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2010 Report of the Historic Properties Management Plan for the Weybridge Hydroelectric Project in the towns of Weybridge and New Haven, Addison County, Vermont (FERC No. 2731)

July 26, 2010

This report documents the 2010 annual monitoring of archaeological and historic properties associated with Central Vermont Public Service Corporation's (CVPS) Weybridge generating station (the Project) as described in Section 3.2.6 of the Cultural Resource Management Plan for Archaeological and Historic Resources within the Weybridge (FERC No. 2731) Hydroelectric Project in the towns of Weybridge and New Haven, Addison County, Vermont.[1] CVPS submitted the Historic Properties Management Plan (HPMP) under the terms and conditions of article 407 in its Federal Energy Regulatory Commission (FERC) license, and in compliance with the Programmatic Agreement executed on February 21, 2001.[2] The HPMP was filed on November 26, 2002, and the FERC approved the document on March 11, 2004.

The purpose of the Historic Properties Management Plan (HPMP) is to develop an ongoing method to protect and maintain historic properties within the Project boundary. Each report documents the activities conducted under the HPMP, and supplements the initial planning document. Annual inspections are conducted to monitor Project shoreline conditions and, if threats to known or potential historic properties are observed, partnerships may be developed with government, community, or non-profit organizations that also strive to protect the impoundment and the resources it contains.

This document compares current conditions of Project shorelines with the results of prior monitoring actions of the roughly 3.5-mile stretch of the Otter Creek (Figures 1 and 2). Locations with known historic properties were inspected for evidence of erosion and photo-documented for future comparison of conditions. The 2010 inspection confirmed that the majority of Project shorelines remain stable and healthy, but significant erosion continues to affect one landform that contains a known archeological historic property.

2010 Shoreline Inspection above the Weybridge Project Dam

The inspection of the Weybridge Project above the dam was conducted by Charity Baker on July 14, 2010, a hazy day with temperatures in the 80s°Fahrenheit. Ms. Baker was joined by Ann Costandi, a summer intern working with CVPS, to conduct the annual monitoring of the Project shoreline above the dam. Provisional data from the U.S. Geological Survey Otter Creek gaging station at Middlebury, VT (04282500) indicates that the mean discharge on that day was 550 cubic feet per second (cfs). Daily streamflow statistics for the past 95 years of records (Chart 1) indicate that this

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[1] C. Baker, Frink, D., C. Baker, and H. Henry. Historic Properties Management Plan for Archaeological and Historic Resources within the Weybridge (FERC No. 2731) Hydroelectric Project in the towns of Weybridge and New Haven, Addison County, Vermont. Archaeology Consulting Team, Inc. (ACT), Essex Junction, Vermont. November 2002.

[2] See 96 FERC ¶ 62,097 (2001). The Programmatic Agreement was executed among the FERC, the Advisory Council on Historic Preservation (ACHP), and the Vermont State Historic Preservation Officer (VT SHPO).

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Chart 1: Daily stream flow statistics for USGS gaging station 4282500 on the Otter Creek.

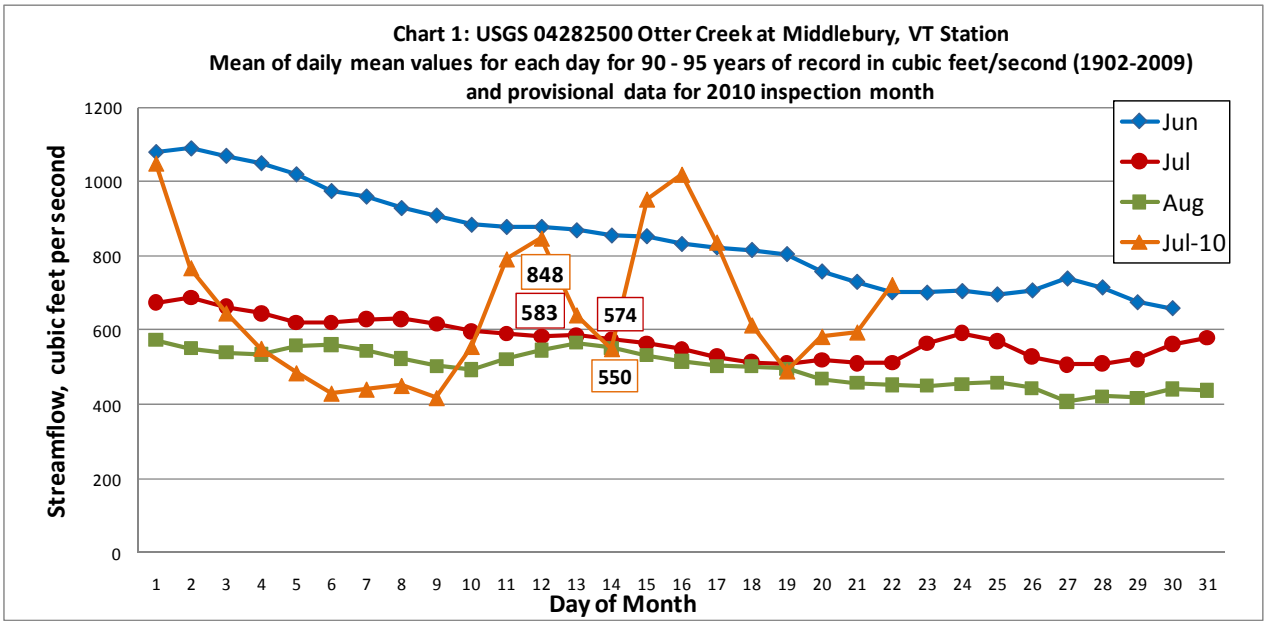
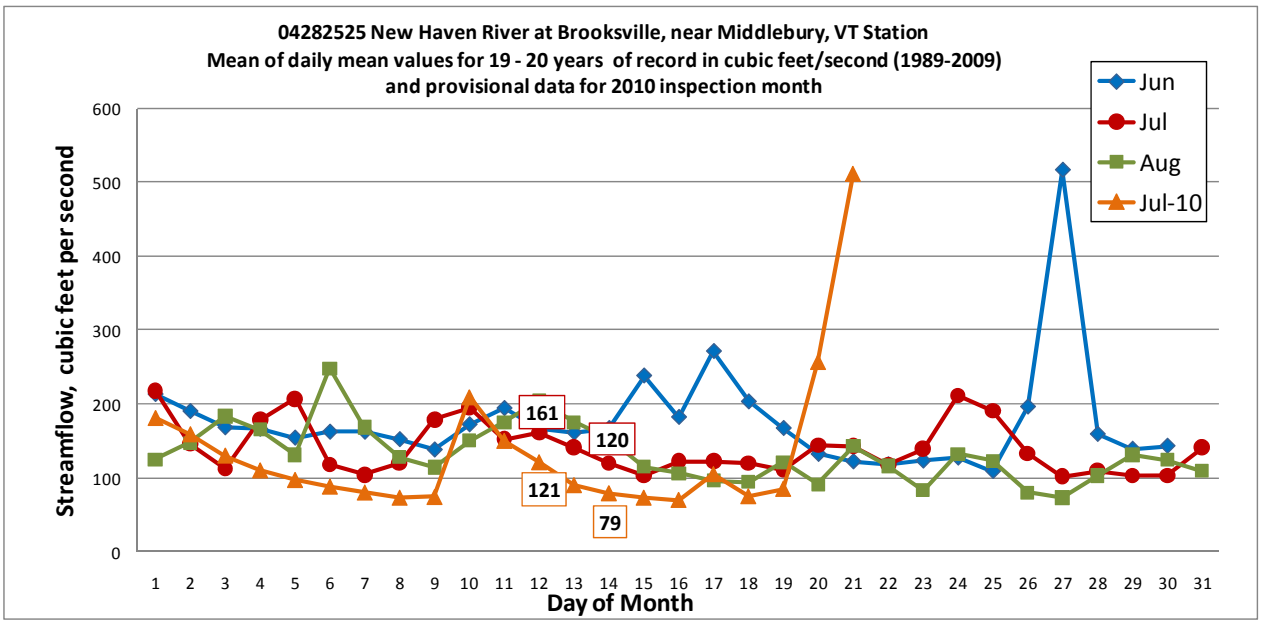


Chart 2: Daily stream flow statistics for USGS gaging station 04282525 on the New Haven River.



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volume at the Middlebury gaging station was just below the mean for July 14 (574 cfs). Provisional data from the U.S. Geological Survey New Haven River gaging station at Brooksville near Middlebury, VT (04282525) indicates that the mean discharge on that day was 79 cubic feet per second (cfs). Daily streamflow statistics for the past 20 years of records (Chart 2) indicate that this volume at the New Haven gaging station is also below the mean for July 14 (120 cfs).

The upper limit of the river channel is lined with small to medium-sized cobbles and the riparian zone remains healthy and stable. All shorelines above the dam in the vicinity of known archaeological historic properties (VT-AD-350, VT-AD-1003, VT-AD-1004, VT-AD-1005, VT-AD-1006, and VT-AD-1064) are well protected and preserved by lush forest community and wetland species. Further downstream, Native American site VT-AD-915 and European American sites VT-AD-929 and VT-AD-930 are submerged within the Project impoundment (see Figure 1; Table 1; Photos 1 and 2).

Table 1: Sites in the Vermont Archeological Inventory in the vicinity of the Project

VAI Site No.	Site Type	Recorded By	Cultural Resource Reports
VT-AD-42	Native American	Stensrud, A.	None [avocational collector]
VT-AD-43	Native American Woodland	Stensrud, A.	None [avocational collector]
VT-AD-44	Native American Woodland	Stensrud, A.	None [avocational collector]
VT-AD-45	Native American Woodland	Vogelman, T.	None [avocational collector]
VT-AD-148	Native American Middle - Late Woodland	Nielsen, G.	None [avocational collector]
VT-AD-350	Native American	UVM-CAP	Thomas 1985 [3]
VT-AD-495	No Site Form		
VT-AD-513	No Site Form		
VT-AD-516	No Site Form		
VT-AD-915	Native American	UMF-ARC	Petersen and Petersen 1997 [4]
VT-AD-929	European American	UMF-ARC	Petersen and Petersen 1997
VT-AD-930	European American	UMF-ARC	Petersen and Petersen 1997
VT-AD-1003	Native American	UMF-ARC	Corey and Cowie 1998 [5]
VT-AD-1004	Native American	UMF-ARC	Corey and Cowie 1998
VT-AD-1005	Native American	UMF-ARC	Corey and Cowie 1998
VT-AD-1006	Native American	UMF-ARC	Corey and Cowie 1998
VT-AD-1064	Native American	UMF-ARC	Corey and Cowie 1998

[3] Thomas, Peter. 1986. *Huntington Falls Hydroelectric Project, Archaeological Survey.* Consulting Archaeology Program, University of Vermont (UVM-CAP) Report #63 [N.B., site was destroyed]

[4] Petersen, J.B. and J.E. Petersen. 1997. *An Archaeological Phase IA Study of the Weybridge Project Area (FERC No. 2731), Addison County, Vermont.* Prepared for CVPS by the University of Maine at Farmington Archeology Research Center (UMF-ARC), Farmington, ME. August 4, 1997.

[5] Corey, R.P. and E.R. Cowie. 1998. *An Archaeological Phase IB Study of the Weybridge Project Area (FERC No. 2731), Addison County, Vermont*. Draft prepared for CVPS by UMF-ARC, Farmington, ME. December 3, 1998.

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Photo 1: Healthy shorelines along the upper limit of the Weybridge Project, looking southwest at VT-AD 1064. July 14, 2010.

Photo 2: Healthy shoreline protecting Native American sites VT-AD-1005 and VT-AD-1006 within the Weybridge Project, looking northwest. July 14, 2010.

Photo 3: Stone rip-rapped bank below Field Days Road within the Weybridge Project, looking west. July 14, 2010.

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The only severe erosion documented above the Project dam is located on the right outer bend of the river, where Field Days Road follows the top of the right bank. Bank stabilization efforts involving stone rip-rap have been attempted during highway reconstruction, but repairs to the rip-rap installation were noted during the 2007 inspection and the exposed sediments are susceptible to additional erosion from roadway run-off (see Figure 1 and Photo 3). No known or potentially significant archaeological information is affected by this erosion.

With the exception of the noted erosion, the riverbanks are healthy and no rubbish was observed in the river channel or on the exposed banks.

2010 Shoreline Inspection below the Weybridge Project Dam

The inspection of the Weybridge Project shorelines below the dam was conducted by Charity Baker on July 12, 2010, a sunny and humid day with temperatures in the upper 80s°Fahrenheit. Ms. Baker was joined by Beth Eliason, CVPS Environmental Engineer.

Provisional data from the U.S. Geological Survey Otter Creek gaging station at Middlebury, VT (04282500) indicates that the mean discharge on that day was 848 cubic feet per second (cfs). Daily streamflow statistics for the past 95 years of records (Chart 1) indicate that this volume at the Middlebury gaging station was above the mean for July 12 (583 cfs). Provisional data from the U.S. Geological Survey New Haven River gaging station at Brooksville near Middlebury, VT (04282525) indicates that the mean discharge on that day was 121 cubic feet per second (cfs). Daily streamflow statistics for the past 20 years of records (Chart 2) indicate that this volume at the New Haven gaging station is slightly below the mean for July 20 (161 cfs).

From the canoe access on Rock Island to the south end of Wyman Island, both sides of the river are healthy and support an extensive riparian buffer. The shorelines in the vicinity of Native American sites VT-AD-42, VT-AD-45, and VT-AD-148 are well protected (see Figure 2 and Table 1).

Two Native American archaeological sites, VT-AD-43 and VT-AD-44, have been identified on Wyman Island. A 130-meter length of undercutting, collapse, and slippage (mass wasting) of the right bank at the southeastern end of Wyman Island continues to erode laterally (see Figure 2 and Photo 4). Past surface inspections have resulted in the recovery of quartzite artifacts, including flakes and a Levanna-style Late Woodland period projectile point. The recovered artifacts are associated with identified site VT-AD-44. During the past two years, CVPS has taken several actions to mitigate the effects of this erosion on significant archaeological information. For further discussion, please see the Public Outreach section later in this report.

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Photo 4: Eroding right bank at VT-AD-44 on Wyman Island, looking north. July 12, 2010.

The instance of erosion in the vicinity of VT-AD-495 documented by ACT [6] in its 2004 report has remained stable and is colonized with herbaceous plants and shrubs, as shown in Photo 5. This photograph (see also Figure 2) depicts the right bank roughly 200 meters downstream from the southern tip of Wyman Island. Site VT-AD-495 is

Photo 5: Right bank at possible site VT-AD-495, looking southwest. July 12, 2010.

[6] Frink, D., C.Baker, A. Hathaway and D. Tall. *2004 Annual Report of the Historic Properties Management Plan for the Weybridge (FERC No. 2731) Hydroelectric Project in the towns of Weybridge and New Haven, Addison County, Vermont*. Archaeology Consulting Team, Inc., Essex Junction, Vermont. July 2004.

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presumed to be associated with a Native American occupation, although no site form was filed by the recorder (Table 1). The shoreline lacks a riparian buffer due to agricultural practices (a cornfield extends to the top of the bank).

Public Collaboration and Outreach

During 2009-2010, CVPS has made significant efforts to mitigate the effects of erosion on archaeological information associated with Native American site VT-AD-44. While CVPS does not own the property, it has consulted with the SHPO and with the landowner -- the Town of Weybridge -- in its efforts to protect the archaeological information. To mitigate the effect of erosion on VT-AD-44, CVPS's sponsored archaeological fieldwork designed to identify any concentrations of archaeological deposits within the site in the vicinity of the eroding bank. CVPS undertook Phase IB level studies at VT-AD-44 during the 2009 field season. Tetra Tech, Inc., Cultural Resources Services Group (Tetra Tech) conducted the field studies to more specifically define the horizontal and vertical extent of the site. An End of Field Letter was submitted on November 4, 2009.

CVPS also initiated conversations with Agency of Natural Resources (ANR) staff to benefit from staff expertise and advice and discuss potential viable actions to help restore the riparian zone and stabilize the bank.

Summary and Proposed Management Actions to be Undertaken in 2011

The river system within the Weybridge Project is generally stable. Upstream from the Project dam, only one instance of severe erosion exists. Bank stabilization efforts involving stone rip-rap have been installed to counteract this erosion, which has been caused, at least in part, by the proximity of Field Days Road and the steep slope between the road and the river channel (see Photo 3).

Proposed management actions for 2011 address the issue of bank erosion and its affects on historic properties at VT-AD-44 (see Figure 2; Photo 4). The eroding bank, owned by the Town of Weybridge, is located at the southeastern end of Wyman Island, located roughly 0.5 miles downstream from the Weybridge generating station. Specific proposed actions include:

• Continue consultation with appropriate federal, state, regional, and municipal authorities to address the loss of archaeological information at the southeastern extreme of VT-AD-44. Given the challenges accessing this site, located on a narrow island in the river channel with steep and eroding banks, careful planning will be required in any proposed bank restoration and/or archaeological actions.

• Monitor the Project shoreline, with specific attention given to locations surrounding archaeological sites.

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Sincerely,

Consulting Archaeologist

cc.
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Giovanna Peebles, SHPO
Kimberly Bose, FERC
Karen Brisson, Town of Weybridge
Stuart Eldridge, TetraTech
Beth Eliason, CVPS
John Greenan, CVPS
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Mike Scarzello, CVPS
Claire Van Buren, Town of New Haven

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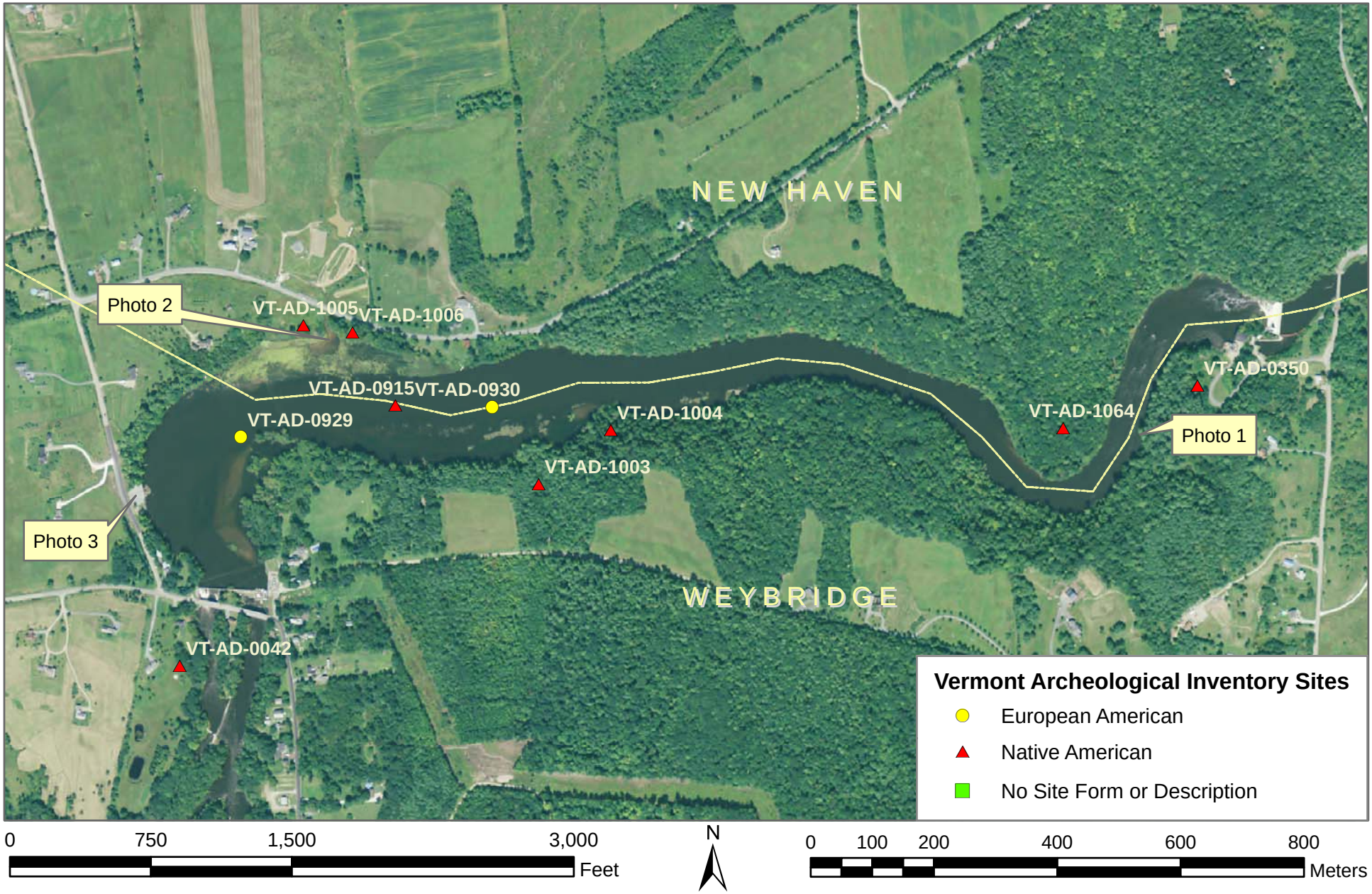

Figure 1: Inspected shorelines above the Weybridge Project Dam, July 14, 2010.
Weybridge Hydroelectric Project in the towns of Weybridge and New Haven, Addison County, Vermont (FERC No. 2731)

Base Map: NAIP 2008 Vermont Dataset, Collected Summer 2008. USDA-FSA-APFO. Aerial Photography Field Office, Published April 30, 2009
NAIP_1M_CLRIR_2008 Digital Ortho Photo Image, m_4407363_SW_18_1_20080821.jp2; m_4407363_NW_18_1_20080821.jp2 Available at http://www.vcgi.org/

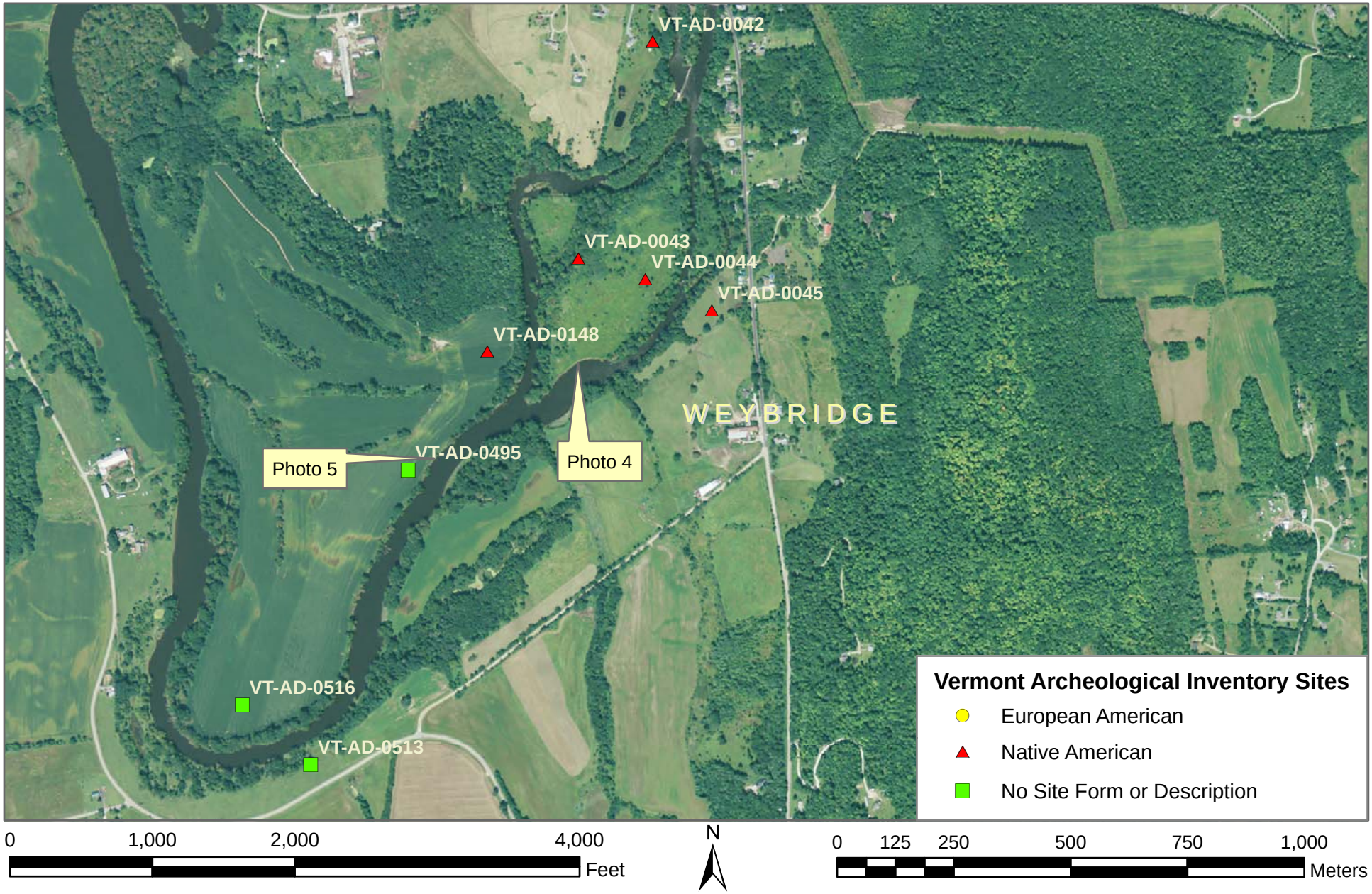

Figure 2: Inspected shorelines below the Weybridge Project Dam, July 12, 2010.
Weybridge Hydroelectric Project in the towns of Weybridge and New Haven, Addison County, Vermont (FERC No. 2731)

Base Map: NAIP 2008 Vermont Dataset, Collected Summer 2008. USDA-FSA-APFO. Aerial Photography Field Office, Published April 30, 2009
NAIP_1M_CLRIR_2008 Digital Ortho Photo Image, m_4407363_SW_18_1_20080821.jp2; m_4407363_NW_18_1_20080821.jp2 Available at http://www.vcgi.org/

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