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Prudence Doherty, Editor

SOME OBSERVATIONS ON THE ARCHAEOLOGICAL DATA FOR NATIVE AMERICAN SITES IN CHITTENDEN COUNTY, VERMONT

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## Introduction

The Vermont Archaeological Inventory (VAI) is the state's official record of identified archeological sites. It includes a wide range of both Native American and European American sites. This inventory has been compiled over many years through the combined efforts of collectors, avocational archaeologists and professionals. The VAI for Chittenden County includes a large number of Native American sites, and includes a vast amount of archaeological information. However, despite the growing body of information, little synthesis of the data has taken place. This article will examine the archaeological site information for Chittenden County to determine the representative nature of this sample and identify possible cultural patterns represented by Native American sites in this part of Vermont.

Culture can be viewed as a complex system of interacting variables, many of which are the result of adaptation to the natural environment in which people live. To understand the unique characteristics of a particular cultural group, the environmental context of that group must be defined first. Human populations prefer areas that are most likely to provide the greatest amount and variety of exploitable resources. The areas chosen tend to be limited by the availability of the most essential resources.

Chittenden County is located within the Champlain Lowlands and the Green Mountains physiographic regions of Vermont. The general forest vegetational composition is correspondingly different These for each of these regions. generalized forests are not homogeneous, but rather form a mosaic of differing vegetation communities. Based on tree species recorded in original land surveys for Chittenden County, soils and topography, Siccama (1971) has proposed a reconstruction of the probable forest communities prior to European American settlement of this area. These will be described below.

The county includes two major east-west trending drainages, the Lamoille River, which flows along the northern border, and the Winooski River, which runs through the center of the county. Additional drainage is provided by numerous small brooks and streams which flow directly into Lake Champlain and these two rivers.

The topography of Chittenden County is highly variable. Lake Champlain, at an average elevation of 96 feet mean sea level, forms the western edge of the county. The western third of the county is characterized by a flat to gently rolling landscape formed from post glacial lake and deltaic outwash deposits which have been dissected by numerous small drainages. The eastern two-thirds of Chittenden County include the Green Mountains and their western foothills (continued) rising steeply to an elevation of 4,083 feet at the peak of Camel's Hump in Huntington.

# Methods and Procedures

To date, a total of 310 Native American sites have been identified and recorded in the VAI for Chittenden County. Although arguably an imperfect data base, the VAI is the most complete inventory of Native American sites for Chittenden County. For this study, cultural and locational information from the VAI was reviewed and corrected as needed. Of the 310 recorded Native American sites, 161 have one or more recognized cultural components. A sample number of 481 site components was obtained by counting each component as an individual settlement site.

Data on cultural component, town location, soil type, and drainage affiliation were obtained for each site component. The pre-European settlement forest communities, as proposed by Siccama, were combined with the VAI information to determine correlations between site locations and resource exploitation areas for the major Native American cultural time periods.

#### Results

The first step in this analysis was to determine whether the VAI data is representative of the county as a whole. Table 1 presents the distribution of site components for each town in Chittenden County. (All tables can be found at the end of the article.) A large number of Native American site components have been identified in Colchester, Milton, Shelburne and Williston, while no sites are reported for Bolton, Buels Gore, Huntington, Richmond, St. George and Underhill.

Upon examination of the distribution of site components for each town, site density is clearly related to recent cultural factors as opposed to strictly environmental factors. A gradient of high-to-low number of sites is evident radiating out from the urban hub of Burlington, Essex Junction, South Burlington and Winooski into the surrounding predominately suburban towns. In fact, systematic archaeological studies have been conducted almost exclusively in Burlington, South Burlington, Charlotte, Colchester, Essex, Milton, Shelburne, and Williston, with most of the studies conducted in the last five towns. The data in the VAI clearly indicate that where systematic studies have been conducted, Native American sites have been found.

The sites in the VAI reported by collectors were located primarily where open field agriculture is, or was, practiced. With 65% of Chittenden County currently forested, and most of the forested areas located in Bolton, Buels Gore, Huntington, Richmond, St. George, Westford and Underhill, the archaeological site information obtained from collectors is biased away from these towns and toward the western third of the county.

The VAI data for Chittenden County is clearly biased towards certain parts of the county. The sites identified by collectors were primarily located in open plowed fields, and sites located by environmental review systematic surface and subsurface surveys were conducted in areas defined by project specific limits. The absence of site information is likely the result of not having looked in some areas, rather than an actual lack of sites. Future research needs to focus on the underrepresented parts of Chittenden County.

Having established the contextual limitation of the VAI data, it is now possible to examine the archaeological information for the towns which may be considered to have a representative sample: Colchester, Essex, Milton,

(continued on p.4)

# Stabilization Efforts at VT-FR-8 Fall Short David Skinas Division for Historic Preservation

In 1989, the Vermont Division for Historic Preservation (DHP) purchased a prehistoric Abenaki burial ground and habitation site to prevent imminent residential development. VT-FR-8 is located on the Missisquoi River in Franklin County. Artifacts recovered from the site suggest that it was occupied during later stages of the Late Archaic period, throughout the Woodland and Contact periods and into historic times.

The Vermont Legislature appropriated enough money for the Division to purchase the threatened property and also provided another \$15,000 to stabilize the severely eroding riverine site. The \$15,000 was to be used as the 35% cost share monies needed to match the 65% share that the USDA Soil Conservation Service typically contributes toward stabilization projects. Unfortunately, the DHP's efforts to acquire additional funding through SCS failed for two reasons. First, at least one acre of a project area must be in agricultural production to be eligible for SCS funds. No portion of the roughly three-acre site is in agriculture. Second, the property must be privately owned.

Meanwhile, VT-FR-8 continues to erode at an alarming rate. Wind and water erosion of the archaeological deposits occurs throughout the year, but spring thaw and resulting ice break-up causes the greatest damage to this significant prehistoric site. This year we anticipate an extremely high rate of ice scour. During most of my visits to the site, at least one or more pieces of skeletal remains were found slumping down the bank into the river. Since 1988, the remains of four to eight individuals have been recovered. While continued loss of these important cultural deposits is devastating to Vermont's archaeological heritage, the unabated destruction of

Native American human remains causes great pain to the Abenaki community.

The Division for Historic Preservation and the Abenakis are now forced to stabilize as much of the bank as possible with the limited monies available. We cannot wait any longer for the matching \$43,000 to become available. With the \$15,000 in hand, we can only stabilize a mere 50 yards of the 200 vards of bank that needs protection. This summer we plan to stabilize the most sensitive portion of river bank where the locus on of burial complex exists. While this stabilization effort falls short of what is required, at least it will protect the most threatened cultural remains that are currently in jeopardy. It is our hope that in the future we will be able to acquire additional funding to protect the remainder of the site.

We are working with a stabilization contractor who is extremely sensitive about the archaeological deposits at VT-FR-8. The high cost of stabilization results largely from manual labor and materials needed for fill and riprap. It takes fifteen cubic yards of fill for every linear yard of bank stabilized. The contractor is willing to cut corners as much as possible, but further assistance is needed in two crucial areas to reduce costs which will in turn enable us to protect a larger portion of the site. First, we need volunteers to serve as laborers during the actual stabilization project. Second, we need at least 100 cubic yards of material for fill. The donation of labor and materials will go a long way to defray costs and extend the length of the protected area.

If you are interested in this stabilization effort and wish to donate your time and/or materials, please call David Skinas at 828-3226.

## FROM THE PRESIDENT'S DESK ...

#### Archaeology Day at the State House

In the Card Room at the Vermont State House, organizations present daily exhibits and displays about their concerns and interests. The room is strategically located between the Legislative Chamber and the cafeteria, committee rooms, the main lobby, the elevator to the parking lot, and, yes, even to the bathrooms. You can't get to anywhere from the Chamber without going through the Card Room. It is obviously a great place to get a legislator's attention.

The VAS reserved this room for Wednesday, March 27th, to bring archaeology to the attention of the Legislators. Dave Skinas and I got an early start setting up an exhibit of prehistoric artifacts borrowed from the Division. Bill Murphy brought his exhibit of artifacts from the 1975 dig at the Benjamin Lawrence blacksmith shop at Middlebury. My display on Vermont's lime and charcoal kiln ruins was a tapenarrated slide presentation via a selfcontained projector, which automatically ran for hours.

All exhibitors wore "Vermont Archaeological Society" badges. There were enough copies of a quickly-made VAS brochure, VAS Newsletters, and Louise Ransom's invitation to join the clean-up at Mount Independence to last throughout the day. Posters were exhibited on easels placed at strategic corners of the Card Room. Anyone entering from whatever direction knew that "Archaeology" was the day's theme at the State House.

By mid-morning, Dave, Bill, and I were explaining archaeology to many interested legislators, lobbyists, State House staff, and members of the many tours that also passed through the Card Room all day. Shelly Hight and Dave Lacy joined us with some National Forest handout material. After lunch, Giovanna Peebles and Eric Gilbertson stopped by, viewed the exhibits, and thanked us for all our efforts.

Without a doubt, we were one of the more interesting displays in the Card Room in quite a while. One staff person told me that most of the day-to-day exhibits were too similar to TV commercials to be of any interest; but our exhibit was beyond interesting - it was educational.

The exhibit was also educational to at least one legislator who looked at the projectile points in a display case and loudly asked "How the h... many those arra' heads you people expect that State of Vermont to pay for before you have enough?" to which he got a firm but polite lecture on "arra' heads", archeology, and what this resource does and does not cost the State of Vermont.

Bill Murphy met many old friends and explained the dozens of pieces of hardware excavated from the blacksmith shop. Shelly was kept busy by the dozens of interested school-age children who gazed in awe at the prehistoric artifacts. I also got my share of the audience, some who sat and watched my "show". While grabbing a fast bite at the cafeteria, I was invited to sit at a table by people who recognized my VAS badge and asked what the VAS was all about. They didn't know that Vermont <u>had</u> an archaeological society!

From the response we got and the questions we were asked, the VAS has a future job to do with educating Legislators about archaeology in Vermont. Misinformation is obviously going around the Legislative corridors. I recommend that "Archaeology Day at the State House" become an annual event for the VAS. Based on what we did and learned this year, I would change a few things, but I'm already making plans for 1992 at the State House. -Vic Rolando

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# Chittenden County Sites (continued from p.2)

Shelburne and Williston.

Table 2 presents the distribution of site components and their associated drainages for these 5 towns. The largest number of the identified site components (32%) are located along the tributaries of the major rivers, which drain the greatest area of Chittenden County and thus offer the greatest number of potential habitation site locations. The drainage affiliations covering the smallest area in the county are the tributaries that feed into the small lakes and ponds. This category has the fewest number of identified site components (1%). Small lakes and ponds constitute the next smallest category of drainage affiliations, but represent the median number of site components (14%). To some degree this is the result of the intensive studies conducted at Shelburne Pond (Petersen et al. 1985). However, intensive studies of areas covered by other drainage affiliation categories do not contain the same density of sites, suggesting that the small lakes and ponds were consciously selected by Native Americans for specific reasons.

The shore area of Lake Champlain forms a large part of Chittenden County, and yet the second fewest number of site components are represented in this category (3%). This is likely the result of the small number of systematic studies conducted within this area, and the effect of erosion due to post glacial changes in lake level. Most systematic survey studies have been conducted in inland areas of the county, where largescale development projects have come under environmental review. Recent development along the edge of the lake has been primarily individual residential development, not covered under the environmental review process.

The water level of Lake Champlain has been constantly changing since human populations first occupied this region. Most of the land surfaces in the Champlain Lowlands were once inundated and a large amount of land formerly available for human habitation is now submerged. Calculations suggest that 12,000 years ago when people first settled this area, the lake levels near St. Albans Bay were about 30 feet lower (Vogelman, personal communication). Water levels at the southern end of the lake may have been as much as 60 feet lower (Haviland and Powers 1981). The absence of site components from the Paleo-Indian, Early and Middle Archaic periods within the Lake Champlain category is likely due to these changing lake levels.

The major rivers drainage affiliation category contains the second largest number of site components (20%) although it contains the third smallest area for potential site locations. Even so, sites in this category may be underrepresented. Due to flooding, early sites are apt to be deeply buried and are not found as often by collectors or systematic surface surveys. Also, the mature meandering channels of the Winooski and Lamoille Rivers in Chittenden County make the probability of site destruction from erosion high.

In general, Native American sites are found in all drainage affiliation categories. Varying degrees of site component densities are strongly suggested for the small lakes and ponds, and for the major rivers categories. An examination of the forest vegetation communities associated with these drainages and the site components provide some additional observations on why these areas might have been selected.

From archaeological studies and ethnographic accounts, it is believed that the Native American settlement and procurement patterns were based to a large degree on the seasonal exploitation of specific resource areas. A hypothesis presented by Thomas et al. (1985) suggests that the pre-European settlement forest communities proposed by Siccama may be used to represent specific resource areas. Table 3 correlates the specific cultural components to the forest vegetation communities located within these five towns.

Although the greatest number of site components by far are found within the northern hardwoods - white pine forest vegetation community, this category constitutes nearly 50% of the land surface in the five towns considered. Table 4 presents the site components within the combined contexts of the forest vegetation communities and the drainage affiliation categories. Nearly 30% of the site components found within the northern hardwoods - white pine forest vegetation community are also associated with the major rivers and the small lakes and ponds drainage affiliation categories. If the 20 site components located at the ecotones between the conifer swamps and the Northern hardwoods - white pine communities are included, the percentage rises to 35%.

It is clear that the northern hardwoods - white pine forest vegetation community constituted an important environment for Native Americans during all time periods. Within this forest vegetation community, Native Americans selected specific areas associated with the major rivers and the small lakes and ponds drainage affiliation categories.

The data presented in Table 4 indicates that the bottomland hardwoods community was selected as the predominate forest vegetation community for site locations along the major rivers. Ninety per cent of the sites are located within the combined northern hardwoods - white pine and bottomland hardwoods communities for this drainage affiliation category. Ninety-eight per cent of the sites associated with the small lakes and ponds drainage categories are found within the combined northern hardwoods - white pine and the ecotone between the northern hardwoods - white pine and the conifer swamp communities. It would be a

reasonable hypothesis that the resources available from these three forest vegetation communities constituted a major part of the subsistence for Native Americans living in this part of Vermont.

The pitch pine - oak forest vegetation community also appears to have had an important role in the subsistance patterns of Native Americans, particularly during the Late Archaic Period, 5,500 to 3,200 years ago (Table 3). Fifty-eight per cent of the site components from this time period are located within the pitch pine - oak forest vegetation community. Although some of this forest vegetation community is associated with the major rivers drainage category, only 8% of the site components are located within this combined context (Table 4). Sixty per cent of the site components in the pitch pine - oak forest vegetation community are located along tributaries to the major rivers and along secondary streams to tributaries, suggesting that the role of this forest vegetation community in Native American subsistence patterns may be distinctly different from that suggested for the northern hardwooods white pine, bottomland hardwoods, and conifer swamp communities. These differences may reflect the actual resources exploited from these areas, or the time of year during which this area was utilized.

The forest vegetation communities most closely associated with the Lake Champlain shore drainage affiliation category are the northern white cedar bluffs, pitch pine - oak, peat bog, and white pine - transitional hardwoods. Site components located within the combined contexts of the pitch pine - oak forest vegetation community and the Lake Champlain drainage affiliation categories are most likely underrepresented. Future studies within this combined context may help focus hypotheses about the role of the pitch pine - oak community in Native American subsistence patterns for this part of Vermont.

(continued)

#### Conclusions

Examination of the information contained within the VAI for Chittenden County has resulted in a number of observations which can be used to focus future research and frame hypotheses about the settlement and procurement patterns of Native American cultures once living in this part of Vermont.

First and foremost, this data base is fraught with biases which must be considered in formulating any hypotheses about the behavioral patterns of prehistoric occupants. Even within the limited area of Chittenden County, most environmental areas have never been studied. The need for more systematic studies in these many underrepresented areas, and others throughout the state, is obvious.

Despite the fact that Chittenden County as a whole must be considered as having an insufficient data base for detailed cultural analyses, five towns within Chittenden County appear to have enough preliminary archaeological data to construct hypotheses about settlement and procurement patterns. From the analyses presented above, choices for the location of settlement sites have been based to a large degree upon the combination of specific forest vegetation communities and drainage affiliation characteristics.

Three settlement/procurement patterns are suggested by this data. (1) Native Americans selectively located near small lakes and ponds at or near the ecotone between the northern hardwoods white pine and conifer swamp forest vegetation communities. (2) Native Americans selectively located near the major rivers within the bottomland hardwoods and the northern hardwoods - white pine forest vegetation communities. (3) Native Americans, particularly during the Late Archaic period, selectively located along the smaller tributaries within the pitch pine - oak forest vegetation community. These three aspects of the settlement/procurement patterns of Native Americans within this part of Vermont may represent different resources being used, different seasons of use, or a combination of both.

Acknowledgments Although one name appears on this report, the author wishes to state that this work is the result of the efforts of all the members of the Archaeology Consulting Team: Charity Baker, Anthony Dolan, Matthew Lesniak, and Sarah Rich.

## **References** Cited

HAVILAND, W. AND M. POWER 1981 <u>The Original Vermonters: Native</u> <u>Inhabitants, Past and Present</u>. University Press of New England, Hanover, NH.

PETERSEN, J., et al. 1985 Archaeological Investigations In The Shelburne Pond Locality, Chittenden County, Vermont. <u>Annals</u> of Carnegie Museum 54: 23-75.

SICCAMA, T.

1971 Presettlement and Present Forest Vegetation in Northern Vermont with Special Reference to Chittenden County. <u>The American Midland</u> <u>Naturalist</u> 85: 153-172.

THOMAS, P., et al.

1985 Archaeological Reconnaissance Survey for the Chittenden County Circumferential Highway. Volumes I-V. Dept. of Anthropology, UVM, Reports No. 52, 65.

Town	P	aleo	E	arl	A y¦	rel	ha 1¦	ic Late	e¦	?	*	W Earl	oodl y¦Mi	an d¦	d Late		?	C	ontac	t	Unknow	m   1	otal
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Colchester		4		4	1	1	1	24	1		1	2	117	ł	16	ł	1	1		1	21	-10	90
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Total:	:	10	1	16	1	8	1	95	1	1	1	20	190	1	85	1	6	1	1	1	149	1	481

TABLE 1. Cultural Components By Towns In Chittenden County.

Table 2. Cultural Components by Drainage Affiliation Ranking for the Towns of Colchester, Essex, Milton, Shelburne and Williston.

Ranking		Pale	0	Earl	A y¦	rcl	ha d¦l	ic Lat	e¦ ?		Earl	Woo y¦Mio	bd 1¦	land	d e¦	?	Conta	act	Unknow	m   1	otal
1	1		1		1	1	1	2	1	1	1	1 2	1	2	1	1	1	1	2	1	10
2	1	2	-1	2	- È	1	÷	11	1	1	4	18	1	18	÷	2	1	- 1	15	1	73
3	1	3	÷	5	- 1	3	1	13	1	1	4	1 7	1	7	1		3	- 1	14	1	56
4	1	3	-1	3	÷	1	£	23	1	÷	5	117	i	17	i.	2	1	- 1	44	1	115
5	1		-1	3	- 1	1	i.	11	1	1	2	5	1	3	i		1	1	24	1	49
6	1	1	-1	2	÷	1	į.	11	1	1		111	4	12	i		1	- 1	12	1	50
7	Ì	1	Î		i		i	2	i.	i		1	Ì		i		i i	i	1	1	4
Total:	1	10	1	15	1	7	1	73	1	1	16	:60	:	59	1	5	!	1	112	!	357

Lake Champlain = 1, Lamoille and Winooski Rivers = 2, Minor rivers and tributaries draining into the lake = 3, Tributaries to the major rivers = 4, Tributaries to the minor rivers and tributaries of the major rivers = 5, Ponds and small lakes = 6, Tributaries to the ponds and small lakes = 7.

\* ? indicates that the time period of the sites is undefined.

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Forest Vegetation	Pal	eo	Earl	An y   1	rch	aic  Late	; 1	-	Sarly	Woo Mid	dl   L	and	1 ?		Unknow	T	otal
Bottomland Hardwoods	1	1		-		7	-		1	15	1	15	2		14	1	55
Conifer Swamp / Northern Hardwoods - White Pine						3				3	-	4			10	-	20
Northern Hardwoods - Hemlock			1	-		1	1			1	1		1			1	2
Northern Hardwoods Hemlock-White Pine		1	1	-		!			1			1			10	1	13
Northern Hardwoods Spruce - Hemlock				-		1	1				1			-			
Northern Hardwoods White Pine	6		8	-	6	38	1	-	11	29	-	27	2		59		186
Northern White Cedar Bluffs						1		-		1	-		1		2		3
Pitch Pine - Oak	3		5		1	22	ł	1	3	12	1	11			15	1	72
White Pine - Tran- sitional Hardwoods				-		1	1			1		1			2	1	5
Total:	10		15	1	7	73	1	1	16	(60	1	59	1 5	1	112	1	357

TABLE 3. Cultural Components by Forest Vegetation Communities for Colchester, Essex, Milton, Shelburne, and Williston.

TABLE 4. Cultural Components by Drainage Affiliation Ranking and Forest Vegetation Community for Colchester, Essex, Milton, Shelburne and Williston.

Forest Vegetation	-	1	Dr 2	ain ¦ 3	age	Ran 4 ¦	king 5 ¦	* 6	7	Total
Bottomland Hardwoods	ł		41	1	1¦	13;	1	1		55
Conifer Swamp / Northern Hardwoods-White Pine	-			1				20		20
Northern Hardwoods - Hemlock	1			1	1	1;	1	1	1	2
Northern Hardwooods-Hemlock-White Pine	1			1	1¦	91	31	ł		13
Northern Hardwoods - Spruce - Hemlock	1			1	ł	1	1	1	1	1
Northern Hardwoods - White Pine	1	1	25	1 3	31	71	24	29	3	186
Northern White Cedar Bluffs	;	1	1	1	1;	1	1	1	1	3
Pitch Pine - Oak	ł	8	6	1 1	5¦	21 {	221	1	1	72
White Pine - Transitional Hardwoods	ł			1	5¦	1	1	1	1	5
Totals:	1	10	73	; 5	6	115	49	50	4	357

\* Use key for Table 2.

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