 of 3)

<u>Site Name/No.</u>	<u>How located</u>	<u>Extent of Information Pre-VTDHP 1977 Survey</u>	<u>1977 VTDHP Survey</u>
VT-AD-4 Chipman's Point Rock Shelter	1930s	Published references	
VT-AD-8	1977 VTDHP Survey; Collectors		Extensive surface collection
VT-AD-9	Collectors; 1972 UVM Survey	Surface finds	
VT-AD-12 East Creek Site	1930s	Published references; listed on the National Register of Historic Places	
VT-AD-40	Collectors	Surface finds	Documented collections
VT-AD-66	Collector; 1972 UVM Survey	Surface finds	
VT-AD-67	Collector; 1972 UVM Survey; 1977 VTDHP Survey	Surface finds	13 test pits excavated; 7 positive; hearth feature; never plowed
VT-AD-68	Collectors; 1972 UVM Survey; 1977 VTDHP Survey	Surface finds	5 test pits excavated; 5 positive; extensive surface collection; possible hearth feature; likely never plowed
VT-AD-74	Collectors; 1977 VTDHP Survey	Surface finds	Documented collection
VT-AD-76	Collectors; 1972 UVM Survey; 1977 VTDHP Survey	Surface finds	Documented collections
VT-AD-77	Collectors; 1972 UVM Survey; 1977 VTDHP Survey	Surface finds	Documented collections
VT-AD-78 Collector	1972 UVM Survey;	Surface finds	
VT-AD-80	1972 UVM Survey	Surface finds	



Table 1. Summary of Prehistoric Sites Currently Recorded in the East Creek Drainage or Nearby Lake Champlain Shore.  
(page 2 of 3)

<u>Site Name/No.</u>	<u>How located</u>	<u>Extent of Information Pre- VTDHP 1977 Survey</u>	<u>1977 VTDHP Survey</u>
VT-AD-83	Collectors	Surface finds	
VT-AD-142	Collector; 1977 VTDHP Survey	Surface finds	Documented collection
VT-AD-143	Collector; 1977 VTDHP Survey	Surface finds	Documented collection
VT-AD-144	Collector; 1977 VTDHP Survey	Surface finds	Documented collection
VT-AD-149	Collector; 1977 VTDHP Survey	Surface finds	12 test pits excavated in 2 phases; 10 positive; extensive surface collection; high density with 258 flakes in one 50 X 50 cm test pit; eastern portion never plowed
VT-AD-150	1977 VTDHP Survey		Extensive surface collection; some fire cracked rock
VT-AD-151	Collections; 1977 VTDHP Survey	Surface finds	Extensive surface collection
VT-AD-152	Collection; 1977 VTDHP Survey	Surface finds	Extensive surface collection; some fire cracked rock
VT-AD-153	1977 VTDHP Survey		9 test pits excavated in 2 phases; 6 positive; possible hearth feature; high percentage of quartzite flakes; likely never plowed
VT-AD-154	1977 VTDHP Survey		1 test pit excavated; 1 positive - 42 flakes; small surface collection; fire cracked rock; never plowed
VT-AD-155	1977 VTDHP Survey		1 test pit excavated; 1 positive; small surface collection; fire cracked rock; never plowed
VT-AD-156	1977 VTDHP Survey		1 test pit excavated; negative; small surface collection; fire cracked rock; never plowed

Table 1. Summary of Prehistoric Sites Currently Recorded in the East Creek Drainage or Nearby Lake Champlain Shore.  
(page 3 of 3)

<u>Site Name/No.</u>	<u>How located</u>	<u>Extent of Information Pre-VTDHP 1977 Survey</u>	<u>1977 VTDHP Survey</u>
VT-AD-157	1977 VTDHP Survey		1 test pit excavated; negative; small surface collection; never plowed
VT-AD-191	Collectors; 1977 VTDHP Survey	Surface finds	Documented collections
VT-AD-192	Collector; 1977 VTDHP Survey	Surface finds	Documented collection
VT-AD-193	Collector; 1977 VTDHP Survey	Surface finds	Documented collection
VT-AD-238	Collector; 1978 VTDHP Vermont Collections Survey		
VT-AD-239	Collector; 1978 VTDHP Vermont Collections Survey		
VT-AD-298 Bennett Site	1940s	Published References	
VT-AD-418	Archeologist		
VT-AD-753	Collector		
VT-AD-828	Archeologist		
VT-AD-885	Archeologist		
VT-AD-890	Archeologist		
VT-AD-1353	Archeologist		
18 Field Sites (FS-AD) consisting of: isolated projectile point finds; rumored but unconfirmed sites with "many artifacts"; small surface sites; or isolated test pit sites	1977 VTDHP Survey	Based on current practice, 5 of these sites would be given full VT Archeological Inventory site designations: FS 48, 51, 52, 53, and 54	Documentation of collections; surface survey; test pits; at least 3 sites never plowed

## Acknowledgments

This paper was first prepared in 1979 (in the days of typewriters) as a summary report on the 1977 East Creek Archaeological Survey Project and as a draft National Register nomination. A second, different draft followed in 1983 after Stephen Loring gave me a copy of his unpublished 1981 paper "Champlain-Middlesex, A Regional Early Woodland Manifestation in Vermont" (subsequently revised and published in 1985 with a different title), which started me on this line of thinking. The 1983 manuscript languished for lack of time. Recently, VAS Journal Editor Victor Rolando encouraged me to submit it for publication in the Journal. In 2000 and 2003, Jim Petersen and Stephen Loring reviewed the 1983 draft and felt that, with "a few small revisions and updates here and there," it would be ready for publication. They were way too kind and too generous in their reviews. Thanks to their helpful hints, this article is a complete overhaul of the 1983 draft. I am indebted to Jim and Stephen for their thoughtful suggestions and editorial comments but all errors and omissions are mine. I offer my sincerest and humblest thanks to Vic Rolando, who faithfully and patiently believed that I could and would complete this paper for publication. I am also grateful to the authors of past VAS Journals who gave me a major, at my finger tips, reference library on the archeology of Vermont. Kudos to them and the two VAS Journal editors, Dave Starbuck (Volumes 1 and 2) and Vic Rolando (Volumes 3 and 4), who brought to fruition these truly important contributions to the regional archeology literature. And thanks to my best pal and husband, David Peebles, who endured paper piles and my preoccupation with this paper for part of the summer.

My sincerest and long overdue thanks are due to the 1977 East Creek archeological survey crew for their hard work and enthusiasm. Nearly 30 years later, I have the privilege to still call many of them friends: Bill Bayreuther (M.A. in underwater archeology from Texas A&M, currently Grants Director at the Natural Resources Council of Maine), Mike Cohen, Kevin Crisman (Montpelier High School, M.A. Texas A&M in underwater archeology, PhD University of Pennsylvania, currently Professor of Underwater Archeology at Texas A&M), Donna Jerry (Montpelier resident with whom I exchange waves), Davis Koier (currently Director of Human Resources, Manufacturing Solutions, Inc., Morrisville), Bill Noel, Jim Petersen (PhD University of Pittsburgh, currently Professor of Anthropology, University of Vermont), Antonia Rosencrantz, Jean Sbardellati (Peacham resident and occasional Montpelier visitor), and Mark Wesner (currently partner in Keefe and Wesner Architects, North Bennington). I am grateful to Gordon R. Nielsen for his generous help in providing site information and access to his collections from the East Creek area. Many people living in the East Creek valley and elsewhere in Orwell provided invaluable help including information about potential sites and local history as well as access to several important artifact collections; they were unfailingly hospitable to the field crew.

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*Giovanna M. Peebles was hired as Vermont's first State Archeologist in 1976 and continues in that position. She has a BA in Anthropology from Cornell University, an MA in Cultural Resources Management from Idaho State University, and has spent the last 28 years in continual, on-the-job training with an awesome group of mentors, most of whom are mentioned in this article. Giovanna works in the Vermont Division for Historic Preservation, part of the Vermont Agency of Commerce and Community Development, in Montpelier.*