



HABITAT ASSESSMENT REPORT FOR PHASE 2 AREAS HUDSON RIVER PCBS SITE

Prepared for

General Electric Company
Albany, NY

Prepared by

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80 Glen Street, Suite 2
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June 2009

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LIST OF ACRONYMS AND ABBREVIATIONS

AOC	Administrative Order on Consent
BBL	Blasland, Bouck & Lee, Inc.
BMP	Baseline Monitoring Program
CD	Compact Disk
DQO	Data Quality Objective
DSR	Data Summary Report
EGIA	East Griffin Island
FCI	Functional Capacity Index
FDR	Final Design Report
FDR	Final Design Report
GE	General Electric Company
GIA	Griffin Island Area
HA	Habitat Assessment
HDA Work Plan	Habitat Delineation and Assessment Work Plan
HSI	Habitat Suitability Index
NDA	Northumberland Dam Area
NOAA	National Oceanic and Atmospheric Administration
NTIP	Northern Thompson Island Pool
NYSDEC	New York State Department of Environmental Conservation
QEA	Quantitative Environmental Analysis, LLC
RD	Remedial Design
ROD	Record of Decision
RTE	Rare, Threatened, or Endangered
SHAWP	Supplemental Habitat Assessment Work Plan
SOP	Standard Operating Procedures
SSAP	Sediment Sampling and Analysis Program
USACE	U.S. Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Services

1 INTRODUCTION

1.1 Site Background

This *Habitat Assessment Report for Phase 2 Areas* (Phase 2 HA Report) is submitted by the General Electric Company (GE) as part of the remedial design (RD) program for the remedy selected by the United States Environmental Protection Agency (USEPA) for the Upper Hudson River. The RD program is established in the *Remedial Design Work Plan* (RD Work Plan; Blasland, Bouck & Lee, Inc. [BBL] 2003a). Unless stated otherwise, the approach to the habitat assessments described in this Phase 2 HA Report follows the scope of work described in the *Habitat Delineation and Assessment Work Plan* (HDA Work Plan; BBL 2003b), Attachments A through D thereto, and revised methods described in the *Habitat Assessment Report for Candidate Phase 1 Areas* (Phase 1 HA Report; BBL and Exponent 2005a) and *Supplemental Habitat Assessment Work Plan* (SHAWP; BBL and Exponent 2005b). The RD Work Plan and the HDA Work Plan are part of the Administrative Order on Consent for Remedial Design (RD AOC; USEPA/GE 2003), which was executed in August 2003. The Phase 1 HA Report and SHAWP were approved by USEPA on November 17, 2005 pursuant to the RD AOC.

In the 2002 Record of Decision (ROD) for the Site (USEPA 2002), USEPA divided the Upper Hudson River into three sections, illustrated on Figure 1, as follows:

- *River Section 1*: Former location of Fort Edward Dam to Thompson Island Dam (approximately 6.3 river miles)
- *River Section 2*: Thompson Island Dam to Northumberland Dam (approximately 5.1 river miles)
- *River Section 3*: Northumberland Dam to the Federal Dam at Troy (approximately 29.5 river miles)

The ROD calls for sediment remediation to be undertaken in two distinct phases. Phase 1 of the remedial action will consist of the first year of dredging and will occur within River Section 1. Phase 2 of the remedial action will consist of the remainder of the dredging project and will occur in all three River Sections.

As described in the HDA Work Plan, the habitat types within the Upper Hudson River consist of unconsolidated river bottom, aquatic vegetation bed, shoreline, and riverine fringing wetland habitats. Beginning in 2003, habitat delineation and assessment were conducted to:

- Document the nature and distribution of habitats potentially affected by remediation
- Identify reference habitat locations representing the range (i.e., distribution) of existing conditions
- Identify physical and biological parameters that are related to ecological function and hence are appropriate for use to determine when post-remediation habitat conditions fall within the ranges of reference conditions

Further details on the habitat delineation activities can be found in the *Habitat Delineation Report* (HD Report; BBL and Quantitative Environmental Analysis, LLC [QEA] 2008), which was approved by USEPA on November 25, 2008; the results of habitat assessments completed in Phase 1 areas can be found in the USEPA-approved Phase 1 HA Report (BBL and Exponent 2005a) and in the Phase 1 Final Design Report (Phase 1 FDR; BBL 2006) (approved by USEPA, following numerous modifications and supplements, on January 25, 2008). This report provides the results of the habitat assessments completed in Phase 2 areas.

1.2 Goal of Habitat Assessment

The goal of the habitat assessment, as described in the HDA Work Plan, is to collect information on habitat-specific physical and biological variables in reference areas and areas that will potentially be affected by remedial activities. The variables are listed in Table 2 of that Work Plan and modifications are presented in Section 2.2 of this report. These data will be used to develop the Phase 2 basis of design for habitat replacement and reconstruction and to determine if post-remediation habitat conditions meet success criteria or if corrective action is warranted.

1.3 Data Quality Objectives and Scope of This Report

The data quality objectives (DQOs) for the habitat assessment program, as set forth in the HDA Work Plan, are to:

- Determine the range of measured parameters that are relevant to and associated with ecological functions within each habitat type.
- Document the physical and biological characteristics of each habitat type.
- Develop a database of habitat-specific data to facilitate subsequent identification and establishment of design criteria, success criteria, corrective actions and monitoring requirements for the habitat replacement and reconstruction program.

To meet these DQOs, data on the specified parameters of the four types of habitats identified above were collected in Phase 2 areas from September 8 to October 1, 2003, September 14 to September 20, 2004, August 29 to September 30, 2005, and June 26 to August 20, 2006. One parameter, the number of potential wood duck nesting areas on areas adjacent to the river, was collected in the fall after leaf off. In 2003, data were collected from areas that were under consideration at that time for dredging during Phase 1, although some of those areas were later excluded from the Phase 1 dredging and are now part of Phase 2. In 2004, additional data were collected from a subset of those stations as part of habitat reassessments. In 2005, GE completed the habitat assessment data collection in Phase 1 areas and initiated the data collection in Phase 2 areas (apart from the data collected from such areas in 2003). Finally, in 2006, GE collected additional habitat assessment data from Phase 2 areas. This Phase 2 HA Report describes and presents the results of the habitat assessment activities for Phase 2 areas, which include areas identified in the *Phase 2 Dredge Area Delineation Report* (Phase 2 DAD Report; QEA 2007) for dredging in Phase 2 and corresponding reference areas.

1.4 Report Objectives

The objectives of this Phase 2 HA Report are to: (a) document the habitat assessment results for Phase 2 areas that were assessed in 2003, 2005, and 2006 and reassessed in 2004; and (b) present Habitat Suitability Index (HSI) model scores, using the U.S. Fish and Wildlife Service (USFWS) HSI models. (It should be noted that the potential use of an alternative approach to the Functional Capacity Index [FCI] models in the habitat replacement/reconstruction and adaptive management programs is currently under discussion between GE and USEPA as described in Exhibit A of the Phase 1 Adaptive Management Plan [Phase 1 AM Plan; QEA 2008a], which is part of the USEPA-approved Phase 1 FDR. Due to these ongoing discussions, FCI models for the Phase 2 areas are not included in this report).

1.5 Format of Phase 2 HA Report

The remainder of this Phase 2 HA Report consists of the following sections:

- Section 2 describes the overall approach, sources of information, and methods used to conduct the assessments for each habitat type.
- Section 3 describes the results of the habitat assessments conducted in 2003, 2005, and 2006 in the Phase 2 areas.
- Section 4 describes the HSI model scores for the Phase 2 areas.
- Section 5 lists the references used to prepare this Phase 2 HA Report.

In addition, several appendices are included in this report to provide more detailed information on the habitat assessment activities and underlying data.

This Phase 2 HA Report uses English and metric units of measurement consistent with the standard practice for the data being reported and in accordance with the methods described in the Standard Operating Procedures (SOPs) from the HDA Work Plan. Where appropriate, English conversions are applied to metric units reported in the text or shown in the tables.

2 HABITAT ASSESSMENT APPROACH

2.1 Assessment Locations

The four habitat types (i.e., unconsolidated river bottom, aquatic vegetation beds, shoreline, and fringing wetlands) of the Upper Hudson River potentially impacted by the Phase 2 remedial activities, together with appropriate reference areas, were assessed in accordance with procedures outlined in the HDA Work Plan (BBL 2003b), the Phase 1 HA Report (BBL and Exponent 2005a), and the SHAWP (BBL and Exponent 2005b). The locations of the Phase 2 assessment stations at which data were collected were identified in the SHAWP. As described in that document, the Phase 1 dredge areas from the USEPA-approved *Phase 1 Dredge Area Delineation Report* (Phase 1 DAD Report; QEA 2005) and the dredge area delineations that were then in production as working drafts for the Phase 2 DAD Report were used to determine the locations for target stations (i.e., areas that will be dredged) and reference stations (i.e., areas that will not be dredged). In addition, information on the locations of sampling stations from other programs, such as the Baseline Monitoring Program (BMP) (QEA 2003) and resource agency sampling programs (e.g., New York State Department of Environmental Conservation [NYSDEC] et al. 2004), was used to co-locate habitat assessment stations with those from other programs when possible.

Phase 2 habitat assessment station locations were selected based on sediment type, overlying water depth, adjacent land use (e.g., forested areas, open fields), river position (e.g., inner meander, outer meander), and locations where dredging was expected to occur. This information was used to select stations to meet the following criteria, as summarized in Table 2-1a:

1. Characterize the habitat strata identified from the habitat delineation information.
2. Include a roughly comparable number of target and reference stations within each habitat type, with generally similar numbers for each sub-category within the broader habitat type (e.g., dominant plant community for aquatic vegetative bed, and riverine fringing wetland; sediment type for unconsolidated river bottom and shoreline).
3. Allocate numbers of sample stations among river reaches (e.g., pools) in rough proportion to the relative areas of the habitat likely to be affected by dredging in each river section.

4. Include approximately similar plant communities for vegetated habitats stratified by the major plant communities, so that those communities are represented in both target and reference stations (e.g., not all non- *Trapa* aquatic vegetation stations should be *Vallisneria*) (Table 2-1b).

The numbers of reference and target stations are not equally apportioned among the three river sections due to the greater extent of dredging anticipated in River Sections 1 and 2 compared to River Section 3. As such, there are more target stations than reference stations in River Section 1 and more reference stations than target stations in River Sections 2 and 3.

Assessment activities at the Phase 2 assessment stations identified in the SHAWP (BBL and Exponent 2005b) were mainly conducted from August 29 to September 30, 2005 and June 26 to August 20, 2006. As noted above, one parameter, the number of potential wood duck nesting areas on areas adjacent to the river, was collected in the fall after leaf off. In addition, as noted above, some of the assessment data collected in 2003 were collected from areas that are now part of Phase 2. In 2003, areas under consideration for dredging during Phase 1 included the upper portion of the Thompson Island Pool (Northern TIP or NTIP) in River Section 1; the Griffin Island Area (GIA) in River Section 1; and the areas of River Section 2 in the vicinity of Hot Spots 33-35, known as the Northumberland Dam Area (NDA). However, it was subsequently determined that Phase 1 would consist of: 1) the most upstream dredge areas in the NTIP; and 2) the portion of the GIA on the east side of Griffin Island (EGIA) (QEA 2004). Based on the approved Phase 1 dredge areas, several stations (two unconsolidated river bottom, four aquatic vegetation bed, seven shoreline, and three riverine fringing wetland stations) that were tentatively identified as Phase 1 stations are now in areas that will be dredged during Phase 2.

A complete list of all Phase 2 stations, their location (by river section and approximate river mile), and the year in which they were assessed (and reassessed, as applicable) is provided in Table 2-1a. The specific locations within these stations at which the detailed assessment activities for the unconsolidated river bottom, aquatic vegetation bed, shoreline, and riverine fringing wetland habitat types were conducted were randomly selected within the strata present at the stations identified in SHAWP. The specific assessment locations for each habitat type are shown on Figures 2 through 52.

The main text of this Phase 2 HA Report describes the results of the habitat assessments that were completed for Phase 2 areas in 2005 and 2006. This report also summarizes the results of the habitat assessments completed in 2003 at stations that are now in Phase 2. Those results were originally reported in the Phase 1 HA Report and are included here for completeness. Any additional data collected in Phase 2 areas will be reported in a separate habitat data summary report (DSR) or in the Phase 2 Final Design Report (FDR). The Phase 2 data will be used to support the development of success criteria for habitat construction in Phase 2 areas.

Habitat assessment activities were also completed in 2006 for off-site reference areas located on the Upstream Upper Hudson River (Sherman Island Hydroelectric Plant to West City Limits of Glens Falls) and Lower Mohawk River (Lock 7 to Route 9 Marina near Town of Colonie Landfill), as identified in the SHAWP. The habitat assessment results from off-site reference areas are provided in Appendix A.

2.2 Assessment Methodology

The following subsections describe the assessment methods used for:

- Unconsolidated river bottom
- Aquatic vegetation beds
- Shorelines
- Riverine fringing wetlands
- Wildlife observations
- HSI models

2.2.1 Unconsolidated River Bottom

Methods used to assess the unconsolidated river bottom habitats in Phase 2 areas are provided in Appendix B. These methods follow the SOP in Attachment A of the HDA Work Plan, modified as described in the Phase 1 HA Report. Those modifications consisted of the following:

- Starting in 2003, light availability, water quality (i.e., temperature, conductivity, dissolved oxygen, pH, turbidity) and current velocity were recorded at the approximate center of the station.
- Embeddedness, which is the extent to which rocks (gravel, cobble, and boulders) and snags are covered or sunken into the silt, sand, or mud of a “high gradient” stream bottom (Barbour et al. 1999), was not evaluated in any year for the assessment of unconsolidated river bottom habitats for Phase 2 areas due to the lack of high gradient areas.

2.2.2 Aquatic Vegetation Beds

Methods used to assess the aquatic vegetation beds in Phase 2 areas are provided in Appendix C. These methods follow the SOP in Attachment B of the HDA Work Plan, modified as described in the Phase 1 HA Report. Those modifications consisted of the following:

- Starting in 2003, water quality data were added to the sampling program and collected at the approximate center and outside edge of the bed.
- Starting in 2005, current velocity measurements were collected upstream and downstream of the aquatic vegetation bed at multiple water depths.

The Phase 2 SAV stations were identified in the SHAWP (BBL and Exponent 2005b). The specific sampling locations within those stations were randomly selected within the depth and species composition strata of the aquatic vegetation bed.

2.2.3 Shorelines

Methods used to assess the shoreline habitats in the Phase 2 areas are provided in Appendix D. These methods follow the SOP in Attachment C of the HDA Work Plan, modified as described in the SHAWP (BBL and Exponent 2005b). That modification consisted of data collection for the belted kingfisher habitat suitability index model including recording the number of perches, percent obstruction, and secchi depth at each shoreline station using the procedures described in Attachment B of the SHAWP (BBL and Exponent 2005b). Data collection, including this modification, started in 2005 and is summarized in Appendix H.

2.2.4 Riverine Fringing Wetlands

Methods used to assess the riverine fringing wetlands in the Phase 2 areas are provided in Appendix E. These methods follow the SOP in Attachment D of the HDA Work Plan, modified as described in Attachment A of the SHAWP (BBL and Exponent 2005b), which specified that water quality and current velocity measurements would be collected at the approximate center riverward edge of each station. In addition, modifications were made to the slope measurements taken at the riverine fringing wetlands. Specifically, wetland slope was measured in 2006 using a transit station to improve the accuracy of the slope measurements. This change was made to address comments received on the Phase 1 FDR regarding the methods for, and accuracy of, the slope measurements taken in Phase 1 wetlands.

In addition, in accordance with the HDA Work Plan, the riverine fringing wetlands that will be directly impacted by the Phase 1 dredging were delineated in the field in 2006 using the U.S. Army Corps of Engineers' (USACE) three-parameter approach (USACE 1987). The results of those delineations were provided in the 2007 Habitat Assessment Data Summary Report (QEA 2008b). Since the Phase 2 DAD Report was not approved until November 16, 2007, the number and location of riverine fringing wetlands that would be directly impacted by Phase 2 dredging were not known at the time of the 2006 field work. Therefore, delineation of those riverine fringing wetlands that will be directly impacted by Phase 2 dredging is planned for subsequent field seasons. The results of this delineation will be included in a habitat DSR or the Phase 2 FDR as agreed to by USEPA and GE. Data provided in the habitat DSR(s) will be used to support the Phase 2 design and the development of success criteria.

2.2.5 Wildlife Observations

The HDA Work Plan initially described the methods for completing fish and wildlife observations at each sampling location as a distinct task to document the occurrence of fish, birds, reptiles, amphibians, and mammals in each of the four habitat types within the same time frame as the other habitat assessment activities (i.e., summer). Based on agency comments on the Phase 1 HA Report, the wildlife observation sampling protocol was revised prior to the 2005 field season. These revised procedures for conducting the wildlife

observations were subsequently reformatted as a SOP and submitted to USEPA on July 13, 2006 as an addendum to the SHAWP. The USEPA approved the Wildlife Observation SOP on August 4, 2006. In addition, fish data are collected as part of GE's BMP and are no longer included in the habitat assessment program. However, a summary of the fish collected in the BMP in 2006 and 2007 has been included with the wildlife observation data in Appendix F to this report for informational purposes.

Wildlife observations are conducted within each river reach (pool). The observations conducted in 2005 covered all of River Section 1 (i.e., the Thompson Island Pool), which includes both Phase 1 and Phase 2 stations. In 2006, wildlife observations were completed in River Section 1 and conducted in River Section 2 (i.e., the Fort Miller and Northumberland Pools); these areas also include both Phase 1 and Phase 2 stations. Wildlife observations were not conducted in River Section 3 due to seasonal constraints. The objective was to conduct observations during the summer, coincident with the habitat assessments. Due to the potential number of observation locations in River Section 3, the observation period would have lasted well into the fall, past the period when habitat assessments ended, and into the period when migratory species are transiting the area. In 2007, wildlife observations were conducted at a subset of the stations where such observations were made in River Section 1 in 2006.

In addition, the HDA Work Plan specifies that field personnel will document the location(s) of any rare, threatened, or endangered (RTE) species of biota or sensitive habitats observed during field activities. The ROD specified that the Indiana bat, Karner blue butterfly, and bald eagle had been identified by the USFWS, and that the shortnose sturgeon had been identified by the National Marine Fisheries Service (National Oceanic and Atmospheric Administration [NOAA] Fisheries), as RTE species that could be affected by the Hudson River PCB remedial program. Since the ROD was issued, the bald eagle (*Haliaeetus leucocephalus*) was delisted from its federal threatened status on June 28, 2007 in the lower 48 states; however, it remains a New York State threatened species. Its primary federal legal protection was transferred from the Endangered Species Act to the Bald and Golden Eagle Protection Act. Although no investigative surveys were conducted specifically to identify RTE species as part of habitat assessment activities, any such species observed during the wildlife observations was recorded.

2.2.6 Habitat Suitability Index (HSI) Models

The Phase 1 HA Report provided that the species for which HSI models would be calculated are the Belted Kingfisher (*Ceryle alcyon*), Great Blue Heron (*Ardea herodias*), Wood Duck (*Aix sponsa*), Muskrat (*Ondatra zibethicus*), Mink (*Mustela vison*), Snapping Turtle (*Chelydra serpentina*), Yellow Perch (*Perca flavescens*), Largemouth Bass (*Micropterus salmoides*), Smallmouth Bass (*Micropterus dolomieu*), Bluegill (*Lepomis macrochirus*), and Common Shiner (*Luxilus cornutus*) – using the species-specific HSI model guidance documents (Allen 1986; Allen and Hoffman 1984; Edwards et al. 1983; Graves and Anderson 1987; Krieger et al. 1983; Prose 1985; Short and Cooper 1985; Sousa and Farmer 1983; Stuber et al. 1982a, 1982b; Trial et al. 1983). The HSI models and variables for these species are presented in Appendix F to the HD Report, and the SOPs for collecting and summarizing the HSI-specific data were provided in the SHAWP. Data needed to calculate the HSI model scores were collected in 2003 through 2006 (depending on the variable) for each species and applied in accordance with the methods described in the SHAWP. Further details on the data used to calculate the HSI model scores and the HSI model scores for each river reach are provided in Appendix G.

3 HABITAT ASSESSMENT RESULTS

3.1 Introduction

This section summarizes the results of the habitat assessment and reassessment activities conducted at the assessment locations within the Phase 2 areas that have not been previously reported. Field data from these locations were collected from August 29 to September 30, 2005, and June 26 to August 24, 2006. This section also summarizes, for completeness, the data from Phase 2 areas that were collected from September 8 to October 1, 2003 and reassessment data from September 14 to September 20, 2004 that were originally reported in the Phase 1 HA Report.

The following subsections provide, for each of the four relevant habitat types (as well as for the fish and wildlife observations and the HSI model), an overall discussion of the habitat assessment results from Phase 2 assessment stations (including both target and reference stations) by river section. The numerical values given in this discussion are all mean values. In addition, each subsection relating to a given habitat type includes reference to tables which summarize the range of conditions observed in the Phase 2 stations for that habitat type, broken down by river section, year, and target vs. reference stations. In these subsections and the associated tables, the data are summarized by year for each habitat type and river section. These summaries provide general information about the habitats and are not intended to be an analysis of inter-annual variability.

In addition to the tables provided below, all data collected from the Phase 2 stations within each habitat type are provided in tabular format in Appendix H and on a compact disk (CD) in an Access database format in Appendix I.

3.2 Unconsolidated River Bottom

The sampling of unconsolidated river bottom stations in Phase 2 areas included the sampling of two stations in 2003, 14 stations in 2005, and 55 stations in 2006 (including reassessment of UCB-05T). Twenty-two of the stations are located in River Section 1, eight stations in River Section 2 (one of which has been reassessed), and 40 stations in River Section 3 (Table 3-1). All types of substrates were assessed including bedrock, boulder, cobble, gravel,

sand, and silty areas. The range of sediment conditions reflects that different stations have been sampled each year (only UCB-05T has been sampled twice).

In River Section 1, target stations were sampled in 2003, 2005, and 2006. There were no Phase 2 reference stations in River Section 1. The range of conditions observed in the Phase 2 unconsolidated river bottom stations are shown by river section in Table 3-2a through 3-2c and provided in tabular format in Appendix H. All unconsolidated river bottom data from both Phase 1 and Phase 2 areas are provided in Appendix I on CD, including the data collected during the sediment sampling and analysis program (SSAP).

For Phase 2 target stations in River Section 1, silt was the most common substrate in 2003 (46.7%) and sand was the most common in 2005 (53.5%) and 2006 (55.6%; Table 3-2a). These substrate conditions are similar to those observed at the Phase 1 target stations in River Section 1 which were predominately sand (42.6%) and silt (42.6%). Percent of the substrate with mussels varied from a low in 2003 (1.4%) to a high in 2006 (13.0%). The percent of substrate with mussels in Phase 1 areas was higher than Phase 2 areas, averaging 16.7%. Detritus was fairly common and covered 15.6%, 22.0% and 16.7% in 2003, 2005, and 2006 respectively. Detritus averaged 17.9% at Phase 1 target stations.

In River Section 2, reference stations were sampled in 2005 and target stations were sampled in 2003 and 2006. Silt was the most common substrate at reference stations in 2005 (45.6%; Table 3-2b). Substrate at the target stations was predominantly silt in 2003 (62.2%) and sand in 2006 (66.3%). No mussels were recorded for the reference stations, but covered from 1.4% (2003) to 8.4% (2006) at target stations. Detritus was highest at target stations in 2003 (21.1%) and similar at reference stations in 2005 (6.7%) and target stations in 2006 (7.1%).

In River Section 3, reference stations were sampled in 2005 and 2006 and target stations were sampled in 2006. The substrate at reference stations was predominantly sand in both 2005 (41.1%) and 2006 (34.4%; Table 3-2c). The substrate at the target stations was predominantly silt (59.6%). Percent cover by mussels was lower at the target stations (1.9%) than at the reference stations in both 2005 (22.2%) and 2006 (6.3%). Detritus was highest at reference stations in 2005 (7.2%), and similar at target (4.6%) and reference (3.5%) stations in 2006.

Based on data summarized in Table 3-2, sand is more common in River Section 1 than River Sections 2 and 3. The percent fines (from GE's pre-design SSAP) or percent silt (from the habitat assessments) tend to increase from upstream (i.e., upper portion of River Section 1) to downstream.

3.3 Aquatic Vegetation Beds

The sampling of aquatic vegetation bed stations in Phase 2 areas included the sampling of four stations in 2003, 10 stations in 2005, and 28 stations in 2006 (including reassessments of SAV-10T and SAV-11T). Eleven of the stations are located in River Section 1, including two that have been reassessed, nine stations in River Section 2, and 20 stations in River Section 3 (Table 3-3). The range of conditions observed in the Phase 2 aquatic vegetation beds are shown by river section in Table 3-4a through 3-4c and provided in tabular format in Appendix H. All aquatic vegetation bed data from both Phase 1 and Phase 2 areas are provided in Appendix I on CD.

Wild celery (*Vallisneria americana*) was the dominant submerged aquatic macrophyte species in all aquatic vegetation beds sampled. However, the majority of stations sampled contained at least one other submerged aquatic macrophyte species. The species most commonly co-occurring with wild celery were common waterweed (*Elodea canadensis*), American pondweed (*Potamogeton nodosus*), and various other pondweed species such as redhead grass (*Potamogeton perfoliatus*). White water lily (*Nymphaea odorata*), naiad (*Najas sp.*) and eurasian water milfoil (*Myriophyllum spicatum*) were collected in Phase 2 areas, and yellow floating heart (*Nymphoides peltata*) has been observed in Phase 2 areas. In 2006, several pondweed species were collected in River Section 3 that were not sampled in prior years, including *Potamogeton spirillus*, *P. pusillus*, *P. robbinsii*, *P. gramineus*, *P. epihydrus*, and *P. crispus* (curly pondweed), though those species have been observed in all river sections. (*Potamogeton spirillus* was originally identified as *P. diversifolius*, a New York State protected species. Dr. Barre Hellquist, Massachusetts College of Liberal Arts professor emeritus, confirmed the species as *P. spirillus* in December 2008.)

Curly pondweed is a non-native invasive species and sampled in a Phase 1 target area in 2007. Another non-native invasive species, water chestnut (*Trapa natans*), was sampled at two stations (1 reference station and 1 target station) in River Section 3. Water chestnut is also present in a Phase 2 dredge area in River Section 1 on the west side of Griffin Island. Neither these, nor any other invasive species, will be a component of any restoration or reconstruction effort. Areas where invasive species are found will be planted with native species or targeted for natural recolonization by native species. Any recolonization by invasive species in Phase 2 target areas will be addressed by monitoring and/or response actions as appropriate.

In River Section 1, target stations were sampled in 2003, 2005, and 2006. There are no Phase 2 reference stations in River Section 1. In general, aquatic vegetation beds in Phase 1 and Phase 2 areas in River Section 1 are similar and dominated by wild celery and co-occurring with other species as described above. The range of conditions observed in the Phase 2 aquatic vegetation beds are shown by river section in Table 3-4a through 3-4c. All aquatic vegetation bed data from both Phase 1 and Phase 2 areas are provided in Appendix I on CD.

For target stations, shoot density, aboveground biomass and percent cover were highest in 2005, averaging 442.4 shoots per square meter (shoots/m²), 379.0 grams per square meter (g/m²), and 75.4 percent (%), respectively (Table 3-4a). Aboveground biomass and shoot density were lowest in 2003 (71.8 g/m² and 264.4 shoots/m², respectively) and percent cover was lowest in 2006 (34.9%). Aboveground biomass and shoot density were also low at Phase 1 target stations in 2003 (82.3 g/m² and 296.4 shoots/m², respectively) but higher in 2006 (340.1 g/m² and 559.4 shoots/m², respectively). Sediment nutrients varied with no consistent trend. Extractable phosphorus was highest in 2003 (28.1 mg/l), exchangeable ammonia was highest in 2005 (22.6 mg/l), and exchangeable potassium was highest in 2006 (46.5 mg/l).

In River Section 2, target stations were sampled in 2003 and 2006. Reference stations were sampled in 2005. The data from the reference stations showed the highest values for shoot density (553.7 shoots/m²), aboveground biomass (372.4 g/m²) and percent cover (69.9%) (Table 3-4b). For target stations in River Section 2, the 2006 values were highest for shoot density (303.2 shoots/m²) and aboveground biomass (286.2 g/m²), while the 2003 value was highest for percent cover (58.3%). Sediment nutrients were similar between target stations

(sampled in 2003) and reference stations (sampled in 2005). However, sediment nutrient levels from target stations in 2006 were much higher than nutrient levels reported from 2003 (target stations) and 2005 (reference stations). In 2006, exchangeable ammonia was 44.5 (mg/l), extractable phosphorus was 104.9 (mg/l), and exchangeable potassium was 223.6 (mg/l).

In River Section 3, target and reference stations were sampled in 2006 only. The target stations had higher values for aboveground biomass (927.6 g/m²) and percent cover (58.8%), while shoot density was higher at reference stations (196.1 shoots/m²) (Table 3-4c). Exchangeable ammonia and exchangeable potassium were higher in target stations (12.2 mg/l and 88.1 mg/l, respectively) and extractable phosphorus was higher at the reference stations (32.7 mg/l).

A Spearman rank correlation matrix was constructed using station averages for aboveground biomass, stem density, percent cover, adjusted depth, nutrients (K, NH₄, PO₄), TOC, percent fines, light attenuation (K_d), and current (Table 3-5). Seven significant ($p < 0.05$) correlations were identified. Current velocity was positively correlated with aboveground biomass, but negatively correlated with stem density and percent cover. Current velocity was also positively correlated with exchangeable ammonium-N (NH₄) and exchangeable potassium (K), but negatively correlated with extractable phosphorus (PO₄). Light availability and total organic carbon were also positively correlated. The correlation matrix does not attempt to account for interannual variability.

Based on the data summarized in Table 3-4, biomass (field collected from within sampling quadrats) was lowest in 2003 in River Section 1 than in any other river section or year. Percent cover and stem density were lowest in 2006 in River Section 3.

3.4 Shorelines

The sampling of shoreline stations in Phase 2 areas included the sampling of seven stations in 2003, one station in 2004 (a reassessment of SHO-09T), 25 in 2005, and 21 stations in 2006. Seventeen shoreline stations were in River Section 1, 15 stations in River Section 2 (including the one that was reassessed), and 21 stations in River Section 3 (Table 3-6). The

range of conditions observed in the Phase 2 shoreline stations are shown by river section in Table 3-7a through 3-7c and provided in tabular format in Appendix H. All shoreline data from both Phase 1 and Phase 2 areas are provided in Appendix I on CD.

Dominant canopy species at Phase 2 stations included American basswood (*Tilia americana*), green ash (*Fraxinus pennsylvanica*), black locust (*Robinia pseudoacacia*), black willow (*Salix nigra*), box elder (*Acer negundo*), eastern cottonwood (*Populus deltoids*), American elm (*Ulmus americana*), red oak (*Quercus rubra*), red maple (*Acer rubrum*), silver maple (*Acer saccharinum*), and white pine (*Pinus strobus*).

The understory was dominated by buttonbush (*Cephalanthus occidentalis*), common buckthorn (*Rhamnus cathartica*), gray-stemmed dogwood (*Cornus racemosa*), speckled alder (*Alnus rugosa*), tatarian honeysuckle (*Lonicera tatarica*), staghorn sumac (*Rhus typhina*), Virginia creeper (*Parthenocissus quinquefolia*), and bittersweet (*Celastrus* spp.).

Spotted touch-me-not (*Impatiens capensis*), Joe-Pye weed (*Eupatorium* spp.), purple loosestrife (*Lythrum salicaria*), hedge false bindweed (*Calystegia sepium*), golden rods (*Solidago* spp.), New York fern (*Thelypteris noveboracensis*), Queen Anne's lace (*Daucus carota*), and grasses dominated the herbaceous layer.

Several of the species observed at the shoreline stations are considered wetland species. These include the following (identified by indicator status): purple loosestrife, an invasive species (FACW+, OBL); button bush (OBL); Joe-Pye weed (FAC); red maple (FAC); silver maple (FAC, FACW); black willow (UPL, OBL); and New York fern (FAC, FAC+). In River Section 1, a shrub species was initially identified as squashberry (*Viburnum edule*), a New York State protected species. The New York State Natural Heritage program subsequently identified the shrub as an ash (*Fraxinus* spp.).

In River Section 1, reference stations were sampled in 2005 and target stations were sampled in 2003 and 2005. Substrate at the reference station was primarily gravel (35.0%) and bedrock (28.3%). At target stations, the substrate was primarily sand (43.3%) and silt (43.3%) in 2003 and sand (41.1%) in 2005. Although the substrate characteristics differed between reference and target stations, the species composition at these locations was similar.

Banks were stable at both target and reference stations, but to a lesser extent at target stations (90% at reference stations and 56.7% and 62.1% at target stations in 2003 and 2005, respectively).

In River Section 2, reference stations were sampled in 2005 and target stations were sampled in 2003, 2004, 2005, and 2006. Substrate at the reference station was predominantly sand (55%) and silt (23.7%). At the target stations, substrate was predominantly sand (46.7%) and clay (30%) in 2003, sand (43.3%) and clay (35%) in 2004, sand (62.5%) in 2005, and silt (31.7%) and sand (30.8%) in 2006. Banks were stable at the reference stations (74.8%) and at the target stations in 2005 (71.1%) and 2006 (55.6%), and moderately stable in 2003 (53.3%) and 2004 (66.6%).

In River Section 3, reference stations were sampled in 2005 and 2006 and target stations were sampled in 2006. Substrate at the reference stations was predominantly sand in both 2005 (62.5%) and 2006 (51.5%). Substrate at the target stations was also predominantly sand (60.4%). Banks were stable at the target stations (87.1%) and reference stations (75.8% in 2005 and 70.8% in 2006).

3.5 Riverine Fringing Wetlands

The sampling of riverine fringing wetlands in Phase 2 areas included the sampling of three wetlands in 2003, one in 2004 (a reassessment of WET-3R), five in 2005, and five in 2006. Four wetlands were in River Section 1, six in River Section 2 (including the one that was reassessed), and three in River Section 3 (Table 3-8). One reference wetland, WET-11R, was not sampled in 2006 due to the lack of vegetation. In 2006, water levels were higher than normal during the growing season and likely prevented the establishment of the emergent vegetation at this site. Based on discussions with USEPA oversight personnel, it was decided that sampling of this wetland would be postponed to a subsequent field season (dependent on field conditions) rather than trying to relocate the station. The range of conditions observed in the riverine fringing wetlands in Phase 2 areas are shown by river section in Table 3-9a through 3-9c and provided in tabular format in Appendix H. Codes for the adjacent land uses shown in Table 3-9 are provided in Table 3-10. The riverine fringing wetland data from both Phase 1 and Phase 2 areas are provided in Appendix I on CD.

The following dominant emergent vegetation communities were identified within the riverine fringing wetlands in Phase 2 areas based on biomass (there is no order or hierarchy to the list).

- Pickerelweed/arrowhead (*Pontederia cordata/Sagittaria latifolia* and *S. rigida*)
- Great burreed (*Sparganium eurycarpum*)
- Reed canary grass (*Phalaris arundinacea*)
- Cattail (*Typha latifolia*)
- Rice cutgrass/millet (*Leersia oryzoides/Echinochloa walteri*)
- Pickerelweed
- Arrow arum (*Peltandra virginica*)

In addition, one other vegetation community, wild rice (*Zizania aquatica*), was identified as a dominant community based on stem density. Wild rice is common in the large target wetland below Lock 6 in River Section 2 (WET-09T) and had a high stem density in the wetland.

In River Section 1, the reference station was sampled in 2005 and target stations were sampled in 2003, 2005, and 2006. Total aboveground biomass and stem density were 3362.4 g/m² and 1746.7 stem/m² at the reference wetland. At the target wetlands, aboveground biomass ranged from a high of 6123.4 g/m² in 2005 to a low of 2511.5 g/m² in 2006. Stem density at the target wetlands ranged from 1963.6 stem/m² in 2003 to 1020.0 stem/m² in 2005. The reference wetland (WET-06R) is located off the main stem of the Hudson River in Moses Kill and is characterized by pickerelweed, great burreed and rice cutgrass. The target wetlands (WET-02T, WET-07T, WET-12T) support similar vegetation. WET-02 is characterized by pickerelweed, great burred, rice cutgrass and reed canary grass. WET-07T is characterized by great burred, with white water lily and water chestnut on the riverward edge of the wetland. The remainder of the wetland is characterized by purple loosestrife, an invasive species, and reed canary grass. WET-12T is located in a backwater area on the west side of Griffin Island and is characterized by pickerelweed, great burreed and sessile fruited arrowhead.

In River Section 2, the reference stations were sampled in 2003, 2004, and 2005 and target stations were sampled in 2003, 2005, and 2006. In 2003, total aboveground biomass was highest at the target stations in 2003 (3072 g/m²) and lower at the reference stations (1751 g/m²). However, stem density was much higher at the reference station (9323 stem/m²) than at the target stations (472 stem/m²). In 2005, aboveground biomass and stem densities were similar at the target stations and reference stations. Target station biomass was 2561 g/m² versus 2090 g/m² at the reference station. Stem density was 903 stem/m² at the target stations and 931 stem/m² at the reference stations. The three reference wetlands (WET-03R, WET-08R, WET-14R) are characterized by rice cutgrass, great burreed, and sessile fruited arrowhead, respectively. WET-03R was sampled twice (2003 and 2004) and was dominated by rice cutgrass and millet in both years. It did not support broad-leaved emergent species (e.g., arrowhead). Wild rice was also present at wetlands 08R and 14R, and white water lily was present at WET-08R. The target wetlands included WET-04T, WET-09T and WET-13T. Wetland 04T is characterized by great burreed and cattail. Although cattail is present in other locations on the river, this was the only assessed wetland in which cattail was present. Wetlands 09T and 13T both support wild rice. It is the dominant vegetation WET-09T and is intermixed with arrowhead (common and sessile fruited) in WET-13T.

All wetlands in River Section 3 were sampled in 2006. Total aboveground biomass was similar at both target and reference stations. Target station biomass was 3657 g/m² compared to 3532 g/m² at the reference stations. Stem density was higher at the target wetlands (2003 stem/ m²) than the reference wetlands (785 stem/m²). The reference wetlands (WET-10R and WET-16R) were dominated by arrow arum. WET-16R also supported white water lily, and water chestnut. Both wetlands are located off the main channel of the Hudson; the former is on the west side of a large island, the latter is located in the cove at Coveville. The target wetland (WET-15T) is located adjacent to WET-16R closer to the mouth of the cove and is also dominated by arrow arum, intermixed with water chestnut and pickerelweed along the deeper edge.

3.6 Wildlife Observations

In 2005, wildlife surveys were conducted by boat in River Section 1 (within the areas to be dredged in Phase 1 and Phase 2 and adjacent to shoreline reference stations). Daily wildlife surveys were conducted by two field biologists throughout the duration of the study. Point count techniques were used to collect the field data. The most commonly observed species included tree swallows (*Tachycineta bicolor*), American goldfinch (*Carduelis tristis*), cedar waxwings (*Bombycilla cedrorum*) and gray catbird (*Dumetella carolinensis*). Belted kingfishers (*Ceryl alcyon*) and great blue herons (*Ardea herodias*) were also observed at several stations. No bald eagles were observed in 2005. The most commonly observed mammal species were the chipmunk (*Tamias striatus*), red squirrel (*Tamiasciurus hudsonicus*) and eastern gray squirrel (*Sciurus carolinensis*). Beaver (*Castor canadensis*) and muskrat (*Ondatra zibethicus*) were also observed. Amphibians and reptiles were infrequently observed, but common species included the green frog (*Rana clamitans*), wood frog (*Rana sylvatica*), and painted turtle (*Chrysemys picta*).

The bald eagle was observed during field activities in 2006. As noted in Section 2.2.5, the primary federal legal protection of the bald eagle was transferred from the Endangered Species Act to the Bald and Golden Eagle Protection Act. Bald eagles were observed on seven occasions during wildlife observations in the Fort Miller Pool of River Section 2 (i.e., the land-locked section) at Stations 063 (evening), 064 (evening), 076 (evening), and 080 (evening). Bald eagles were also observed in the Northumberland Pool of River Section 2 at Stations 298 (evening), 299 (morning), and 304 (morning). Other avian species commonly observed in 2006 included bank, barn, cliff, and tree swallows (*Riparia riparia*, *Hirundo rustica*, *Petrochelidon pyrrhonota*, and *Tachycineta bicolor*, respectively), American goldfinch, and cedar waxwings. Belted kingfishers and great blue herons were also observed at several stations. The most commonly observed mammal species were the chipmunk, red squirrel and eastern gray squirrel. Amphibians and reptiles were infrequently observed, but common species included the green frog (*Rana clamitans*), northern leopard frog (*Rana pipiens*), wood frog (*Rana sylvatica*), and snapping turtle (*Chelydra serpentina*) and painted turtle.

In 2007, the most commonly observed avian species included bank, barn, cliff, and tree swallows, American goldfinch, and cedar waxwings. Belted kingfishers and great blue

herons were also observed at several stations. No bald eagles were observed in 2007. As in 2006, the most commonly observed mammal species in 2007 were the chipmunk, red squirrel, and eastern gray squirrel. Amphibians and reptiles were also infrequently observed in 2007, but common species included the green frog, northern leopard frog, wood frog, and snapping and painted turtle.

The results of the 2005, 2006 and 2007 wildlife observations at each station are provided in Appendix F. A summary of fish collected in the Baseline Monitoring Program in 2006 and 2007 is also provided in Appendix F.

3.7 Habitat Suitability Index (HSI) Models

Key species for which HSI models were calculated are the belted kingfisher, great blue heron, wood duck, muskrat, mink, snapping turtle, yellow perch, largemouth bass, smallmouth bass, bluegill, and common shiner. The resultant HSI model scores are provided in Table 3-11. The HSI models and data variables used to calculate the model scores for these species in each river pool are provided in Appendix G. If agreed to by USEPA and GE, that the use of HSI models is needed for decisions on the status of the habitat replacement and reconstruction program, subsequent revisions to the HSI models will be developed through a collaborative process and the results provided in the Phase 2 Adaptive Management Plan or other appropriate document as agreed to by USEPA and GE.

4 DATA NEEDS FOR PHASE 2 AREAS

As stated in the HDA Work Plan, each Habitat Assessment Report will identify any other types of data that need to be collected in the subsequent field season. The additional data proposed for collection in Phase 2 areas are: 1) field delineation of wetlands within Phase 2 areas; and 2) assessment of WET-11R (as noted in Section 3.5, WET-11R was not sampled in 2006 due to the lack of vegetation). There are no current plans for reassessments of a subset of Phase 2 areas. However, such reassessments may be conducted in subsequent years if agreed to by USEPA and GE. In addition, no additional wildlife observations are planned, but may be conducted in subsequent years if USEPA and GE agree that such data are needed for use as secondary success criteria. The results of these activities will be provided in a habitat DSR, the Phase 2 FDR, or other appropriate document as agreed to by USEPA and GE.

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TABLES

**Table 2-1a
Phase 2 Habitat Assessment Stations**

Station ID	Phase	Year Sampled	Type	Site Characteristics	General Site Description	River Section	River Mile
SAV-05T	2	2003	Target	Wild celery (95%), redhead grass (5%)	Below RM 191 on eastern side of channel north of Griffin Island.	RS1	191
SAV-07T	2	2003	Target	Wild celery (95%), grassy pondweed (<i>P. gramineus</i> ; 4%), common waterweed (1%)	At southern tip of Griffin Island.	RS1	190
SAV-08T	2	2003	Target	Wild celery (73%), American pondweed (20%), common waterweed (7%)	Above Northumberland Dam on eastern side of channel.	RS2	184
SAV-09T	2	2003	Target	Wild celery (100%)	Above RM 184 on eastern side of channel.	RS2	184
SAV-10T	2	2005, 2006	Target	Wild celery (95%), common waterweed (5%)	At RM 193 on western side of channel just north of 11T.	RS1	193
SAV-11T	2	2005, 2006	Target	Wild celery (86%), common waterweed (8%), American pondweed (6%)	Below RM 193 on western side of channel.	RS1	193
SAV-12T	2	2005	Target	Wild celery (80%), redhead grass (13%), pondweed (7%)	At RM 192 on eastern side of channel west of middle 3 Sister Island.	RS1	192
SAV-13T	2	2005	Target	Wild celery (74%), water lily (17%), pondweed (9%)	Just below the tip of the southern most 3 Sister Island.	RS1	192
SAV-14T	2	2005	Target	Wild celery (94%), pondweed (6%)	Above RM 191 on western side of channel.	RS1	191
SAV-15T	2	2005	Target	Wild celery (52%), water lily (24%), pondweed (24%)	Below RM 191 on western side of channel and above northern tip of Griffin Island.	RS1	191
SAV-16T	2	2006	Target	Wild celery	Near western shore of river just above Thompson Island Dam.	RS1	189
SAV-17R	2	2005	Reference	Wild celery (85%), pondweed (9%), water lily (4%), redhead grass (2%)	Below Fort Miller Dam on eastern side of channel.	RS2	186
SAV-17T	2	2006	Target	Wild celery (100%)	On eastern side of channel below southern tip of Griffin Island and above Moses Kill.	RS1	189
SAV-18R	2	2005	Reference	Wild celery (97%), pondweed (3%)	Above RM 185 on eastern side of channel off southwest side of island.	RS2	185
SAV-18T	2	2006	Target	Wild celery (8%) common waterweed (31%)	At RM 189 on eastern side of channel just west of opening of land cut.	RS1	189
SAV-19R	2	2005	Reference	Wild celery (74%), pondweed (26%),	Above RM 184 on western side of channel.	RS2	184
SAV-19T	2	2006	Target	Wild celery (100%)	Middle of the river below the southern tip of Thompson Island.	RS2	188
SAV-20R	2	2006	Reference	Wild celery (100%)	Below RM 181 on eastern side of channel.	RS3	181
SAV-20T	2	2006	Target	Wild celery (100%)	At RM 186 one eastern side of channel below Lock 6.	RS2	186
SAV-21R	2	2006	Reference	Wildcelery, Common Waterweed	Below RM 181 on western side of channel across from SAV-20R.	RS3	181
SAV-21T	2	2006	Target	Wild celery (90%), water lily (8%), wild rice (2%)	Above RM 184 on eastern side of channel south of SAV-19R.	RS2	184
SAV-22R	2	2005	Reference	Wild Celery (100%)	Above RM 185 on western side of channel.	RS2	185
SAV-22T	2	2006	Target	Wild celery (60%), Common Waterweed (13%), Coontail (12%); pondweeds (15%)	Above RM 178 on eastern side of channel north of the alcove.	RS3	178
SAV-23R	2	2006	Reference	Wild celery (86%), curly pondweed (13%), pondweeds (1%)	On eastern side of channel in the mouth of the Battenkill.	RS3	182
SAV-23T	2	2006	Target	Wild celery (97%); water lily (3%)	North of alcove on western side of channel.	RS3	178
SAV-24R	2	2006	Reference	Wild celery (98%), redhead grass (2%)	Below RM 180 on eastern side of channel.	RS3	180
SAV-24T	2	2006	Target	Wild celery (89%), common waterweed (3%), pondweed (8%)	Below RM 177 on western side of channel.	RS3	177
SAV-25R	2	2006	Reference	Wild celery (84%), redhead grass (9%), water lily (7%)	Below RM 179 on eastern side of channel.	RS3	179
SAV-25T	2	2006	Target	Wild celery (89%), water lily (7%), redhead grass (4%)	Below RM 176 on eastern side of channel.	RS3	176
SAV-26R	2	2006	Reference	Wild celery (100%)	South of SAV-24T on eastern side of channel.	RS3	177

**Table 2-1a
Phase 2 Habitat Assessment Stations**

Station ID	Phase	Year Sampled	Type	Site Characteristics	General Site Description	River Section	River Mile
SAV-26T	2	2006	Target	Trapa (100%)	Below RM 170 on eastern side of channel.	RS3	170
SAV-27R	2	2006	Reference	Wild celery (81%), pondweeds (19%)	Above RM 175 on western side of channel	RS3	175
SAV-28R	2	2006	Reference	Wild celery (51%), water lily (25%), pondweeds (24%)	Below RM 175 on eastern side of channel just south of tributary.	RS3	175
SAV-29R	2	2006	Reference	Wild celery (79%), pondweeds (21%)	Below RM 174 on western side of channel.	RS3	174
SAV-30R	2	2006	Reference	Wild celery (53%), pondweeds (47%)	Below RM 173 on eastern side of channel at bend in river.	RS3	173
SAV-31R	2	2006	Reference	Common Waterweed (77%), Wild celery (14%); redhead grass (9%)	Below RM 167 on western side of channel off southern tip of island.	RS3	167
SAV-32R	2	2006	Reference	Trapa (100%)	Above RM 166 on eastern side of channel just north of Lock 3 near small island.	RS3	166
SAV-33R	2	2006	Reference	Wild celery (100%)	Below RM 165 in western channel between the two island.	RS3	165
SAV-34R	2	2006	Reference	Wild celery (98%), common waterweed (2%)	Below RM 163 on eastern side of channel.	RS3	163
SAV-35R	2	2006	Reference	Wild celery (85%), redhead grass (7%), common waterweed (6%), pondweeds (2%)	Below RM 180 on western side of channel.	RS3	180
SHO-02R	2	2006	Reference	Sand/gravel/silt mix	Below Lock 1 off southern tip of island on eastern shore.	RS3	158
SHO-05T	2	2003	Target	Gravel; sand/cobble mix; shale; low leafy detritus; woody debris absent	Northern tip of Griffin Island on eastern shore.	RS1	190
SHO-07T	2	2003	Target	Silt; trace sand/clay; low leafy detritus with muck/mud and vegetation on shore; woody debris	Southern half of Griffin Island on the western shore.	RS1	190
SHO-08T	2	2003	Target	Gravel; cobble/sand and low silt mix; low detritus and muck/mud; mostly shell hash; woody debris	Eastern shore across from Griffin Island. Below end of Phase 1 dredge area.	RS1	190
SHO-09T	2	2003, 2004	Target	Sand/clay; low gravel and silt; low detritus and muck/mud; algae; woody debris	At RM 184 on western shore.	RS2	184
SHO-10T	2	2003	Target	Sand/silt; low detritus and trace muck/mud; shell hash and sand; woody debris	Southern tip of Griffin Island on eastern shore.	RS1	190
SHO-11R	2	2005	Reference	Sand/silt/clay mix with detritus	Above RM 187 on western shore across from small island.	RS2	187
SHO-11T	2	2003	Target	Silt; low sand/clay mix low detritus and muck/mud; shell hash and clay/silt; woody debris	Above Northumberland Dam on eastern shore.	RS2	184
SHO-12R	2	2005	Reference	Sand/silt/clay with detritus; trace boulder, cobble and gravel	Below RM 187 on western shore at bend in river.	RS2	187
SHO-13R	2	2005	Reference	Sand and silt with some detritus; trace cobble and gravel	Below SHO-12R on eastern shore at bend in river.	RS2	187
SHO-14R	2	2005	Reference	Sand/silt/clay with detritus; trace gravel; trace marl	Below RM 186 on western shore.	RS2	186
SHO-15R	2	2005	Reference	Gravel and sand with detritus; trace cobble, silt and clay; trace marl	On western shore below SHO-19R.	RS2	185
SHO-16R	2	2005	Reference	Sand/silt/gravel with detritus; trace cobble	Across from SHO-15R on eastern shore	RS2	185
SHO-16T	2	2005	Target	Silt/clay mix with detritus	On eastern shore across from southern most Sister Island.	RS1	192
SHO-17R	2	2005	Reference	Bedrock/boulder/gravel/sand mix with little detritus; low marl, silt, and cobble	Below RM 191 on eastern shore north of Griffin Island.	RS1	191
SHO-17T	2	2005	Target	Sand/silt/clay mix with detritus	On eastern shore south of SHO-16T	RS1	192
SHO-18R	2	2005	Reference	Sand/silt/clay with detritus; low boulder, cobble and gravel; some muck	Below RM 184 on eastern shore across from small island.	RS2	184
SHO-18T	2	2005	Target	Sand/silt/clay mix with detritus; low boulder; marl	Above RM 191 on eastern shore.	RS1	191
SHO-19R	2	2005	Reference	Sand and silt with detritus; low clay and cobble; trace marl	Above RM 185 on eastern shore.	RS2	185

**Table 2-1a
Phase 2 Habitat Assessment Stations**

Station ID	Phase	Year Sampled	Type	Site Characteristics	General Site Description	River Section	River Mile
SHO-19T	2	2005	Target	Gravel/sand mix with detritus; low bedrock, cobble, boulder, silt, and clay; marl	At RM 191 on eastern shore.	RS1	191
SHO-20R	2	2005	Reference	Sand/gravel/cobble with trace detritus; trace marl	Below Battenkill on eastern shore.	RS3	182
SHO-20T	2	2005	Target	Sand/gravel/cobble mix with detritus; low boulder, cobble, and clay	Below RM 191 on western side of channel north of Griffin Island.	RS1	191
SHO-21R	2	2005	Reference	Sand with low detritus; low boulder; trace cobble and silt	Above RM 180 on western shore and north of island.	RS3	180
SHO-21T	2	2005	Target	Bedrock/boulder/gravel/sand mix with little detritus; low silt, cobble, and clay	On eastern shore across from southern tip of Griffin Island.	RS1	190
SHO-22R	2	2006	Reference	Silt/Sand mix	Above RM 180 on eastern shore across from island.	RS3	180
SHO-22T	2	2005	Target	Sand/gravel/boulder/silt mix with detritus; low cobble; trace clay	Below southern tip of Griffin Island on eastern shore north of Moses Kill.	RS1	189
SHO-23R	2	2006	Reference	Silt/Sand mix	Below RM 180 on western shore.	RS3	180
SHO-23T	2	2005	Target	Sand/silt/boulder/cobble mix with detritus; low clay	On eastern shore below the Moses Kill.	RS1	189
SHO-24R	2	2006	Reference	Sand/Cobble ranging to sand/silt	At RM 179 on western shore.	RS3	179
SHO-24T	2	2005	Target	Silt and clay with low detritus; low sand; trace bedrock and boulder; muck	On eastern shore just above Thompson Island Dam.	RS1	189
SHO-25R	2	2006	Reference	Silt; moderate detritus	South of SHO-24R on eastern shore	RS3	179
SHO-25T	2	2005	Target	Sand and silt with detritus; trace clay; low muck	Above RM 187 on southeastern shore of small island.	RS2	187
SHO-26R	2	2006	Reference	Silt mixed with sand	Above RM 174 and below tributary on eastern shore.	RS3	174
SHO-26T	2	2005	Target	Gravel/sand/silt mix with detritus; low cobble; trace boulder	Below RM 186 on eastern shore north of SHO-14R.	RS2	186
SHO-27R	2	2006	Reference	Sand with some silt	Midway between RM 176 and 177 on eastern shore.	RS3	176
SHO-27T	2	2005	Target	Sand and some clay with detritus; trace cobble and silt	At RM 185 on western shore.	RS2	185
SHO-28R	2	2006	Reference	Sand and marl	Below RM 165 at southwest end of island.	RS3	165
SHO-28T	2	2006	Target	Gravel mixed with sand, some cobble	On eastern shore south of SHO-16R	RS2	184
SHO-29R	2	2006	Reference	Sand with cobble and boulders intermittent	Below RM 163 on western shore	RS3	163
SHO-29T	2	2006	Target	Sand/silt; high detritus	Above RM 184 on eastern shore.	RS2	184
SHO-30R	2	2006	Reference	Sand/silt with cobble in places	Above RM 162 and below SHO-29R on eastern shore.	RS3	162
SHO-30T	2	2006	Target	Gravel/sand/silt; high detritus	At RM 182 on western shore across from Battenkill.	RS3	182
SHO-31R	2	2006	Reference	Sand	Below RM 161 on eastern shore.	RS3	161
SHO-31T	2	2006	Target	Silt, some sand	South of SHO-25R and north of alcove on eastern shore.	RS3	179
SHO-32R	2	2006	Reference	Boulder transitioning to sand	Midway between RM 161 and 160 on western shore.	RS3	161
SHO-32T	2	2006	Target	Sand; some detritus	At RM 172 on eastern shore.	RS3	172
SHO-33R	2	2006	Reference	Sand/silt; moderate detritus	At RM 158 on western shore.	RS3	158
SHO-33T	2	2006	Target	Sand, some gravel/cobble	Above RM 160 on eastern shore.	RS3	160
SHO-34R	2	2006	Reference	Sand, some gravel/cobble	Below Lock 1 across from SHO-02R on western shore.	RS3	159
SHO-34T	2	2003	Target	Sand; low gravel and silt; leafy detritus and muck/mud; woody debris	Below RM 191 on eastern side of channel across from SHO-20T.	RS1	191
UCB-04T	2	2003	Target	Sandy	Near southern end of Griffin Island on western side of channel.	RS1	190
UCB-05T	2	2003, 2006	Target	Fine-Grained/Silty		RS2	184
UCB-13T	2	2005	Target	Variable/Transitional	Below RM 193 on eastern side of channel.	RS1	193
UCB-14T	2	2005	Target	Variable/Transitional	Above RM 192 on eastern side of channel	RS1	192

**Table 2-1a
Phase 2 Habitat Assessment Stations**

Station ID	Phase	Year Sampled	Type	Site Characteristics	General Site Description	River Section	River Mile
UCB-15T	2	2005	Target	Sandy	South of UCB-14T on western side of channel.	RS1	192
UCB-17T	2	2005	Target	Sandy	Near northern tip of Griffin Island on western side of channel.	RS1	190
UCB-18R	2	2005	Reference	Variable/Transitional	Below Schuylerville, south of the big island, eastern side of channel	RS3	179
UCB-19R	2	2006	Reference	Fine Grained/Silty	North of Coveville, eastern side of channel	RS3	179
UCB-20R	2	2006	Reference	Sandy	South of UCB-50T below Coveville, eastern side of channel	RS3	176
UCB-20T	2	2006	Target	Fine-Grained/Silty	South of major bend in river, eastern side of channel, below RM 171	RS3	171
UCB-21R	2	2006	Reference	Gravel/Cobbles	Above RM 174, eastern side of channel below tributary	RS3	174
UCB-21T	2	2006	Target	Sandy	North of large Trapa bed and tributary on eastern side of channel	RS3	171
UCB-22R	2	2005	Reference	Fine-Grained/Silty	South of Coveville, western side of channel	RS2	185
UCB-22T	2	2006	Target	Variable/Transitional	North of large Trapa/Nymphoides beds	RS3	169
UCB-23R	2	2006	Reference	Gravel/Cobbles	In Hudson river just below Lock 5	RS3	183
UCB-23T	2	2006	Target	Fine Grained/Silty	Upriver of marina near Lock 4, western side of channel	RS3	169
UCB-24R	2	2005	Reference	Sandy	South of Schuyler Island, eastern side of channel	RS3	181
UCB-24T	2	2006	Target	Variable/Transitional	North of Lock 3, western side of channel	RS3	166
UCB-25R	2	2005	Reference	Variable/Transitional	Directly across from Big island, eastern side of channel	RS3	180
UCB-25T	2	2006	Target	Fine Grained/Silty	Below Lock 1, eastern side of channel	RS3	158
UCB-26R	2	2005	Reference	Fine-Grained/Silty	South of Big Island, eastern side of channel	RS3	180
UCB-26T	2	2005	Target	Variable/Transitional	Above RM 192 on eastern side of channel	RS1	192
UCB-27R	2	2006	Reference	Sandy	Below Schuylerville, south of the big island, western side of channel	RS3	179
UCB-27T	2	2005	Target	Sandy	Above RM 192 on western side of channel.	RS1	192
UCB-28R	2	2006	Reference	Fine Grained/Silty	Near RM 176.5, western side of channel	RS3	176
UCB-28T	2	2005	Target	Sandy	Below RM 192 on eastern side of channel.	RS1	192
UCB-29R	2	2006	Reference	Gravel/Cobbles	Above RM 175, eastern side of channel	RS3	175
UCB-29T	2	2006	Target	Fine Grained/Silty	Southeast of middle Sister Island.	RS1	192
UCB-30R	2	2006	Reference	Gravel/Cobbles	Just north of RM 175, western side of channel	RS3	175
UCB-30T	2	2005	Target	Variable/Transitional	Below RM 192 on western side of channel.	RS1	192
UCB-31R	2	2006	Reference	Variable/Transitional	North of RM 173, eastern side of channel	RS3	173
UCB-31T	2	2005	Target	Sandy	South of UCB-28T on eastern side of channel near southernmost Sister Island.	RS1	192
UCB-32R	2	2006	Reference	Gravel/Cobbles	Near RM 172.5; eastern side of channel	RS3	172
UCB-32T	2	2006	Target	Variable/Transitional	Midway between RM 191 and 190 on eastern side of channel.	RS1	191
UCB-33R	2	2006	Reference	Rocky	Immediately south of UCB-32R, eastern side of channel	RS3	172
UCB-33T	2	2006	Target	Fine-Grained/Silty	South of UCB-32T on western side of channel.	RS1	191

**Table 2-1a
Phase 2 Habitat Assessment Stations**

Station ID	Phase	Year Sampled	Type	Site Characteristics	General Site Description	River Section	River Mile
UCB-34R	2	2006	Reference	Sandy	Immediately south of UCB-33R, eastern side of channel	RS3	172
UCB-34T	2	2006	Target	Variable/Transitional	Above RM 191 on eastern side of channel.	RS1	191
UCB-35R	2	2006	Reference	Fine-Grained/Silty	Directly across channel from UCB-34R	RS3	172
UCB-35T	2	2006	Target	Sandy	Above RM 191 West of UCB-34T.	RS1	191
UCB-36R	2	2006	Reference	Variable/Transitional	At large bend above RM 171, eastern side of channel	RS3	171
UCB-36T	2	2006	Target	Sandy	At RM 191 on western side of river.	RS1	191
UCB-37R	2	2006	Reference	Gravel/Cobbles	Just south fo UCB-36R, eastern side fo channel	RS3	171
UCB-37T	2	2006	Target	Sandy	At northern tip of Griffin Island.	RS1	191
UCB-38R	2	2006	Reference	Gravel/Cobbles	North of entrance to Lock 4, eastern side of channel	RS3	169
UCB-38T	2	2006	Target	Fine-Grained/Silty	At northern end of Griffin Island in west channel.	RS1	190
UCB-39R	2	2006	Reference	Rocky	Just above dam near Lock 4	RS3	168
UCB-39T	2	2006	Target	Fine-Grained/Silty	North of Moses Kill, eastern side of channel	RS1	189
UCB-40R	2	2006	Reference	Gravel/Cobbles	Below confluence with the Hoosic River, mid-channel	RS3	167
UCB-40T	2	2006	Target	Variable/Transitional	Directly across from Moses Kill on western side of channel	RS1	189
UCB-41R	2	2006	Reference	FineGrained/Silty	Below confluence with the Hoosic River, eastern side of channel	RS3	167
UCB-41T	2	2006	Target	Sandy	Just above bulkead at landcut to Lock 6	RS1	189
UCB-42R	2	2006	Reference	Gravel/Cobbles	East of large island below Lock 3 on eastern shore	RS3	165
UCB-42T	2	2006	Target	Variable/Transitional	Downstream of bulkhead at landcut to Lock 6	RS1	189
UCB-43R	2	2006	Reference	Gravel/Cobbles	Across from large island below Lock 3, eastern side of channel	RS3	165
UCB-43T	2	2006	Target	Fine-Grained/Silty	Western side of Thompson Island	RS2	188
UCB-44R	2	2006	Reference	Sandy	RM 164.5, western side of channel	RS3	164
UCB-44T	2	2006	Target	FineGrained/Silty	Below Thompson Island, mid-channel	RS2	187
UCB-45R	2	2006	Reference	Gravel/Cobbles	Below Lock 2 at RM 162, western side of channel	RS3	162
UCB-45T	2	2006	Target	Sandy	South of small island below Thompson Island	RS2	187
UCB-46R	2	2006	Reference	Sandy	Below Lock 2, eastern side of channel	RS3	162
UCB-46T	2	2006	Target	Fine-Grained/Silty	Just below Lock 6, eastern side of channel	RS2	186
UCB-47R	2	2006	Reference	Variable/Transitional	Above Lock 1, eastern side of channel	RS3	160
UCB-47T	2	2006	Target	Fine-Grained/Silty	North of Northumberland Bridge	RS2	184
UCB-48R	2	2006	Reference	Gravel/Cobbles	Above entrance to Lock 1	RS3	160
UCB-48T	2	2006	Target	Fine-Grained/Silty	South of Northumberland Bridge	RS2	184
UCB-49R	2	2006	Reference	Rocky	Above confluence with the Mohawk River, western side of channel	RS3	157
UCB-49T	2	2006	Target	Fine Grained/Silty	South of big island below Schuylerville, eastern side of channel	RS3	179
UCB-50R	2	2006	Reference	Variable/Transitional	Above confluence with the Mohawk River, eastern side of channel	RS3	157
UCB-50T	2	2006	Target	Fine-Grained/Silty	South of Coveville, eastern side of channel	RS3	177
WET-02T	2	2003	Target	Pickerelweed; great burreed	Below RM 192 south of the Snook Kill on the western shore.	RS1	192
WET-03R ¹	2	2003, 2004	Reference	Ricecutgrass; water millet	Below Fort Miller Dam on western shore south of tributary.	RS2	186
WET-04T	2	2003	Target	Creeping spikerush; rice cutgrass	Below RM 184 on eastern shore.	RS2	184
WET-06R	2	2005	Reference	Pickerelweed; great burreed; rice cut grass	Inside the mouth of the Moses Kill on the north shore.	RS1	189

**Table 2-1a
Phase 2 Habitat Assessment Stations**

Station ID	Phase	Year Sampled	Type	Site Characteristics	General Site Description	River Section	River Mile
WET-07T	2	2005	Target	White water lily; great burreed; reed canary grass; purple loostrife; buttonbush	Just above Thompson Island Dam on western shore.	RS1	189
WET-08T	2	2005	Reference	Great burreed; white water lily; wild rice	Eastern shore of small island below Thompson Island	RS2	187
WET-09T	2	2005	Target	Wild rice; white water lily	Below Lock 6 on eastern side of channel.	RS2	186
WET-10R	2	2006	Reference	Arrow arum	Below RM 165 halfway down island on western shore.	RS3	165
WET-12T	2	2006	Target	Pickerelweed; sessile fruited arrowhead; great burreed	Southern tip of Griffin Island on western shore.	RS1	190
WET-13T	2	2006	Target	Common arrowhead; sessile fruited arrowhead; wild rice	In cove south of WET-14R on east side of river.	RS2	185
WET-14R	2	2005	Reference	Sessile fruited arrowhead; wild rice	South of WET-09T on east side of small island.	RS2	185
WET-15R	2	2006	Reference	Arrow arum; Trapa; pickerelweed	Near mouth of Coveville on eastern shore.	RS3	177
WET-16R	2	2006	Reference	Arrow arum; white water lily; Trapa	North of WET-15R on eastern shore.	RS3	177

Table 2-1b
Summary of Phase 2 Habitat Assessment Stations by Type (Target/Reference)

Vegetation Community	Target	Reference
<i>Wetland</i>		
Pickerelweed, great burreed	02T, 07T, 08T, 12T	06R
Rice cutgrass	04T	03R
Arrowhead, arrow arum, wild rice	09T, 13T	10R, 14R, 15R, 16R
<i>Submerged aquatic vegetation</i>		
Wild celery	09T, 16T, 17T, 19T, 20T	20R, 22R, 26R, 33R
Wild celery, pondweeds, waterweed	05T, 07T, 08T, 10T, 11T, 12T, 13T, 14T, 15T, 18T, 21T, 22T, 23T, 24T, 25T	17R, 18R, 19R, 21R, 23R, 24R, 25R, 27R, 28R, 29R, 30R, 31R, 34R, 35R
Trapa	26T	32R
Sediment Type		
<i>Unconsolidated river bottom</i>		
Fine Grained/Silty	05T, 20T, 23T, 25T, 29T, 33T, 38T, 39T, 43T, 44T, 46T, 47T, 48T, 49T, 50T	19R, 22R, 26R, 28R, 35R, 41R
Sandy	04T, 15T, 17T, 21T, 27T, 28T, 31T, 35T, 36T, 37T, 41T, 45T	20R, 24R, 27R, 34R, 44R, 46R
Gravel/Cobbles ¹		21R, 23R, 29R, 30R, 32R, 37R, 38R, 40R, 42R, 43R, 45R, 48R
Variable/Transitional	13T, 14T, 22T, 24T, 26T, 30T, 32T, 34T, 40T, 42T	18R, 25R, 31R, 36R, 47R, 50R
Rocky ¹		33R, 39R, 49R
<i>Shoreline</i>		
Silts/Clay	07T, 11T, 16T, 24T	22R, 23R, 25R, 26R
Predominantly Sand	09T, 10T, 17T, 23T, 25T, 29T, 32T, 34T	11R, 12R, 13R, 14R, 15R, 16R, 18R, 19R, 21R, 27R, 28R, 30R, 33R
Sand/Gravel	05T, 08T, 19T, 20T, 22T, 26T, 27T, 28T, 30T, 33T	02R, 20R, 24R, 29R, 34R
Boulder/Bedrock	21T	17R, 32R

Notes:

¹ There are no dredge areas (and therefore no target stations) in gravel/cobble or rocky substrates. Reference stations were included with these substrate types since they approximate material similar to what will be used for backfill and capping.

Table 3-1
Phase 2 Unconsolidated River Bottom Assessment Stations

Station ID	Station Type	Sediment Type	River Section	River Mile	River Position
UCB-04T	Target	Mostly silt, some sand; muck/mud dominant, detritus present	RS1	190	MC
UCB-05T	Target	Mostly silt and sand, mussels present	RS2	184	MC
UCB-13T	Target	Sand, small quantities of gravel, detritus present	RS1	193	MC
UCB-14T	Target	Sand and silt, detritus dominant, mussels present	RS1	192	IM
UCB-15T	Target	Sand dominant with small quantities of silt and gravel	RS1	192	MC
UCB-17T	Target	Sand dominant, little silt, detritus present	RS1	190	MC
UCB-18R	Reference	Variable mix of cobbles, gravel, sand, silt, and clay; large quantities of mussels	RS3	179	MC
UCB-19R	Reference	Sand dominant, some silt; mussels present	RS3	179	MC
UCB-20R	Reference	Sand dominant, little silt	RS3	176	MC
UCB-20T	Target	Silt dominant with sand and clay; mussels present	RS3	171	MC
UCB-21R	Reference	Mostly bedrock with small quantities of boulders, cobbles and gravel; mussels present	RS3	174	MC
UCB-21T	Target	Mix of silt, sand, and clay	RS3	171	MC
UCB-22R	Reference	Mix of silt, sand, and clay	RS2	185	MC
UCB-22T	Target	Mix of silt, sand, and clay	RS3	169	OM
UCB-23R	Reference	Cobbles dominant, some gravel, little bedrock; mussels present	RS3	183	MC

Table 3-1
Phase 2 Unconsolidated River Bottom Assessment Stations

Station ID	Station Type	Sediment Type	River Section	River Mile	River Position
UCB-23T	Target	Silt dominant, small amounts of sand and clay; detritus present	RS3	169	OM
UCB-24R	Reference	Mix of sand and gravel; trace amounts of detritus, and mussels	RS3	181	MC
UCB-24T	Target	Mix of sand and silt; trace clay, trace detritus	RS3	166	MC
UCB-25R	Reference	Gravel dominant, some sand and silt; trace marl and mussels	RS3	180	MC
UCB-25T	Target	Silt and clay	RS3	158	OM
UCB-26R	Reference	Sand dominant, small amount of silt and clay; some muck/mud; mussels present	RS3	180	MC
UCB-26T	Target	Sand dominant mixed with silt and gravel; marl and mussels present	RS1	192	SC
UCB-27R	Reference	Mix of gravel, sand, and silt; marl and mussels present	RS3	179	MC
UCB-27T	Target	Mix of gravel and sand, some silt; detritus and marl present	RS1	192	MC
UCB-28R	Reference	Sand dominant, little silt and gravel; marl present	RS3	176	MC
UCB-28T	Target	Mix of gravel, sand, and silt; marl present	RS1	192	MC
UCB-29R	Reference	Mostly bedrock, mussels present	RS3	175	MC
UCB-29T	Target	Sand dominant, little silt	RS1	192	SC
UCB-30R	Reference	Mostly bedrock, mussels present	RS3	175	MC
UCB-30T	Target	Mix of sand, silt, and clay; detritus and mussels present	RS1	192	OM

**Table 3-1
Phase 2 Unconsolidated River Bottom Assessment Stations**

Station ID	Station Type	Sediment Type	River Section	River Mile	River Position
UCB-31R	Reference	Sand dominant, some silt and clay; detritus present	RS3	173	MC
UCB-31T	Target	Mix of sand, silt, and gravel; detritus and muck/mud present	RS1	192	MC
UCB-32R	Reference	Mostly cobbles, some boulders, gravel, and sand; mix of detritus, muck/mud, and mussels	RS3	172	OM
UCB-32T	Target	Mostly silt, some sand, little clay; mix of detritus and mussels	RS1	191	OM
UCB-33R	Reference	Mostly silt, small amounts of sand and clay; mix of muck/mud and mussels	RS3	172	MC
UCB-33T	Target	Sand dominant, little silt and clay; mussels present	RS1	191	IM
UCB-34R	Reference	Mix of silt, sand, and clay; detritus, muck/mud, and mussels present	RS3	172	MC
UCB-34T	Target	Mostly sand, some silt, trace clay and gravel; detritus and mussels present	RS1	191	OM
UCB-35R	Reference	Mix of silt, sand, and clay; detritus and mussels present	RS3	172	MC
UCB-35T	Target	Sand dominant, small amount of gravel, detritus	RS1	191	MC
UCB-36R	Reference	Sand dominant, small amounts of gravel, silt, and clay	RS3	171	MC
UCB-36T	Target	Sand; detritus and marl	RS1	191	MC
UCB-37R	Reference	Mix of gravel and sand, some silt; detritus present	RS3	171	MC
UCB-37T	Target	Mostly sand, some silt, detritus and mussels present	RS1	191	MC
UCB-38R	Reference	Mix of cobbles, gravel, and sand	RS3	169	MC

**Table 3-1
Phase 2 Unconsolidated River Bottom Assessment Stations**

Station ID	Station Type	Sediment Type	River Section	River Mile	River Position
UCB-38T	Target	Silt, some detritus	RS1	190	SC
UCB-39R	Reference	Mostly bedrock, little sand	RS3	168	OM
UCB-39T	Target	Silt dominant, some clay; muck/mud dominant, mussels present	RS1	189	MC
UCB-40R	Reference	Gravel mixed with sand, little silt	RS3	167	MC
UCB-40T	Target	Sand dominant, some silt and gravel; mussels present	RS1	189	MC
UCB-41R	Reference	Sand and silt	RS3	167	MC
UCB-41T	Target	Sand and gravel; detritus and mussels present	RS1	189	MC
UCB-42R	Reference	Sand and gravel	RS3	165	MC
UCB-42T	Target	Sand and gravel; mussels present	RS1	189	IM
UCB-43R	Reference	Sand and gravel, some cobbles, mussels present	RS3	165	MC
UCB-43T	Target	Mostly sand, some silt,; detritus and mussels present	RS2	188	SC
UCB-44R	Reference	Sand dominant, little silt and gravel; mussels present	RS3	164	SC
UCB-44T	Target	Sand; mix of detritus, marl, and mussels	RS2	187	MC
UCB-45R	Reference	Mix of cobbles and gravel with little sand and boulders	RS3	162	OM
UCB-45T	Target	Sand	RS2	187	SC

**Table 3-1
Phase 2 Unconsolidated River Bottom Assessment Stations**

Station ID	Station Type	Sediment Type	River Section	River Mile	River Position
UCB-46R	Reference	Mostly gravel, little sand and silt	RS3	162	IM
UCB-46T	Target	Sand, some silt, mussels present	RS2	186	MC
UCB-47R	Reference	Mostly gravel, little sand and silt	RS3	160	MC
UCB-47T	Target	Mostly sand and silt, little clay; detritus mixed with mussels	RS2	184	IM
UCB-48R	Reference	Mix of cobbles, gravel, and sand	RS3	160	MC
UCB-48T	Target	Mostly sand and silt, little clay; detritus	RS2	184	MC
UCB-49R	Reference	Bedrock, boulders, and gravel	RS3	157	OM
UCB-49T	Target	Silt, muck/mud	RS3	179	MC
UCB-50R	Reference	Sand	RS3	157	MC
UCB-50T	Target	Silt and sand, little clay, mussels present	RS3	177	MC

Notes:

1. River position indicates if the station is located on an inner meander (IM), outer meander (OM), within or adjacent to the main channel (MC), within or adjacent to a secondary channel (SC), or within a tributary or backwater area (TRIB).

Table 3-2a
Range of Conditions Observed in Phase 2 Unconsolidated River Bottoms in River Section 1

Type	Parameter	Year	Minimum	Maximum	Mean ¹	Standard Deviation	Count	
<i>Inorganic Substrate (%)</i>								
Target	Bedrock	2003	0	0	0.00	0.00	9	
		2005	0	0	0.00	0.00	81	
		2006	0	30	0.65	3.93	108	
	Boulder	2003	0	0	0.00	0.00	9	
		2005	0	0	0.00	0.00	81	
		2006	0	40	0.46	3.96	108	
	Cobble	2003	0	20	2.22	6.67	9	
		2005	0	30	1.73	4.69	81	
		2006	0	20	0.37	2.34	108	
	Gravel	2003	0	60	7.78	19.86	9	
		2005	0	60	18.89	15.49	81	
		2006	0	70	10.65	16.98	108	
	Sand	2003	0	80	37.78	23.86	9	
		2005	30	90	53.95	15.22	81	
		2006	0	100	55.65	32.53	108	
	Silt	2003	20	60	46.67	18.03	9	
		2005	10	40	22.59	11.04	81	
		2006	0	100	27.87	32.33	108	
	Clay	2003	0	10	5.56	5.27	9	
		2005	0	30	2.84	8.25	81	
		2006	0	30	4.17	7.12	108	
	<i>Organic Substrate (%)</i>							
	Target	Detritus	2003	0	30	15.56	12.36	9
			2005	0	80	21.98	22.50	81
			2006	0	70	16.67	19.95	108
		Muck-Mud	2003	20	90	61.11	28.92	9
			2005	0	10	2.22	4.18	81
2006			0	100	16.02	33.96	108	
Marl		2003	0	50	5.56	16.67	9	
		2005	0	20	3.46	5.28	81	
		2006	0	20	3.61	5.20	108	
Mussels		2003	0	3	1.44	1.13	9	
		2005	0	50	4.32	8.05	81	
		2006	0	60	12.96	14.42	108	
<i>Additional Substrate data (%)</i>								
Target		Pool ²	2003	42	62.5	44.28	6.83	9
			2005	25	62.5	43.10	9.24	81
	2006		25	80	47.59	14.58	108	
	TOC (mg/L)	2003	1200	57000	9444.44	18113.19	9	
		2005	0	330000	35217.28	61968.03	81	
		2006	0	192000	37389.81	34626.55	108	
	Fines	2003	19.5	34.9	26.34	8.12	9	
		2005	3	91.4	21.00	22.54	81	
		2006	2.4	85.5	35.42	29.79	108	

Notes:

¹ For those locations where trace was recorded, the value was set to 5% to calculate the mean and standard deviation.

² To calculate the mean and standard deviation, the mid-range of the values specified in Appendix B for the "suboptimal" and "marginal" categories was used (62.5 and 42, respectively).

Table 3-2b
Range of Conditions Observed in Phase 2 Unconsolidated River Bottoms in River Section 2

Type	Parameter	Year	Minimum	Maximum	Mean ¹	Standard Deviation	Count	
<i>Inorganic Substrate (%)</i>								
Reference	Bedrock	2005	0	0	0.00	0.00	9	
	Boulder	2005	0	0	0.00	0.00	9	
	Cobble	2005	0	0	0.00	0.00	9	
	Gravel	2005	0	0	0.00	0.00	9	
	Sand	2005	20	40	25.56	7.26	9	
	Silt	2005	40	50	45.56	5.27	9	
	Clay	2005	20	30	28.89	3.33	9	
<i>Organic Substrate (%)</i>								
Reference	Detritus	2005	0	40	6.67	14.14	9	
	Muck-Mud	2005	0	0	0.00	0.00	9	
	Marl	2005	0	0	0.00	0.00	9	
	Mussels	2005	0	0	0.00	0.00	9	
<i>Additional Substrate Data (%)</i>								
Reference	Pool ²	2005	25	25	25.00	0.00	9	
	TOC (mg/L)	2005	6500	65000	37444	24616	9	
	Fines	2005	12.9	63.8	52.49	22.44	9	
<i>Inorganic Substrate (%)</i>								
Target	Bedrock	2003	0	0	0.00	0.00	9	
		2006	0	40	1.27	7.07	63	
	Boulder	2003	0	30	3.33	10.00	9	
		2006	0	0	0.00	0.00	63	
	Cobble	2003	0	10	1.11	3.33	9	
		2006	0	10	0.32	1.77	63	
	Gravel	2003	0	0	0.00	0.00	9	
		2006	0	40	2.22	8.12	63	
	Sand	2003	0	40	26.67	11.18	9	
		2006	20	100	66.35	27.08	63	
	Silt	2003	0	80	62.22	23.86	9	
		2006	0	60	23.17	19.25	63	
	Clay	2003	0	0	0.00	0.00	9	
		2006	0	30	6.51	9.19	63	
	<i>Organic Substrate (%)</i>							
	Target	Detritus	2003	10	70	21.11	20.28	9
2006			0	50	7.14	10.99	63	
Muck-Mud		2003	0	20	4.44	7.26	9	
		2006	0	10	1.59	3.68	63	
Marl		2003	0	0	0.00	0.00	9	
		2006	0	30	5.24	7.15	63	
Mussels		2003	1	2	1.44	0.53	9	
		2006	0	40	8.41	10.50	63	
<i>Additional Substrate Data (%)</i>								
Target	Pool ²	2003	42	80	53.06	14.16	9	
		2006	42	80	49.34	11.42	63	
	TOC (mg/L)	2003	13000	42000	27111	12703	9	
		2006	0	170000	37270	37453	63	
	Fines	2003	46	74.9	58.64	10.36	9	
		2006	2.9	78.7	36.92	23.41	63	

Notes:

¹ For those locations where trace was recorded, the value was set to 5% to calculate the mean and standard deviation.

² To calculate the mean and standard deviation, the mid-range of the values specified in Appendix B for the "suboptimal" and "marginal" categories was used (62.5 and 42, respectively).

Table 3-2c
Range of Conditions Observed in Phase 2 Unconsolidated River Bottoms in River Section 3

Type	Parameter	Year	Minimum	Maximum	Mean ¹	Standard Deviation	Count
<i>Inorganic Substrate (%)</i>							
Reference	Bedrock	2005	0	0	0.00	0.00	36
		2006	0	100	11.07	26.97	252
	Boulder	2005	0	50	1.39	8.33	36
		2006	0	80	3.45	10.47	252
	Cobble	2005	0	30	6.67	11.46	36
		2006	0	90	10.16	18.05	252
	Gravel	2005	0	60	30.56	24.84	36
		2006	0	90	21.39	23.31	252
	Sand	2005	20	80	41.11	17.69	36
		2006	0	100	34.37	27.66	252
	Silt	2005	0	50	15.28	10.28	36
		2006	0	90	15.48	21.32	252
	Clay	2005	0	20	5.00	5.61	36
		2006	0	40	4.05	8.94	252
<i>Organic Substrate (%)</i>							
Reference	Detritus	2005	0	50	7.22	13.65	36
		2006	0	50	3.49	7.56	252
	Muck-Mud	2005	0	80	10.83	15.19	36
		2006	0	20	0.71	3.14	252
	Marl	2005	0	30	6.94	8.56	36
		2006	0	30	3.29	5.98	252
	Mussels	2005	0	70	22.22	20.85	36
		2006	0	60	6.29	10.57	252
<i>Additional Substrate Data (%)</i>							
Reference	Pool ²	2005	25	62.5	42.67	5.64	36
		2006	25	80	61.67	19.96	252
	TOC (mg/L)	2005	3600	33000	11356	7521	36
		2006	0	36000	11843	7710	251
	Fines	2005	16.7	59.2	32.38	16.93	36
		2006	2.1	71.85	27.51	22.42	251
<i>Inorganic Substrate (%)</i>							
Target	Bedrock	2006	0	0	0.00	0.00	72
	Boulder	2006	0	0	0.00	0.00	72
	Cobble	2006	0	0	0.00	0.00	72
	Gravel	2006	0	0	0.00	0.00	72
	Sand	2006	0	60	23.06	16.41	72
	Silt	2006	30	100	59.58	17.32	72
	Clay	2006	0	40	17.36	10.75	72
<i>Organic Substrate (%)</i>							
Target	Detritus	2006	0	50	4.58	9.48	72
	Muck-Mud	2006	0	20	1.53	4.94	72
	Marl	2006	0	0	0.00	0.00	72
	Mussels	2006	0	20	1.94	4.32	72
<i>Additional Substrate Data (%)</i>							
Target	Pool ²	2006	42	42	42	0	72
	TOC (mg/L)	2006	0	77000	23992	19398	72
	Fines	2006	2.6	93.5	60.58	26.17	72

Notes:

¹ For those locations where trace was recorded, the value was set to 5% to calculate the mean and standard deviation.

**Table 3-3
Phase 2 Aquatic Vegetation Bed Assessment Stations**

Station ID	Station Type	Sediment Type	River Section	Habitat Size (acre)	Dominant Vegetation (percent of total station biomass)	River Mile	River Position
SAV-05T	Target	Sandy	RS1	1.90	Wild celery (95%), redhead grass (5%)	191	OM
SAV-07T	Target	Fine Grained/Silty	RS1	3.34	Wild celery (95%), grassy pondweed (<i>P. gramineus</i> ; 4%), common waterweed (1%)	190	MC
SAV-08T	Target	Fine Grained/Silty	RS2	1.08	Wild celery (73%), American pondweed (20%), common waterweed (7%)	184	IM
SAV-09T	Target	Fine Grained/Silty	RS2	14.80	Wild celery (100%)	184	MC
SAV-10T	Target	Fine Grained/Silty	RS1	4.05	Wild celery (95%), common waterweed (5%)	193	MC
SAV-11T	Target	Variable/Transitional	RS1	10.37	Wild celery (86%), common waterweed (8%), American pondweed (6%)	193	OM
SAV-12T	Target	Variable/Transitional	RS1	1.28	Wild celery (80%), redhead grass (13%), pondweed (7%)	192	MC
SAV-13T	Target	Variable/Transitional	RS1	0.34	Wild celery (74%), water lily (17%), pondweed (9%)	192	SC
SAV-14T	Target	Fine Grained/Silty	RS1	0.31	Wild celery (94%), pondweed (6%)	191	IM
SAV-15T	Target	Sandy	RS1	0.72	Wild celery (52%), water lily (24%), pondweed (24%)	191	IM
SAV-16T	Target	Variable/Transitional	RS1	2.06	Wild celery	189	MC
SAV-17R	Reference	Sandy	RS2	4.84	Wild celery (85%), pondweed (9%), water lily (4%), redhead grass (2%)	186	IM
SAV-17T	Target	Fine Grained/Silty	RS1	2.01	Wild celery (100%)	189	MC
SAV-18R	Reference	Variable/Transitional	RS2	12.91	Wild celery (97%), pondweed (3%)	185	MC
SAV-18T	Target	Fine Grained/Silty	RS1	2.83	Wild celery (8%) common waterweed (31%)	189	IM
SAV-19R	Reference	Fine Grained/Silty	RS2	3.85	Wild celery (74%), pondweed (26%),	184	OM
SAV-19T	Target	Fine Grained/Silty	RS2	7.01	Wild celery (100%)	188	MC
SAV-20R	Reference	Sandy	RS3	3.22	Wild celery (100%)	181	MC
SAV-20T	Target	Fine Grained/Silty	RS2	4.07	Wild celery (100%)	186	IM
SAV-21R	Reference	Variable/Transitional	RS3	36.88	Wildcelery, Common Waterweed	181	MC
SAV-21T	Target	Fine Grained/Silty	RS2	12.95	Wild celery (90%), water lily (8%), wild rice (2%)	184	IM
SAV-22R	Reference	Fine Grained/Silty	RS2	0.67	Wild Celery (100%)	185	MC
SAV-22T	Target	Fine Grained/Silty	RS3	6.04	Wild celery (60%), Common Waterweed (13%), Coontail (12%); pondweeds (15%)	178	OM
SAV-23R	Reference	Gravel/Cobbles	RS3	1.51	Wild celery (86%), curly pondweed (13%), pondweeds (1%)	182	MC
SAV-23T	Target	Fine Grained/Silty	RS3	0.46	Wild celery (97%); water lily (3%)	178	MC
SAV-24R	Reference	Variable/Transitional	RS3	2.54	Wild celery (98%), redhead grass (2%)	180	MC
SAV-24T	Target	Fine-Grained/Silty	RS3	2.31	Wild celery (89%), common waterweed (3%), pondweed (8%)	177	OM
SAV-25R	Reference	Fine-Grained/Silty	RS3	2.04	Wild celery (84%), redhead grass (9%), water lily (7%)	179	MC
SAV-25T	Target	Fine-Grained/Silty	RS3	2.10	Wild celery (89%), water lily (7%), redhead grass (4%)	176	MC
SAV-26R	Reference	Sandy	RS3	0.61	Wild celery (100%)	177	MC
SAV-26T	Target	Fine-Grained/Silty	RS3	23.02	Trapa (100%)	170	MC
SAV-27R	Reference	Fine-Grained/Silty	RS3	2.01	Wild celery (81%), pondweeds (19%)	175	MC
SAV-28R	Reference	Fine-Grained/Silty	RS3	0.82	Wild celery (51%), water lily (25%), pondweeds (24%)	175	OM
SAV-29R	Reference	Variable/Transitional	RS3	1.07	Wild celery (79%), pondweeds (21%)	174	OM
SAV-30R	Reference	Fine Grained/Silty	RS3	1.90	Wild celery (53%), pondweeds (47%)	173	OM
SAV-31R	Reference	Variable/Transitional	RS3	1.27	Common Waterweed (77%), Wild celery (14%); redhead grass (9%)	167	MC
SAV-32R	Reference	Rocky	RS3	9.12	Trapa (100%)	166	MC
SAV-33R	Reference	N/A	RS3	19.55	Wild celery (100%)	165	SC
SAV-34R	Reference	Gravel/Cobbles	RS3	1.65	Wild celery (98%), common waterweed (2%)	163	MC
SAV-35R	Reference	Fine Grained/Silty	RS3	10.91	Wild celery (85%), redhead grass (7%), common waterweed (6%), pondweeds (2%)	180	MC

Notes:

1. River position indicates if the station is located on an inner meander (IM), outer meander (OM), within or adjacent to the main channel (MC), within or adjacent to a secondary channel (SC), or within a tributary or backwater area (TRIB).

Table 3-4a
Range of Conditions Observed in Phase 2 Aquatic Vegetation Beds in River Section 1

Type	Parameter	Year	Minimum	Maximum	Mean	Standard Deviation	Count
Target	Exchangeable Ammonia (mg/L)	2003	5.1	12.0	8.4	2.9	45
		2005	13.1	41.5	22.6	8.1	195
		2006	5.1	28.5	12.8	6.9	87
	Extractable Phosphorus (mg/L)	2003	18.2	43.2	28.1	8.5	45
		2005	9.2	89.4	24.1	17.9	195
		2006	5.1	48.0	22.3	14.2	87
	Exchangeable Potassium (mg/L)	2003	9.1	71.4	34.0	20.6	45
		2005	4.9	147.1	43.7	45.2	195
		2006	4.1	99.3	46.5	32.4	87
	Aboveground Biomass (g/m ²)	2003	31.52	145.76	71.88	35.51	162
		2005	76.16	885.76	379.00	173.71	1044
		2006	19.24	645.36	189.94	123.61	954
	Shoot Density (number/m ²)	2003	96	464	264.44	96.46	162
		2005	48	4296	442.37	472.92	1025
		2006	8	3936	331.74	471.13	954
	Percent Cover	2003	40	90	70.56	14.75	162
		2005	10	100	75.42	20.66	1044
		2006	10	90	34.92	21.03	954
	Light Attenuation Coefficient (center of bed)	2003	-2.17	1.34	-0.41	1.80	18
		2005	0.71	7.24	2.08	2.01	78
		2006	0.26	2.08	0.98	0.64	68
	TOC (mg/L)	2003	3100	310000	25878	71497	18
		2005	1600	290000	32481	52191	72
		2006	0	97000	29019	23904	63
	Moisture Content (%)	2003	20	74	30.28	12.55	18
		2005	9.2	89	38.57	17.71	72
		2006	20	82	46.48	15.51	63
	Bulk Density (g/cm ³)	2003	0.08	1.50	1.13	0.34	18
		2005	0.26	2.20	0.97	0.39	72
		2006	0.31	1.71	0.84	0.34	63
	Percent Fines	2003	9.5	41.9	18.49	9.06	18
		2005	4.1	56	20.47	16.19	63
		2006	6.2	77.2	34.44	20.51	54
	Current (cm/s) - Center of Bed	2003	-0.06	0.5	0.11	0.23	36
		2005	0	0.53	0.11	0.12	497
		2006	0.01	0.81	0.27	0.24	225
	Current (cm/s) - Outside of Bed	2003	-0.12	0.14	0.05	0.10	37
		2005	0.01	1.24	0.31	0.29	495
		2006	0.02	1.02	0.28	0.33	180
	Current (cm/s) - Upstream of Bed	2005	-0.06	0.39	0.09	0.12	495
		2006	0.01	0.13	0.06	0.03	207
	Current (cm/s) - Downstream of Bed	2005	-0.24	0.2	0.01	0.08	495
		2006	-0.21	0.1	0.05	0.06	225
	Temperature (Deg. C) - Center	2003	19.5	19.54	19.52	0.02	18
		2005	18.24	24.62	20.93	1.84	197
		2006	22.38	24.69	23.21	0.96	89
	Conductivity (µs/cm) - Center	2003	0.137	0.14	0.14	0.00	18
2005		0.017	0.99	0.14	0.19	197	
2006		0.081	0.85	0.08	0.00	89	
Dissolved Oxygen (mg/L) - Center	2003	6.83	7.09	6.96	0.13	18	
	2005	1.88	9.6	6.33	2.89	197	
	2006	8.8	9.62	9.14	0.29	89	
pH (Standard Units) - Center	2003	7.18	7.3	7.24	0.06	18	
	2005	5.85	7.24	6.52	0.47	197	
	2006	6.74	7.6	7.14	0.29	89	
Temperature (Deg. C) - Outside	2003	19.27	19.30	19.29	0.02	18	
	2005	18.26	24.61	20.87	1.83	197	
	2006	22.36	24.67	23.201	0.973	89	
Conductivity (µs/cm) - Outside	2003	0.13	0.14	0.13	0.00	18	
	2005	0.09	0.12	0.10	0.01	197	
	2006	0.081	0.087	0.084	0.002	89	
Dissolved Oxygen (mg/L) - Outside	2003	6.77	7.07	6.92	0.15	18	
	2005	2.03	9.61	6.41	2.90	197	
	2006	8.8	9.56	9.101	0.328	89	
pH (Standard Units) - Outside	2003	7.27	7.32	7.30	0.03	18	
	2005	5.62	7.21	6.31	0.51	197	
	2006	6.7	7.3	7.016	0.236	89	

Table 3-4b
Range of Conditions Observed in Phase 2 Aquatic Vegetation Beds in River Section 2

Type	Parameter	Year	Minimum	Maximum	Mean	Standard Deviation	Count
Reference	Exchangeable Ammonia (mg/L)	2005	5.9	31.2	12.27	8.17	238
	Extractable Phosphorus (mg/L)	2005	22.6	125.1	46.41	28.62	238
	Exchangeable Potassium (mg/L)	2005	4.5	99.3	34.09	26.43	238
	Aboveground Biomass (g/m ²)	2005	83.6	1393.92	372.38	236.15	1116
	Shoot Density (number/m ²)	2005	104	1696	553.71	293.12	1116
	Percent Cover	2005	20	100	69.91	16.96	1116
	Light Attenuation Coefficient (center of bed)	2005	0.15	4.84	2.23	1.83	67
	TOC (mg/L)	2005	0	300000	21531.75	42544.22	63
	Moisture Content (%)	2005	16.6	79	33.25	15.12	63
	Bulk Density (g/cm ³)	2005	0.19	1.60	1.11	0.36	63
	Percent Fines	2005	2.60	87.50	28.72	21.14	63
	Current (cm/s) - Center of Bed	2005	0.01	0.14	0.06	0.04	288
	Current (cm/s) - Outside of Bed	2005	0.02	0.39	0.14	0.12	315
	Current (cm/s) - Upstream of Bed	2005	-0.08	1.09	0.35	0.42	315
	Current (cm/s) - Downstream of Bed	2005	0.01	0.27	0.10	0.08	315
	Target	Exchangeable Ammonia (mg/L)	2003	2.38	33.1	12.57	9.42
		2006	3.99	79.1	44.53	30.06	48
Extractable Phosphorus (mg/L)		2003	15.8	68.2	38.91	17.27	63
		2006	12.2	184	104.90	68.77	48
Exchangeable Potassium (mg/L)		2003	12.2	45.6	31.23	10.51	63
		2006	18.7	466	223.62	200.00	48
Aboveground Biomass (g/m ²)		2003	16.32	228.24	80.38	56.76	162
		2006	85.92	827.6	286.22	194.03	432
Shoot Density (number/m ²)		2003	136	456	285.78	105.00	162
		2006	72	680	303.20	156.67	432
Percent Cover		2003	30	90	58.33	19.28	162
		2006	10	100	35.01	24.54	774
Light Attenuation Coefficient (center of bed)		2003	--1	--1	--1	--1	--1
		2006	0.99	3.27	1.98	1.07	48
TOC (mg/L)		2003	6500	150000	48927.78	45621.97	18
		2006	0	68000	44422.22	18270.06	45
Bulk Density (g/cm ³)		2003	0.26	1.2	0.73	0.25	18
		2006	0	1.1	0.52	0.22	45
Moisture Content (%)		2003	19	75.6	47.58	13.52	18
		2006	27.00	68.00	55.24	11.77	45
Percent Fines		2003	1.50	88.20	39.33	34.48	18
		2006	6.70	84.50	50.79	32.53	45
Current (cm/s) - Center of Bed		2003	-0.04	0.18	0.03	0.09	36
		2006	0.02	0.4	0.16	0.13	225
Current (cm/s) - Outside of Bed		2003	0.21	0.43	0.32	0.11	36
		2006	0.31	1.23	0.75	0.29	225
Current (cm/s) - Upstream of Bed		2006	-0.4	0.363	0.06	0.20	225
Current (cm/s) - Downstream of Bed		2006	0.03	0.3	0.09	0.09	135
Temperature (Deg. C) - Outside		2003	18.17	18.17	18.17	0	18
		2006	23.64	24.97	24.32	0.47	89
Conductivity (µs/cm) - Outside		2003	0.172	0.172	0.172	0	18
		2006	0.083	0.087	0.09	0.00	89
Dissolved Oxygen (mg/L) - Outside		2003	7.4	7.4	7.4	0	18
		2006	8.82	9.9	9.45	0.51	89
pH (Standard Units) - Outside		2003	7.41	7.41	7.41	0	18
		2006	7.01	7.58	7.26	0.22	89
Temperature (Deg. C) - Center		2003	18.15	18.26	18.205	0.055	18
		2006	23.68	25.19	24.52	0.59	89
Conductivity (µs/cm) - Center		2003	0.174	0.178	0.176	0.002	18
		2006	0.084	0.087	0.09	0.001	89
Dissolved Oxygen (mg/L) - Center		2003	7.14	7.53	7.22	0.08	18
		2006	8.89	10.1	9.55	0.54	89
pH (Standard Units) - Center		2003	7.48	7.53	7.51	0.02	18
		2006	6.71	7.54	7.23	0.29	89

Notes:

¹ Due to overcast, light rain and turbid conditions, light measurements were not taken

Table 3-4c
Range of Conditions Observed in Phase 2 Aquatic Vegetation Beds in River Section 3

Type	Parameter	Year	Minimum	Maximum	Mean	Standard Deviation	Count
Reference	Exchangeable Ammonia (mg/L)	2006	1.31	36.8	9.88	10.10	204
	Extractable Phosphorus (mg/L)	2006	11	76.1	32.71	18.79	204
	Exchangeable Potassium (mg/L)	2006	0	132	39.48	36.81	204
	Aboveground Biomass (g/m ²)	2006	20	7,735	684.01	1369.55	2610
	Shoot Density (number/m ²)	2006	8	1216	196.10	191.17	2610
	Percent Cover	2006	10	100	47.02	28.44	2610
	Light Attenuation Coefficient (center of bed)	2006	0.16	3.73	1.21	0.86	195
	Bulk Density (g/cm ³)	2006	0.00	3	1.01	0.46	549
	TOC (mg/L)	2006	0	52000	21106.15	11911.57	179
	Moisture Content (%)	2006	5.30	102.00	39.77	18.93	549
	Percent Fines	2006	6.70	98.40	36.29	27.12	179
	Current (cm/s) - Center of Bed	2006	0	1.21	0.44	0.35	891
	Current (cm/s) - Outside of Bed	2006	0.01	1.74	0.56	0.47	765
	Current (cm/s)- Upstream of Bed	2006	0.01	1.31	0.49	0.37	891
Current (cm/s)- Downstream of Bed	2006	-0.35	1.76	0.48	0.48	765	
Target	Exchangeable Ammonia (mg/L)	2006	7.33	24.7	12.21	6.84	49
	Extractable Phosphorus (mg/L)	2006	23.1	33.3	26.61	4.21	49
	Exchangeable Potassium (mg/L)	2006	37.4	198	88.12	57.68	49
	Aboveground Biomass (g/m ²)	2006	21	3,307	927.60	910.57	702
	Shoot Density (number/m ²)	2006	8	464	75.12	96.93	702
	Percent Cover	2006	10	100	58.79	34.49	702
	Light Attenuation Coefficient (center of bed)	2006	0.79	2.42	1.63	0.74	59
	Bulk Density (g/cm ³)	2006	0	1.6	0.76	0.33	156
	TOC (mg/L)	2006	0	67000	33614.81	18230.50	54
	Moisture Content (%)	2006	20.00	115.00	62.67	22.59	54
	Percent Fines	2006	36.10	92.20	67.94	14.74	54
	Current (cm/s)- Center of Bed	2006	0	0.31	0.07	0.09	252
	Current (cm/s)- Outside of Bed	2006	0	0.57	0.18	0.21	270
	Current (cm/s)- Upstream of Bed	2006	0.01	0.65	0.19	0.25	162
	Current (cm/s)- Downstream of Bed	2006	-0.07	0.25	0.04	0.07	216
	Temperature (Deg. C) - Outside	2006	22.47	24.29	23.12	0.59	108
	Conductivity (µs/cm) - Outside	2006	0.116	0.142	0.12	0.01	108
	Dissolved Oxygen (mg/L) - Outside	2006	1.02	10.02	8.97	2.41	108
	pH (Standard Units) - Outside	2006	7.4	7.82	7.52	0.14	108
	Temperature (Deg. C) - Center	2006	22.49	24.28	23.10	0.57	90
Conductivity (µs/cm) - Center	2006	0.115	0.14	0.124	0.01	90	
Dissolved Oxygen (mg/L) - Center	2006	9.16	10.03	9.661	0.27	90	
pH (Standard Units) - Center	2006	7.24	8.04	7.663	0.25	90	

Table 3-5
Significance Levels for Spearman Rank Correlation of Aquatic Vegetation Bed Parameters

	Biomass	Number of Stems	Percent Cover	Depth	TOC	Current Velocity	Percent Fines	K	PO4	NH4
Number of Stems	0.5700									
Percent Cover	0.4756	0.6253								
Depth	0.0993	0.2684	0.3985							
TOC	-0.1101	0.1969	0.0212	0.0986						
Current Velocity	0.0172	-0.0143	-0.0085	0.0861	-0.0677					
Percent Fines	-0.0586	-0.2124	-0.1552	-0.4008	0.3349	-0.1165				
K	-0.3128	-0.4605	-0.3059	-0.1504	-0.2435	0.0300	0.1197			
PO4	-0.2896	-0.4734	-0.3399	-0.1802	-0.1990	-0.0104	0.1849	0.9584		
NH4	-0.3098	-0.4601	-0.3169	-0.1780	-0.2195	0.0265	0.1221	0.9932	0.9545	
Light (Kd)	0.3163	0.1251	0.2830	0.1658	0.0455	-0.0989	0.0734	-0.1506	-0.1293	-0.1594

**Table 3-6
Phase 2 Shoreline Station Assessment Stations**

Station ID	Station Type	Sediment Type	River Section	River Mile	River Position	Adjacent Land Use
SHO-02R	Reference	Mostly sand, some gravel and silt	RS3	158	OM	N-Div
SHO-05T	Target	Gravel, cobble, and sand; marl	RS1	190	MC	N-Div
SHO-07T	Target	Silt, muck/mud, detritus	RS1	190	SC	N-Dii
SHO-08T	Target	Mostly gravel, little sand and silt; marl	RS1	190	OM	M4-Di
SHO-09T	Target	Variable mix of sand, silt, clay, and gravel	RS2	184	OM	N-Div
SHO-10T	Target	Mostly sand, some silt; marl	RS1	190	MC	N-Div
SHO-11R	Reference	Mostly sand, some silt and clay; detritus	RS2	187	OM	N-Div
SHO-11T	Target	Silt dominant, some sand and clay; mix of detritus, muck/mud, and marl	RS2	184	OM	N-Div
SHO-12R	Reference	Mostly sand, some silt and clay; detritus	RS2	187	OM	N-Div
SHO-13R	Reference	Mostly sand, some silt; detritus	RS2	187	OM	N-Ei
SHO-13T	Target	Mostly sand, little silt and gravel; detritus	RS1	193	MC	N-Dii
SHO-14R	Reference	Mostly sand, some silt and clay; detritus	RS2	186	IM	N-Div
SHO-14T	Target	Gravel dominant, detritus	RS1	193	OM	M4-Gi
SHO-15R	Reference	Mix of sand and gravel, detritus	RS2	185	MC	N-Div
SHO-15T	Target	Variable mix of sand, silt, and gravel	RS1	190	OM	M4-Fii
SHO-16R	Reference	Mix of sand and silt; detritus	RS2	185	MC	N-Dv
SHO-16T	Target	Silt and clay, muck/mud dominant, little detritus	RS1	192	SC	N-Diii
SHO-17R	Reference	Bedrock and gravel	RS1	191	MC	N-Dii
SHO-17T	Target	Mostly sand, some silt, little clay; detritus	RS1	192	SC	N-Div
SHO-18R	Reference	Sand and silt, little clay; detritus	RS2	184	SC	N-Ei
SHO-18T	Target	Mix of sand and gravel, some silt; detritus	RS1	191	OM	N-Diii
SHO-19R	Reference	Mostly sand, some silt; detritus	RS2	185	MC	N-Eii
SHO-19T	Target	Mostly sand, little silt and gravel; detritus	RS1	191	MC	N-Div
SHO-20R	Reference	Gravel and sand	RS3	182	MC	N-Div
SHO-20T	Target	Mix of cobble, gravel, sand, and silt; detritus	RS1	191	IM	M1-Gi
SHO-21R	Reference	Sand	RS3	180	MC	N-Dii
SHO-21T	Target	Gravel and sand; detritus	RS1	190	MC	N-Di
SHO-22R	Reference	Sand and silt; marl	RS3	180	MC	N-Dii
SHO-22T	Target	Sand, small amount of boulder, gravel, and silt; detritus	RS1	189	MC	N-Dii

**Table 3-6
Phase 2 Shoreline Station Assessment Stations**

Station ID	Station Type	Sediment Type	River Section	River Mile	River Position	Adjacent Land Use
SHO-23R	Reference	Sand and gravel; detritus	RS3	180	MC	N-Div
SHO-23T	Target	Sand dominant, small amount of silt and clay; detritus	RS1	189	MC	N-Dii
SHO-24R	Reference	Cobble and sand, small amounts of boulders and silt	RS3	179	MC	N-Dii
SHO-24T	Target	Silt dominant, small amount of sand and clay; muck/mud	RS1	189	IM	M3-Dii
SHO-25R	Reference	Silt, detritus	RS3	179	MC	N-Eii
SHO-25T	Target	Sand dominant, some silt; detritus	RS2	187	SC	N-Diii
SHO-26R	Reference	Mix of sand and silt; marl	RS3	174	OM	N-Di
SHO-26T	Target	Gravel dominant, some sand, silt, and cobble; detritus	RS2	186	OM	N-Fiv
SHO-27R	Reference	Sand	RS3	176	MC	N-Di
SHO-27T	Target	Sand, small amount of silt and clay; detritus	RS2	185	MC	N-Div
SHO-28R	Reference	Sand, marl	RS3	165	SC	N-Div
SHO-28T	Target	Gravel dominant, some sand and cobble; marl	RS2	184	IM	N-Dv
SHO-29R	Reference	Sand, some boulder and cobble; detritus	RS3	163	MC	N-Fiv
SHO-29T	Target	Sand and silt; detritus	RS2	184	IM	N-Div
SHO-30R	Reference	Mix of sand and silt; detritus	RS3	162	MC	N-Div
SHO-30T	Target	Sand dominant, small amount of gravel and silt; detritus	RS3	182	MC	N-Diii
SHO-31R	Reference	Sand, small amounts of silt, cobble, and boulder	RS3	161	MC	N-Di
SHO-31T	Target	Mix of sand and silt; detritus	RS3	179	MC	N-Di
SHO-32R	Reference	Mix of sand, silt, and boulders	RS3	161	OM	N-Diii
SHO-32T	Target	Sand dominant, small amount of silt; detritus	RS3	172	MC	N-Div
SHO-33R	Reference	Mostly sand, some silt; detritus	RS3	158	MC	N-Div
SHO-33T	Target	Sand, small amount of gravel and cobble	RS3	160	MC	N-Dii
SHO-34R	Reference	Mix of sand and gravel	RS3	159	SC	N-Div
SHO-34T	Target	Sand; detritus, muck/mud	RS1	191	OM	N-Di

Notes:

- River position indicates if the station is located on an inner meander (IM), outer meander (OM), within or adjacent to the main channel (MC), within or adjacent to a secondary channel (SC), or within a tributary or backwater area (TRIB).
- See codes for adjacent land use in Table 3-10.

Table 3-7a
Range of Conditions Observed in Shorelines in Phase 2 Areas of River Section 1

Type	Parameter	Year	Minimum	Maximum	Mean ¹	Standard Deviation	Count
<i>Inorganic Substrate (%)</i>							
Reference	Bedrock	2005	5	40	28.33	16.98	18
	Boulder	2005	0	30	11.67	13.50	18
	Cobble	2005	0	10	6.67	4.85	18
	Gravel	2005	10	50	35.00	18.31	18
	Sand	2005	0	35	11.67	16.98	18
	Silt	2005	0	10	6.67	4.85	18
	Clay	2005	0	0	0.00	0.00	18
<i>Organic Substrate (%)</i>							
Reference	Detritus	2005	5	15	10.00	4.20	18
	Muck_Mud	2005	0	0	0.00	0.00	18
	Marl	2005	5	10	6.67	2.43	18
	Vegetated	2005	80	85	83.33	2.43	18
	Woody Debris (ft)	2005	10	350	100.00	106.74	90
<i>Bank Assessment (%)</i>							
Reference	Stable	2005	85	95	90.00	4.20	18
	Moderately Stable	2005	5	15	10.00	4.20	18
	Moderately Unstable	2005	0	0	0.00	0.00	18
	Unstable	2005	0	0	0.00	0.00	18
<i>Bank Vegetation (%)²</i>							
Reference	Optimal	2005	10	90	46.67	33.95	18
	Suboptimal	2005	0	5	3.33	2.43	18
	Marginal	2005	10	15	13.33	2.43	18
	Poor	2005	0	70	36.67	29.51	18
<i>Riparian Edge (%)</i>							
Reference	Canopy	2005	40	90	60.00	22.23	18
	Herbaceous	2005	25	80	58.33	24.61	18
	Understory	2005	20	90	46.67	31.81	18
<i>Inorganic Substrate (%)</i>							
Target	Bedrock	2003	0	0	0.00	0.00	72
		2005	0	50	2.27	8.73	198
	Boulder	2003	0	0	0.00	0.00	66
		2005	0	40	5.15	9.02	198
	Cobble	2003	0	20	5.00	8.72	72
		2005	0	50	5.61	11.02	198
	Gravel	2003	0	50	12.50	21.80	72
		2005	0	85	16.21	21.52	198
	Sand	2003	20	80	43.33	26.49	54
		2005	0	85	41.06	30.52	198
	Silt	2003	0	100	43.33	38.20	72
		2005	0	60	18.03	18.55	198
	Clay	2003	0	30	8.89	12.98	54
		2005	0	40	8.64	12.72	198

Table 3-7a
Range of Conditions Observed in Shorelines in Phase 2 Areas of River Section 1

Type	Parameter	Year	Minimum	Maximum	Mean ¹	Standard Deviation	Count
<i>Organic Substrate (%)</i>							
Target	Detritus	2003	0	20	8.89	7.44	54
		2005	0	100	44.70	31.36	198
	Muck-Mud	2003	0	60	26.67	25.18	54
		2005	0	80	6.97	19.82	198
	Marl	2003	0	100	61.67	41.28	72
		2005	0	50	4.09	10.43	198
	Vegetated	2003	0	40	12.73	15.55	66
		2005	0	80	41.21	28.03	198
Woody Debris (ft)	2003	0.6	50	8.24	10.47	132	
	2005	3	750	95.26	130.01	1662	
<i>Bank Assessment (%)</i>							
Target	Stable	2003	0	100	56.67	40.35	72
		2005	0	90	62.12	30.33	198
	Moderately Stable	2003	0	50	20.83	15.63	72
		2005	0	90	31.06	24.86	198
	Moderately Unstable	2003	0	80	22.50	31.07	72
		2005	0	30	2.88	7.20	198
	Unstable	2003	0	0	0.00	0.00	72
		2005	0	25	0.91	4.36	198
<i>Bank Vegetation (%)²</i>							
Target	Optimal	2003	0	100	65.83	42.42	72
		2005	0	100	49.39	39.27	198
	Suboptimal	2003	0	100	34.17	42.42	72
		2005	0	90	28.64	26.01	198
	Marginal	2003	0	0	0.00	0.00	72
		2005	0	70	10.30	18.87	198
	Poor	2003	0	0	0.00	0.00	72
		2005	0	80	8.64	22.43	198
<i>Riparian Edge (%)</i>							
Target	Canopy	2003	60	90	76.67	8.56	72
		2005	0	85	48.33	24.05	198
	Herbaceous	2003	40	90	64.17	16.16	72
		2005	0	90	60.61	19.93	198
	Understory	2003	10	90	48.18	28.44	66
		2005	0	95	52.58	30.78	198
	Adjacent Landuse	2003	Maintained field	Forested	NA	NA	NA
		2005	Maintained field	Forested	NA	NA	NA

Notes:

¹ For those locations where trace was recorded, the value was set to 5% to calculate the mean and standard deviation.

² To calculate the mean and standard deviation, the mid-range of the values specified in Appendix D for the “suboptimal” and “marginal” categories was used (80 and 60, respectively).

³ Length of woody debris ranged from 1 to 120 feet.

Table 3-7b
Range of Conditions Observed in Shorelines in Phase 2 Areas of River Section 2

Type	Parameter	Year	Minimum	Maximum	Mean ¹	Standard Deviation	Count
<i>Inorganic Substrate (%)</i>							
Reference	Bedrock	2005	0	0	0.00	0.00	144
	Boulder	2005	0	10	0.83	2.37	144
	Cobble	2005	0	10	2.50	3.55	144
	Gravel	2005	0	55	8.54	16.16	144
	Sand	2005	10	90	55.00	20.53	144
	Silt	2005	5	80	23.75	16.21	144
	Clay	2005	0	40	9.38	10.87	144
<i>Organic Substrate (%)</i>							
Reference	Detritus	2005	5	70	39.17	21.17	144
	Muck-Mud	2005	0	20	0.83	4.01	144
	Marl	2005	0	5	0.83	1.87	144
	Vegetated	2005	30	95	59.17	20.82	144
	Woody Debris (ft)	2005	5	1360	164.27	223.37	1152
<i>Bank Assessment (%)</i>							
Reference	Stable	2005	30	100	74.79	21.41	144
	Moderately Stable	2005	0	70	22.29	20.02	144
	Moderately Unstable	2005	0	20	2.92	6.13	144
	Unstable	2005	0	0	0.00	0.00	144
<i>Bank Vegetation (%)²</i>							
Reference	Optimal	2005	0	100	56.88	43.11	144
	Suboptimal	2005	0	60	20.21	23.01	144
	Marginal	2005	0	70	22.92	29.04	144
	Poor	2005	0	0	0.00	0.00	144
<i>Riparian Edge (%)</i>							
Reference	Canopy	2005	20	95	66.46	19.99	144
	Herbaceous	2005	30	90	59.58	17.01	144
	Understory	2005	10	80	48.96	21.77	144
<i>Inorganic Substrate (%)</i>							
Target	Bedrock	2003	0	0	0.00	0.00	18
		2005	0	0	0.00	0.00	72
		2006	0	5	0.83	1.89	36
	Boulder	2003	0	0	0.00	0.00	18
		2005	0	5	0.42	1.39	72
		2006	0	5	0.83	1.89	36
	Cobble	2003	0	0	0.00	0.00	12
		2005	0	15	3.33	5.57	72
		2006	0	10	4.17	4.55	36
	Gravel	2003	10	30	16.67	9.70	18
		2005	0	70	10.42	21.99	72
		2006	0	70	30.00	32.07	36
	Sand	2003	40	50	46.67	4.85	18
		2005	15	90	62.50	24.19	72
		2006	10	60	30.83	17.18	36
	Silt	2003	10	10	10.00	0.00	12
		2005	0	60	17.92	17.97	72
		2006	0	80	31.67	34.35	36
	Clay	2003	30	30	30.00	0.00	18
		2005	0	25	5.42	8.08	72
		2006	0	0	0.00	0.00	36

Table 3-7b
Range of Conditions Observed in Shorelines in Phase 2 Areas of River Section 2

Type	Parameter	Year	Minimum	Maximum	Mean ¹	Standard Deviation	Count
Organic Substrate (%)							
Target	Detritus	2003	10	40	20.00	14.55	18
		2005	10	100	56.25	27.28	72
		2006	0	100	41.67	40.74	36
	Muck-Mud	2003	10	10	10.00	0.00	18
		2005	0	15	1.25	4.17	72
		2006	0	0	0.00	0.00	36
	Marl	2003	50	80	70.00	14.55	18
		2005	0	0	0.00	0.00	72
		2006	0	90	40.83	41.86	36
	Vegetated	2005	0	90	42.50	28.45	72
		2006	0	60	17.50	19.80	36
	Woody Debris (ft)	2003	3	50	11.43	15.97	42
2005		1.6	5260	333.21	793.44	600	
2006		0.415	45	8.80	10.49	246	
Bank Assessment (%)							
Target	Stable	2003	10	70	46.67	27.01	18
		2005	0	100	71.11	37.53	54
		2006	0	90	55.56	35.32	54
	Moderately Stable	2003	30	90	53.33	27.01	18
		2005	0	60	22.22	27.14	54
		2006	10	90	43.33	33.65	54
	Moderately Unstable	2003	0	0	0.00	0.00	18
		2005	0	40	6.67	12.59	54
		2006	0	10	1.11	3.17	54
	Unstable	2003	0	0	0.00	0.00	18
		2005	0	0	0.00	0.00	54
		2006	0	0	0.00	0.00	54
Bank Vegetation (%)²							
Target	Optimal	2003	100	100	100.00	0.00	18
		2005	0	100	60.56	44.03	54
		2006	0	100	63.33	45.39	54
	Suboptimal	2003	0	0	0.00	0.00	18
		2005	0	40	18.33	15.78	54
		2006	0	70	18.89	27.52	54
	Marginal	2003	0	0	0.00	0.00	18
		2005	0	70	21.11	30.26	54
		2006	0	50	17.78	19.49	54
	Poor	2003	0	0	0.00	0.00	18
		2005	0	0	0.00	0.00	54
		2006	0	0	0.00	0.00	54
Riparian Edge (%)							
Target	Canopy	2003	40	80	60.00	16.80	18
		2005	30	95	67.08	25.63	72
		2006	10	75	54.17	21.60	36
	Herbaceous	2003	20	70	43.33	21.14	18
		2005	50	90	73.33	12.04	72
		2006	55	80	66.67	10.00	36
	Understory	2003	50	70	60.00	8.40	18
		2005	20	80	60.42	18.55	72
		2006	20	70	45.00	19.42	36
	Adjacent Landuse	2003	Maintained field	Forested	NA	NA	NA
		2005	Maintained field	Forested	NA	NA	NA
		2006	Maintained field	Forested	NA	NA	NA

Notes:

¹ For those locations where trace was recorded, the value was set to 5% to calculate the mean and standard deviation.

² To calculate the mean and standard deviation, the mid-range of the values specified in Appendix D for the "suboptimal" and "marginal" categories was used (80 and 60, respectively).

Table 3-7c
Range of Conditions Observed in Shorelines in Phase 2 Areas of River Section 3

Type	Parameter	Year	Minimum	Maximum	Mean ¹	Standard Deviation	Count
<i>Inorganic Substrate (%)</i>							
Reference	Bedrock	2005	0	0	0.00	0.00	36
		2006	0	40	1.28	6.49	234
	Boulder	2005	0	10	1.67	3.78	36
		2006	0	80	5.13	15.05	228
	Cobble	2005	0	25	7.50	8.15	36
		2006	0	95	7.95	21.31	234
	Gravel	2005	0	50	16.67	23.90	36
		2006	0	75	8.14	18.87	210
	Sand	2005	15	95	62.50	29.82	36
		2006	0	100	51.49	36.12	222
	Silt	2005	0	5	1.67	2.39	36
		2006	0	100	28.06	34.12	216
	Clay	2005	0	0	0.00	0.00	36
		2006	0	0	0.00	0.00	234
<i>Organic Substrate (%)</i>							
Reference	Detritus	2005	5	10	6.67	2.39	36
		2006	0	100	15.51	29.74	234
	Muck_Mud	2005	0	0	0.00	0.00	36
		2006	0	0	0.00	0.00	234
	Marl	2005	0	5	0.83	1.89	36
		2006	0	100	13.61	31.97	216
	Vegetated	2005	90	95	92.50	2.54	36
		2006	0	100	43.85	43.57	234
	Woody Debris (ft)	2005	28	1500	304.74	314.36	276
		2006	0.332	135	17.63	24.67	774
<i>Bank Assessment (%)</i>							
Reference	Stable Bank	2005	70	95	75.83	9.45	36
		2006	0	100	70.77	39.46	234
	Mod Stable Bank	2005	5	30	15.83	10.32	36
		2006	0	90	17.18	23.58	234
	Mod Unstable Bank	2005	0	20	8.33	9.10	36
		2006	0	70	8.72	16.86	234
	Unstable Bank	2005	0	0	0.00	0.00	36
		2006	0	40	3.33	10.72	234
<i>Bank Vegetation (%)²</i>							
Reference	Optimal Vegetation	2005	35	100	68.33	32.16	36
		2006	0	100	53.85	40.95	234
	Suboptimal Vegetation	2005	0	0	0.00	0.00	36
		2006	0	80	20.90	23.93	234
	Marginal Vegetation	2005	0	65	31.67	32.16	36
		2006	0	70	16.67	27.07	234
	Poor Vegetation	2005	0	0	0.00	0.00	36
		2006	0	100	8.59	22.95	234
<i>Riparian Edge (%)</i>							
Reference	Canopy	2005	35	80	56.67	17.48	36
		2006	10	100	62.44	21.10	234
	Herbaceous	2005	30	40	33.33	4.78	36
		2006	15	90	59.74	26.12	234
	Understory	2005	45	90	66.67	19.35	36
		2006	0	80	33.72	24.43	234

Table 3-7c
Range of Conditions Observed in Shorelines in Phase 2 Areas of River Section 3

Type	Parameter	Year	Minimum	Maximum	Mean ¹	Standard Deviation	Count
<i>Inorganic Substrate (%)</i>							
Target	Bedrock	2006	0	0	0.00	0.00	72
	Boulder	2006	0	10	0.91	2.90	66
	Cobble	2006	0	20	2.50	5.99	72
	Gravel	2006	0	40	14.55	16.28	66
	Sand	2006	10	90	60.42	28.07	72
	Silt	2006	0	90	22.92	30.93	72
	Clay	2006	0	0	0.00	0.00	72
<i>Organic Substrate (%)</i>							
Target	Detritus	2006	0	95	31.25	37.97	72
	Muck_Mud	2006	0	0	0.00	0.00	72
	Marl	2006	0	5	0.42	1.39	72
	Vegetated	2006	0	100	68.33	38.69	72
	Woody Debris (ft)	2006	0.32	80	11.98	15.27	246
<i>Bank Assessment (%)</i>							
Target	Stable Bank	2006	70	100	87.08	9.30	72
	Mod Stable Bank	2006	0	30	12.92	9.30	72
	Mod Unstable Bank	2006	0	0	0.00	0.00	72
	Unstable Bank	2006	0	0	0.00	0.00	72
<i>Bank Vegetation (%)</i> ²							
Target	Optimal Vegetation	2006	0	100	27.50	34.43	72
	Suboptimal Vegetation	2006	0	90	31.67	30.16	72
	Marginal Vegetation	2006	0	80	22.50	29.96	72
	Poor Vegetation	2006	0	80	18.33	32.33	72
<i>Riparian Edge (%)</i>							
Target	Canopy	2006	10	90	44.17	25.16	72
	Herbaceous	2006	15	100	65.42	25.96	72
	Understory	2006	10	90	37.50	27.54	72
	Adjacent Landuse	2006	Maintained field	Forested	NA	NA	NA

Notes:

¹ For those locations where trace was recorded, the value was set to 5% to calculate the mean and standard deviation

² To calculate the mean and standard deviation, the mid-range of the values specified in Appendix D for the "suboptimal" and "marginal" categories was used (80 and 60, respectively).

³ Length of woody debris ranged from 1 to 500 feet.

**Table 3-8
Phase 2 Riverine Fringing Wetland Assessment Stations**

Station ID	Station Type	River Section	Habitat Size (acre)	Vegetation	River Mile	River Position	Adjacent Land Use
WET-02T	Target	RS1	0.11	Pickerelweed; great burreed	192	IM	M4-Gi
WET-03R	Reference	RS2	0.27	Ricecutgrass; water millet	186	IM	N-Div
WET-04T	Target	RS2	0.23	Cattail; great burreed	184	IM	N-Eii
WET-06R	Reference	RS1	< 0.5 ac	Pickerelweed; great burreed; rice cut grass	189	TRIB	N-Ei
WET-07T	Target	RS1	1.79	Great burreed; white water lily; water chestnut	189	MC	N-Dii
WET-08R	Reference	RS2	0.52	Great burreed; white water lily; wild rice	187	SC	N-Ei
WET-09T	Target	RS2	5.66	Wild rice; white water lily	186	OM	N-Eii
WET-10R	Reference	RS3	0.58	Arrow Arum	165	MC	N-Div
WET-12T	Target	RS1	0.77	Pickerelweed; sessile fruited arrowhead; great burreed	190	TRIB	N-Eii
WET-13T	Target	RS2	2.00	Common arrowhead; sessile fruited arrowhead; wild rice	185	SC	N-Dii
WET-14R	Reference	RS2	0.22	Sessile fruited arrowhead; wild rice	185	SC	N-Eii
WET-15T	Target	RS3	> 0.5 ac	Arrow Arum; Trapa; pickerelweed	177	TRIB	N-Diii
WET-16R	Reference	RS3	> 0.5 ac	Arrow Arum; white water lily;; Trapa	177	TRIB	N-Diii

Notes:

1. River position indicates if the station is located on an inner meander (IM), outer meander (OM), within or adjacent to the main channel (MC), within or adjacent to a secondary channel (SC), or within a tributary or backwater area (TRIB).
2. Adjacent Land use. See Table 3-10 for adjacent land use codes.

Table 3-9a

Range of Conditions Observed in Riverine Fringing Wetlands in River Section 1

Type	Parameter	Year	Minimum	Maximum	Mean	Standard Deviation	Count
Reference	Biomass (g/m ²)	2005	789	7573	3362	2145	9
	Stem Count (#/m ²)	2005	192	4440	1747	1703	9
	Slope (%)	2005	5.90	10.37	8.50	2.32	3
	Area (acre)	2005	0.01	0.01	0.01	--	1
	Percent Contiguous	2005	100	100	100	--	1
	Wetland Edge (ft)	2005	50	50	50	--	1
Target	Biomass (g/m ²)	2003	3405	6756	4671	1171	9
		2005	1093	16061	6123	4678	18
		2006	1269	3773	2511	842	6
	Stem Count (#/m ²)	2003	408	5112	1964	1822	9
		2005	368	2544	1020	646	18
		2006	512	1456	1065	327	6
	Slope (%)	2003	4.35	5.88	4.96	0.81	3
		2005	2.21	4.89	3.42	1.36	3
		2006	0.28	2.29	1.58	1.13	3
	Area (acre)	2003	0.12	0.12	0.12	--	1
		2005	1.79	1.79	1.79	--	1
		2006	7.37	7.37	7.37	--	1
	Percent Contiguous	2003	50	50	50	--	1
		2005	50	50	50	--	1
		2006	100	100	100	--	1
	Wetland Edge (ft)	2003	373	373	373	--	1
		2005	1215	1215	1215	--	1
		2006	1139	1139	1139	--	1

Table 3-9b
Range of Conditions Observed in Riverine Fringing Wetlands in River Section 2

Type	Parameter	Year	Minimum	Maximum	Mean	Standard Deviation	Count
Reference	Biomass (g/m ²)	2003	963.0	2785.8	1750.8	936.2	3
		2004	227.4	1159.8	772.9	486.0	3
		2005	1155.8	4429.1	2090.0	1001.9	15
	Stem Count (#/m ²)	2003	6784.0	12888.0	9322.7	3178.9	3
		2004	6632.0	16000.0	11005.3	4714.8	3
		2005	360.0	1944.0	931.2	445.3	15
	Slope (%)	2003	0.1	5.8	2.8	2.4	6
		2004	0.1	0.9	0.6	0.5	3
		2005	3.5	11.7	6.0	3.2	6
	Area (acre)	2003	0.3	0.3	0.3	--	1
		2005	0.2	0.8	0.5	0.3	3
	Percent Contiguous	2003	100.0	100.0	100.0	--	1
		2004	100.0	100.0	100.0	--	1
		2005	100.0	100.0	100.0	--	1
	Wetland Edge (ft)	2003	190.0	190.0	190.0	--	1
2004		190.0	190.0	190.0	--	1	
2005		451.0	451.0	451.0	--	1	
Target	Biomass (g/m ²)	2003	1476.5	6118.9	3072.3	1587.6	9
		2005	867.8	6082.2	2561.0	1835.2	12
		2006	235.1	848.9	543.2	197.0	9
	Stem Count (#/m ²)	2003	136.0	840.0	472.0	250.6	9
		2005	256.0	1688.0	903.3	622.7	12
		2006	128.0	1504.0	560.0	518.9	9
	Slope (%)	2003	2.0	18.2	9.5	6.3	6
		2005	2.5	4.5	3.5	1.0	3
		2006	1.7	3.1	2.3	0.7	3
	Area (acre)	2003	0.2	0.2	0.2	--	1
		2005	5.5	5.7	5.6	0.1	2
		2006	2.0	2.0	2.0	0.0	1
	Percent Contiguous	2003	100.0	100.0	100.0	--	1
		2005	100.0	100.0	100.0	--	2
		2006	100.0	100.0	100.0	--	1
Wetland Edge (ft)	2003	58.0	58.0	58.0	--	1	
	2005	305.0	1815.0	1060.0	1067.7	1	
	2006	894.0	894.0	894.0	--	1	

Table 3-9c

Range of Conditions Observed in Riverine Fringing Wetlands in River Section 3

Type	Parameter	Year	Minimum	Maximum	Mean	Standard Deviation	Count
Reference	Biomass (g/m ²)	2006	462	10766	3532	3472	15
	Stem Count (#/m ²)	2006	48	1840	785	649	15
	Slope (%)	2006	2.14	12.80	6.37	3.82	9
	Area (acre)	2006	0.19	3.30	1.26	1.39	4
	Percent Contiguous	2006	100	100	100	--	3
	Wetland Edge (ft)	2006	502	1430	966	656	3

**Table 3-10
Adjacent Land Use and Riparian Width Zone Codes**

Shoreline Code	Description
N	Natural
M1	Riprap
M2	Bulkhead piling
M3	Concrete
M4	Riprap with woody vegetation
Adjacent Land Use Code	
A	Cropland / Row Crops
B	Pastureland
C	Floodplain
D	Maple / Basswood Rich Mesic Forest
E	Emergent
F	Mowed Lawns with Trees
G	Development/Infrastructure
Width of Adjacent Land	
I	<50 feet
II	50 to 100 feet
III	100 to 200 feet
IV	>200 feet
V	<50 feet to adjacent road

Table 3-11
HSI Model Scores for Phase 2 Areas

Reach	Area	Yellow Perch ¹	Largemouth Bass	Smallmouth Bass	Bluegill	Common Shiner	Mink	Wood Duck	Snapping Turtle	Muskrat	Belted Kingfisher	Great Blue Heron
Thompson Island Pool	Entire Reach	0.35	0.81	0.56	0.88	0.30	0.76	0.08	0.45	0.59	0.43	0.23
Thompson Island Pool	Target Area	0.36	0.82	0.56	0.89	0.10	0.75	0.09	0.45	0.61	0.42	0.25
Thompson Island Pool	Reference Area	0.33	0.79	0.54	0.87	0.00	0.77	0.05	0.45	0.57	0.42	0.21
Fort Miller Pool	Entire Reach	0.33	0.74	0.41	0.80	0.10	0.68	0.05	0.39	0.55	0.43	0.10
Fort Miller Pool	Target Area	0.42	0.39	0.43	0.81	0.10	0.66	0.20	0.38	0.68	0.38	0.10
Fort Miller Pool	Reference Area	0.32	0.40	0.41	0.80	0.05	0.70	0.03	0.40	0.53	0.42	0.10
Northumberland Pool	Entire Reach	0.38	0.77	0.44	0.86	0	0.81	NA ⁴	0.52	0.64	0.37	0.10
Northumberland Pool	Target Area	0.68	0.39	0.49	0.82	0	0.78	NA ⁴	0.56	0.86	0.35	0.10
Northumberland Pool	Reference Area	0.32	0.40	0.41	0.85	NA ²	0.80	NA ⁴	NA ²	0.55	0.36	0.10
Stillwater Pool	Entire Reach	0.31	0.73	0.26	0.78	0.10	0.67	0.02	0.52	0.44	0.40	0.10
Stillwater Pool	Target Area	0.31	0.76	0.27	0.81	0.10	0.79	0.02	0.55	0.52	0.57	0.10
Stillwater Pool	Reference Area	0.31	0.73	0.26	0.78	0.10	0.63	0.02	0.52	0.42	0.40	0.10
Upper Mechanicville Pool	Entire Reach	0.30	0.66	0.26	0.67	NA ²	NA ³	NA ⁴	NA ⁵	NA ³	NA ³	0.48
Upper Mechanicville Pool	Target Area	0.30	0.68	0.27	0.70	NA ²	NA ³	NA ⁴	NA ⁵	NA ³	NA ³	0
Upper Mechanicville Pool	Reference Area	0.30	0.66	0.26	0.67	NA ²	NA ³	NA ⁴	NA ⁵	NA ³	NA ³	0.48
Lower Mechanicville Pool	Entire Reach	0.35	0.71	0.28	0.75	0.10	0.67	0.09	0.61	0.55	0	0.23
Lower Mechanicville Pool	Target Area	0.33	NA ²	0.27	0.65	NA ²	NA ³	0.33	NA ²	NA ³	NA ³	0.14
Lower Mechanicville Pool	Reference Area	0.35	0.71	0.28	0.75	0.10	0.71	0.08	0.61	0.54	0	0.24
Waterford Pool	Entire Reach	0.23	0.62	0.18	0.54	NA ²	0.89	0.01	NA ²	0.60	0.25	0.10
Waterford Pool	Target Area	0.30	NA ²	0.21	0.65	NA ²	0.28	0.00	NA ²	0.58	0.16	0.10
Waterford Pool	Reference Area	0.23	0.62	0.18	0.54	NA ²	0.89	0.01	NA ²	0.60	0.25	0.10
Troy Pool	Entire Reach	0.30	0.71	0.35	0.69	NA ²	0.77	0.01	NA ²	0.51	0.25	0.10
Troy Pool	Target Area	0.39	0.85	0.44	0.83	NA ²	NA ³	0.16	NA ²	NA ³	NA ³	0.10
Troy Pool	Reference Area	0.30	0.71	0.35	0.69	NA ²	0.77	0.01	NA ²	0.50	0.25	0.10

Notes:

¹ The suitability index for degree days during winter was excluded due to a insufficient measurements.

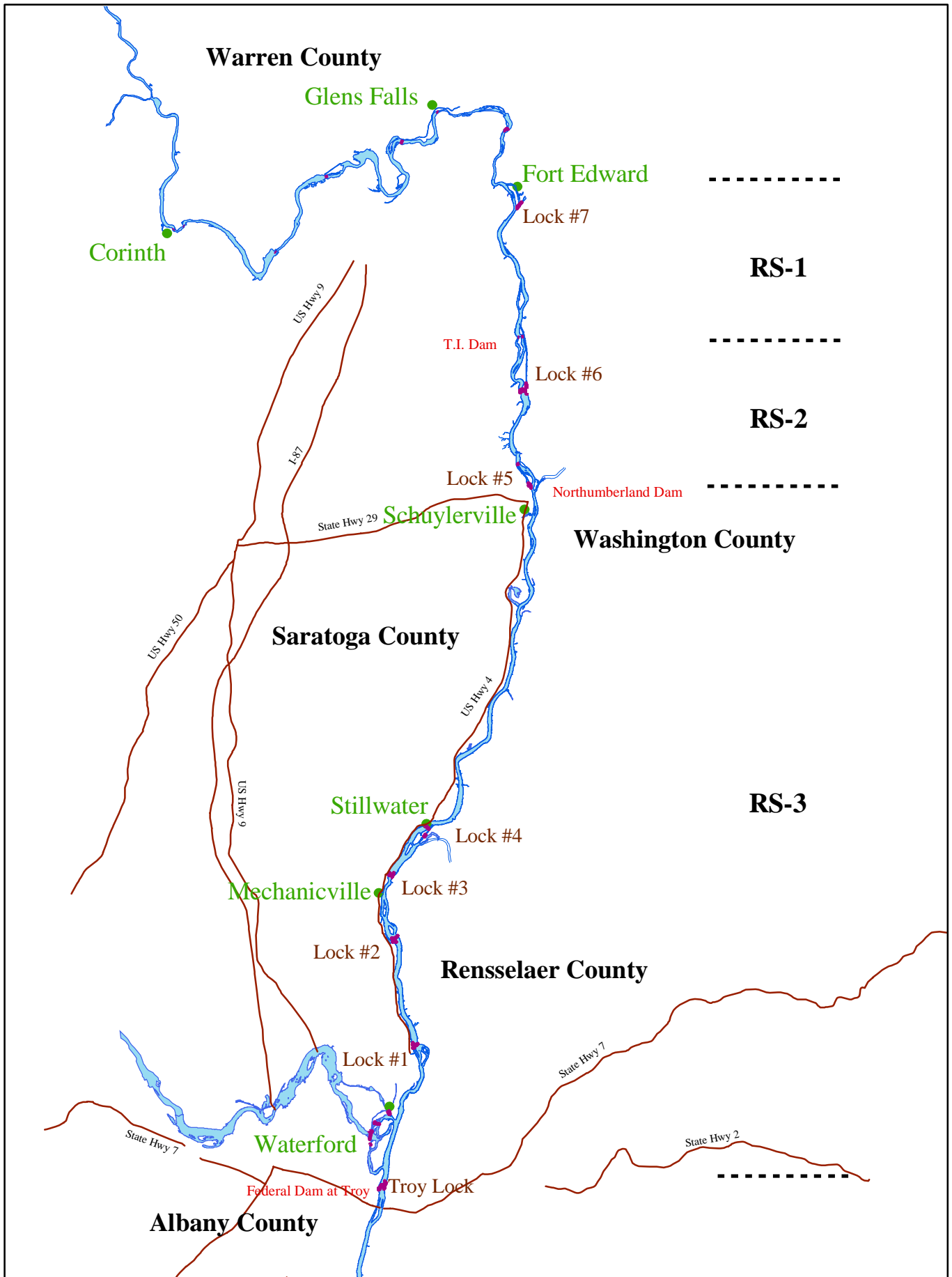
² Insufficient current velocity data at required depth.

³ No shoreline stations located within this reach.

⁴ No wood duck nest stations located in this reach.

⁵ No wetland stations within reach.

FIGURES



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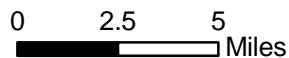
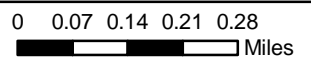
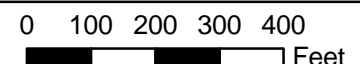


Figure 1.

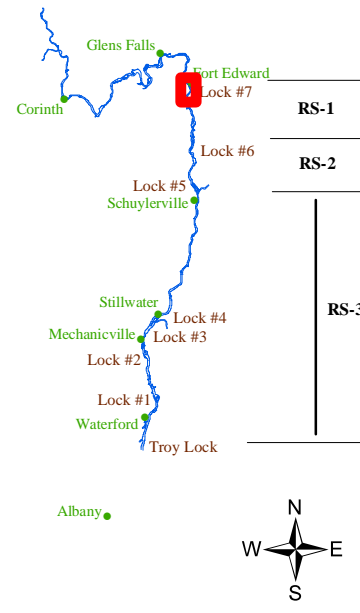
Overview



Focused Area



LOCATOR MAP OF THE HUDSON RIVER



LEGEND

- Phase 1 Quadrat/Transect Stations**
- SAV
- ▲ Shoreline
- Unconsolidated Bottom
- ◆ Wetland
- Phase 1 Dredge Areas
- Phase 2 Dredge Areas
- Habitat Shoreline**
- Maintained Shore
- Natural Shore
- SSS Sediment Types**
- Type I Sediment
- Type II Sediment
- Type III Sediment
- Type IV Sediment
- Type V Sediment
- SSS Debris & Attributes
- Shoreline
- River Miles
- Dams and Locks
- Habitat Delineation**
- Backwater Wetland
- Fringe Wetland
- Trapa
- SAV

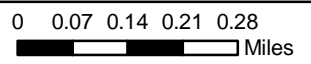
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Hudson River Project**

Figure 2

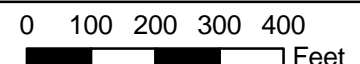
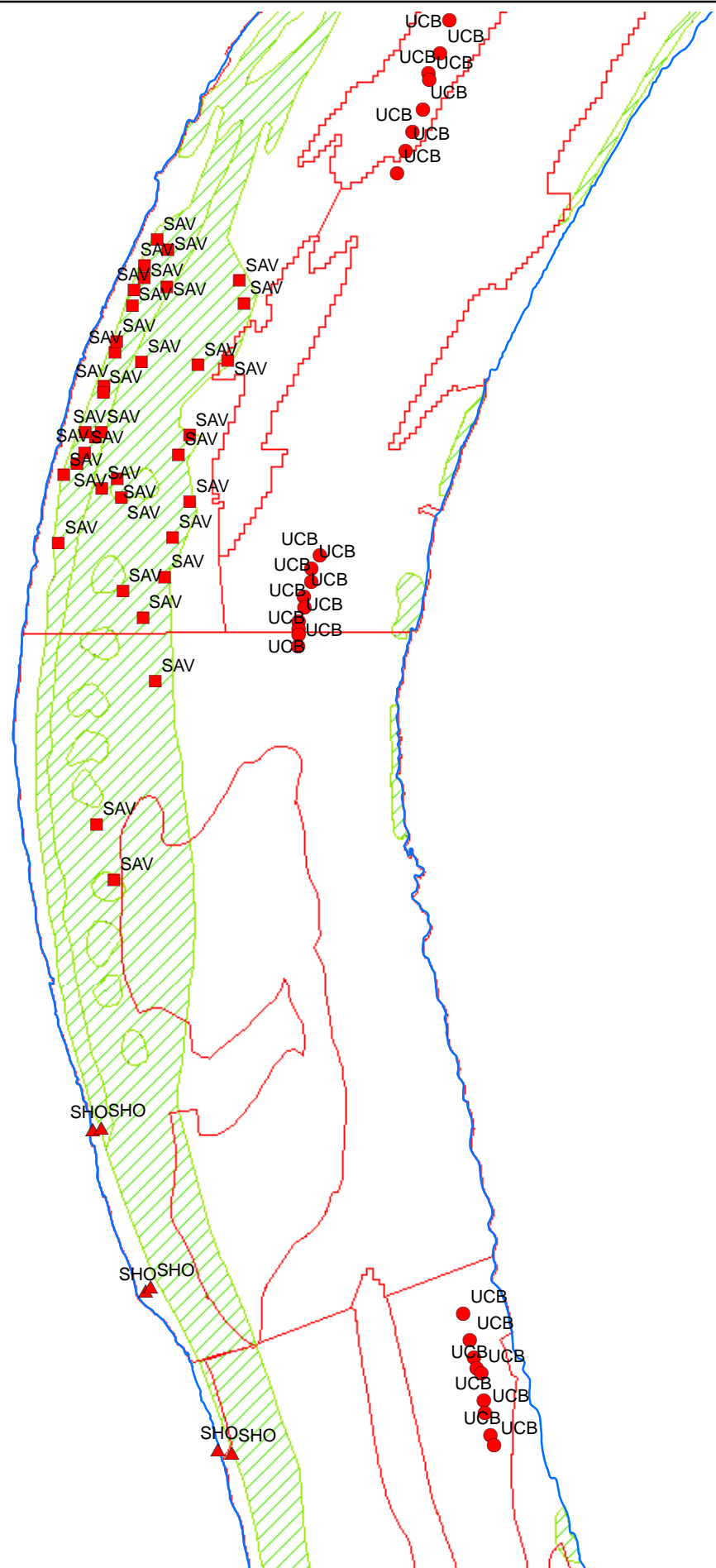
**Phase II Habitat
Assessment Stations**



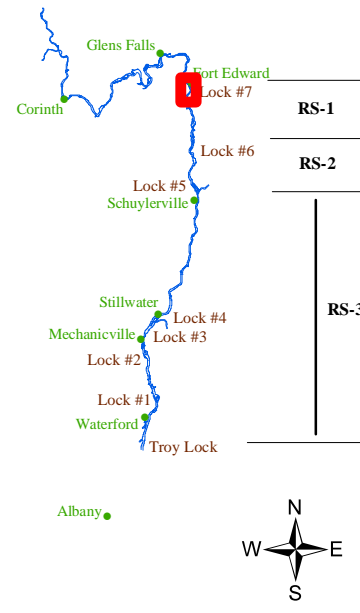
Overview



Focused Area



LOCATOR MAP OF THE HUDSON RIVER



LEGEND

- Phase 1 Quadrat/Transect Stations**
- SAV
- ▲ Shoreline
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- ◆ Wetland
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- Backwater Wetland
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- Trapa
- SAV

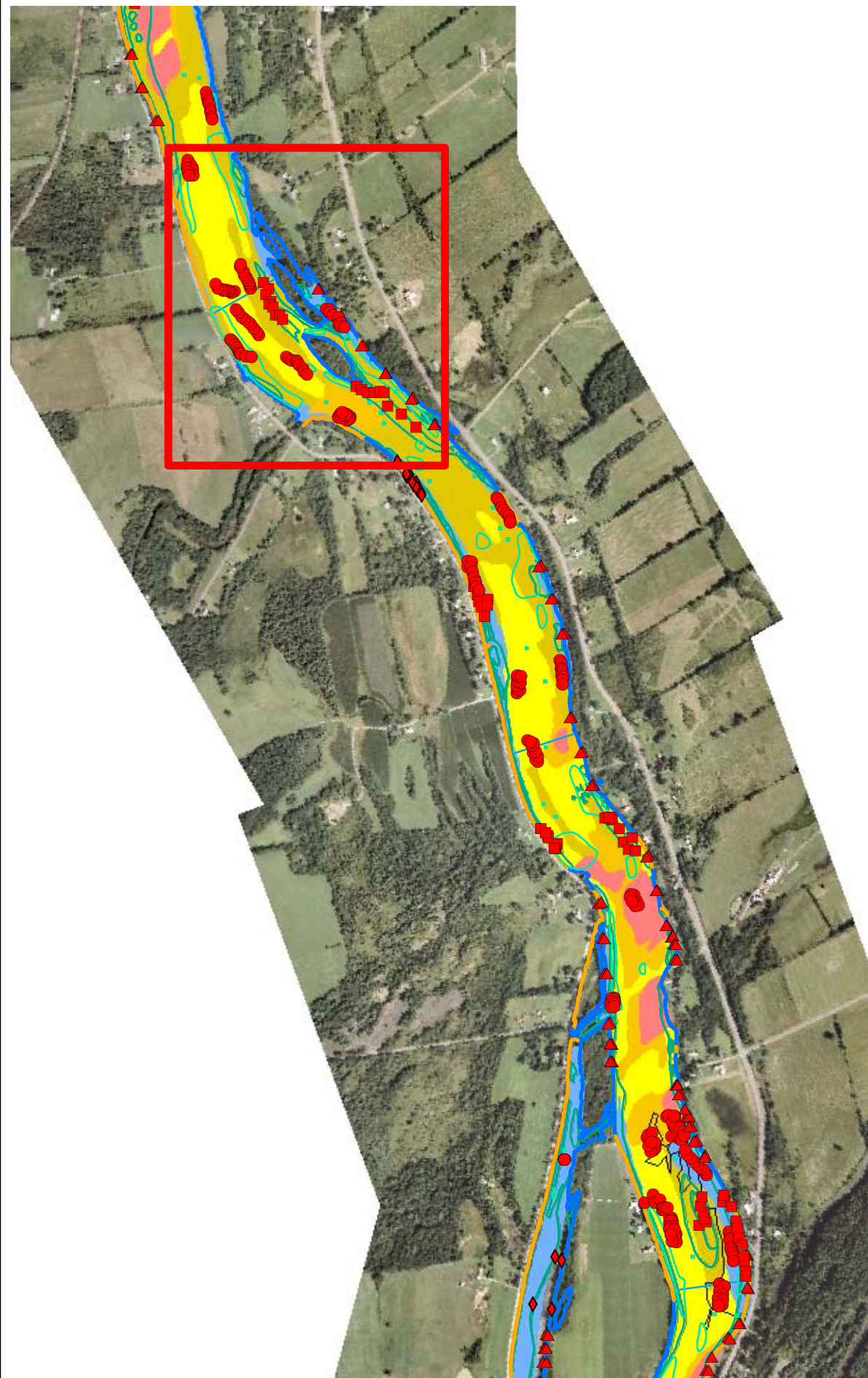
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Figure 3

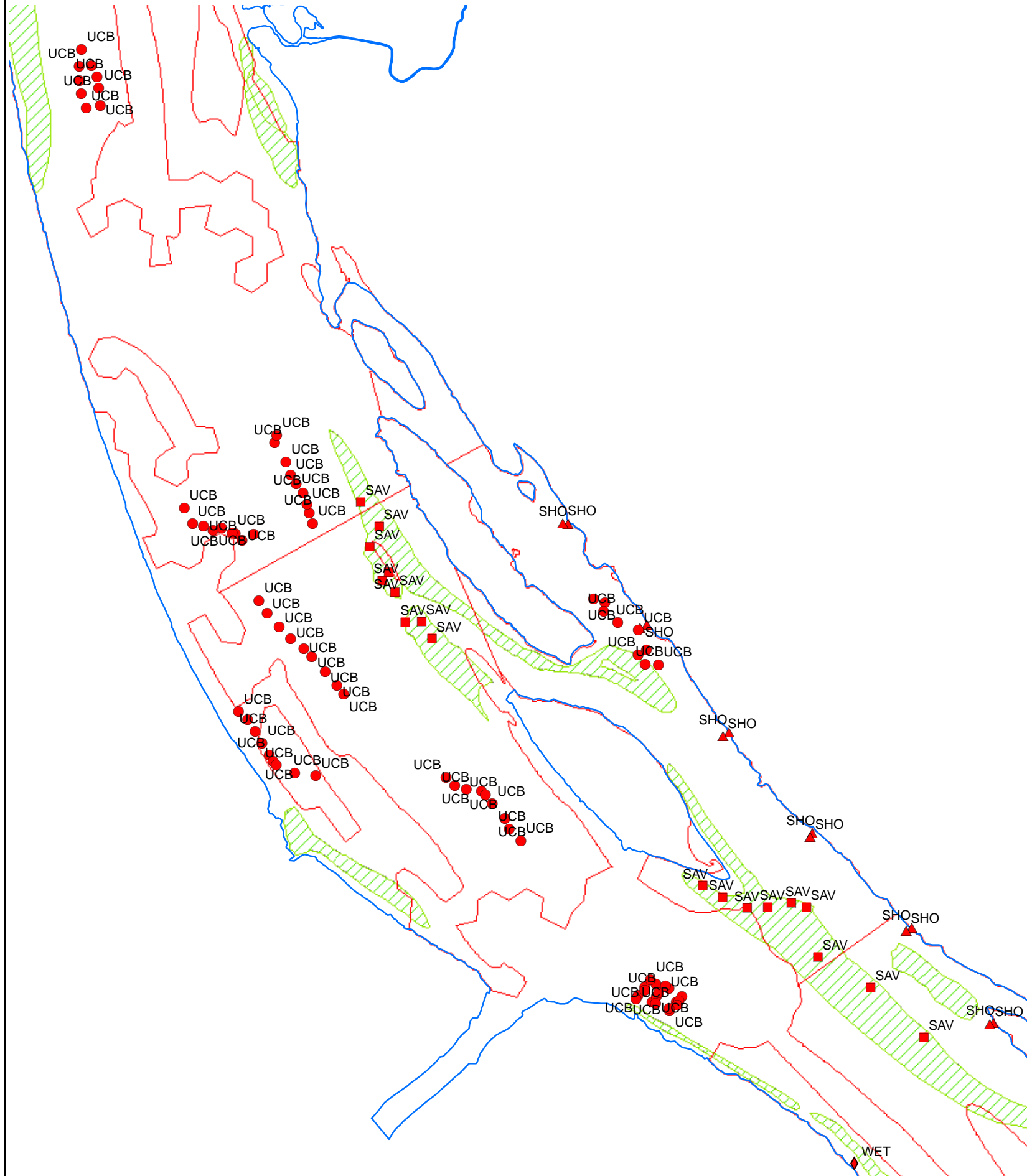
**Phase II Habitat
Assessment Stations**



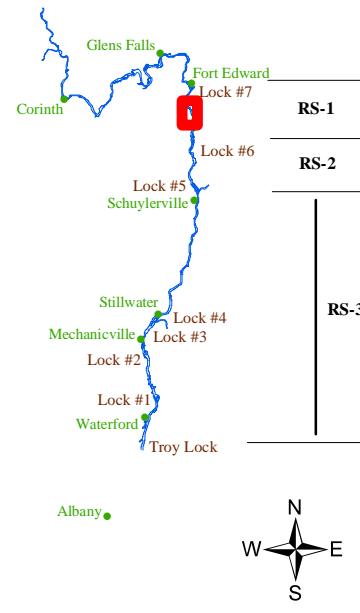
Overview



Focused Area



LOCATOR MAP OF THE HUDSON RIVER



LEGEND

- Phase 1 Quadrat/Transect Stations**
- SAV
- ▲ Shoreline
- Unconsolidated Bottom
- ◆ Wetland
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- Phase 2 Dredge Areas
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- River Miles
- Dams and Locks
- Habitat Delineation**
- ▨ Backwater Wetland
- ▨ Fringe Wetland
- ▨ Trapa
- ▨ SAV

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Figure 4

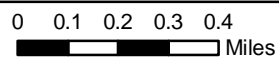
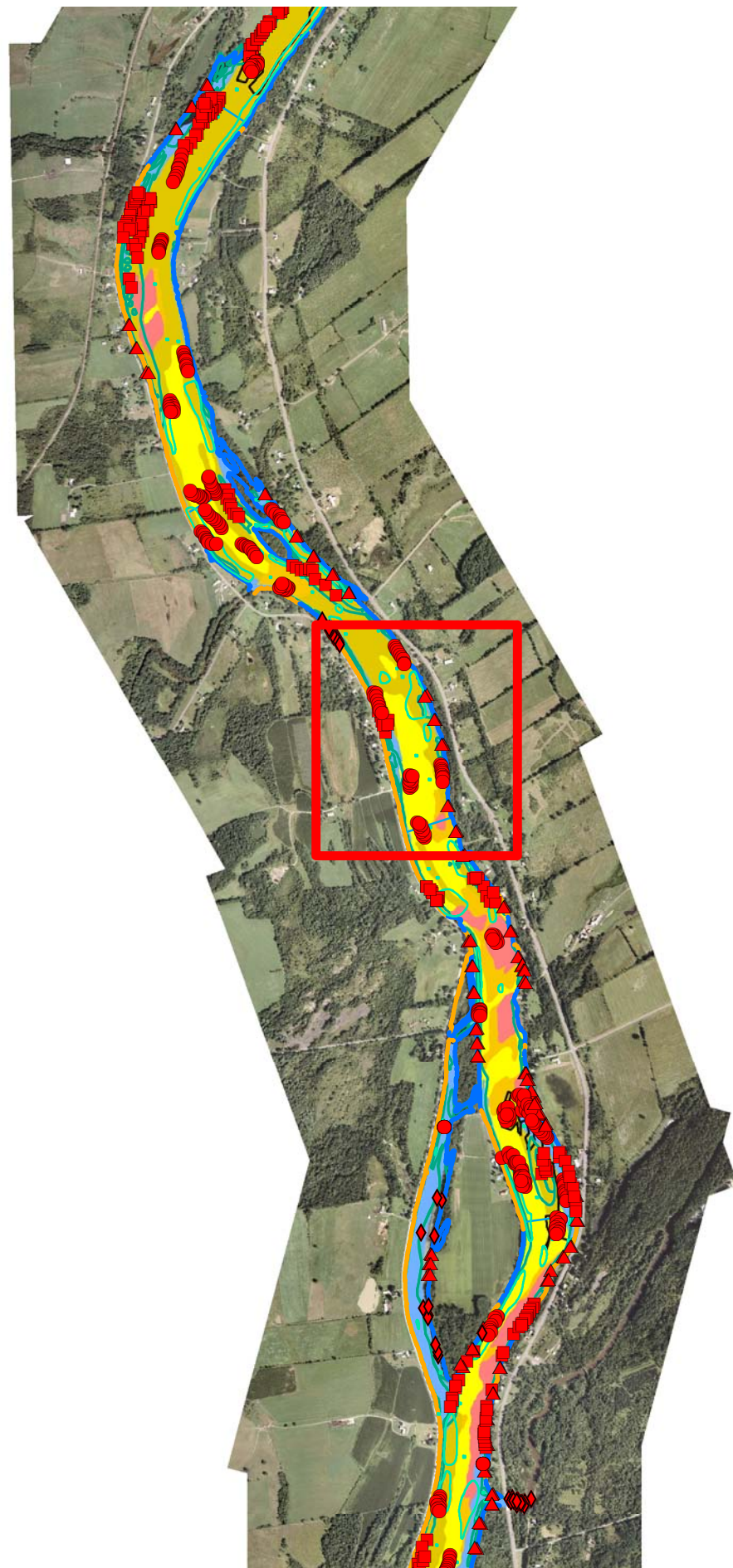
**Phase II Habitat
Assessment Stations**



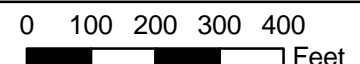
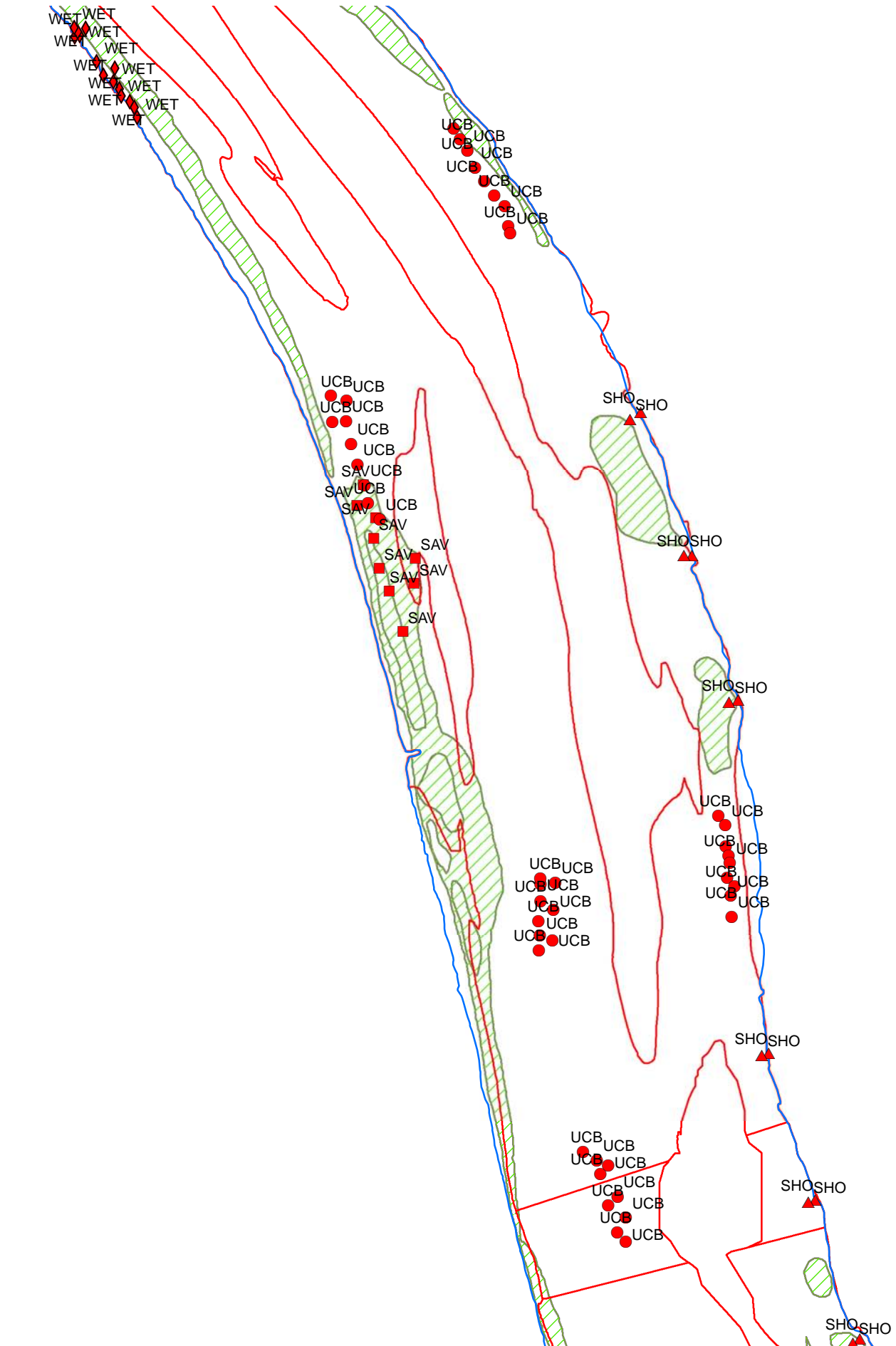
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0 100 200 300 400 Feet

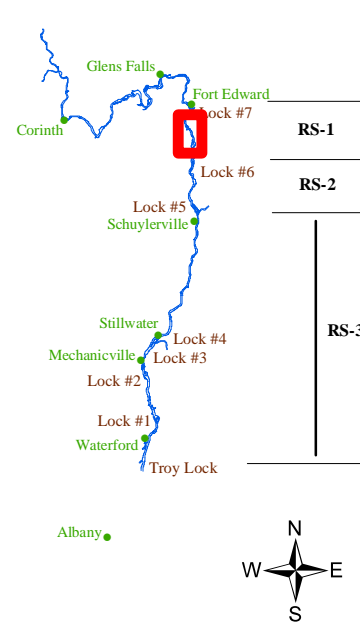
Overview



Focused Area



LOCATOR MAP OF THE HUDSON RIVER



LEGEND

- Phase 1 Quadrat/Transect Stations**
- SAV
- ▲ Shoreline
- Unconsolidated Bottom
- ◆ Wetland
- Phase 1 Dredge Areas
- Phase 2 Dredge Areas
- Habitat Shoreline**
- Maintained Shore
- Natural Shore
- SSS Sediment Types**
- Type I Sediment
- Type II Sediment
- Type III Sediment
- Type IV Sediment
- Type V Sediment
- SSS Debris & Attributes
- Shoreline
- River Miles
- Dams and Locks
- Habitat Delineation**
- Backwater Wetland
- Fringe Wetland
- Trapa
- SAV

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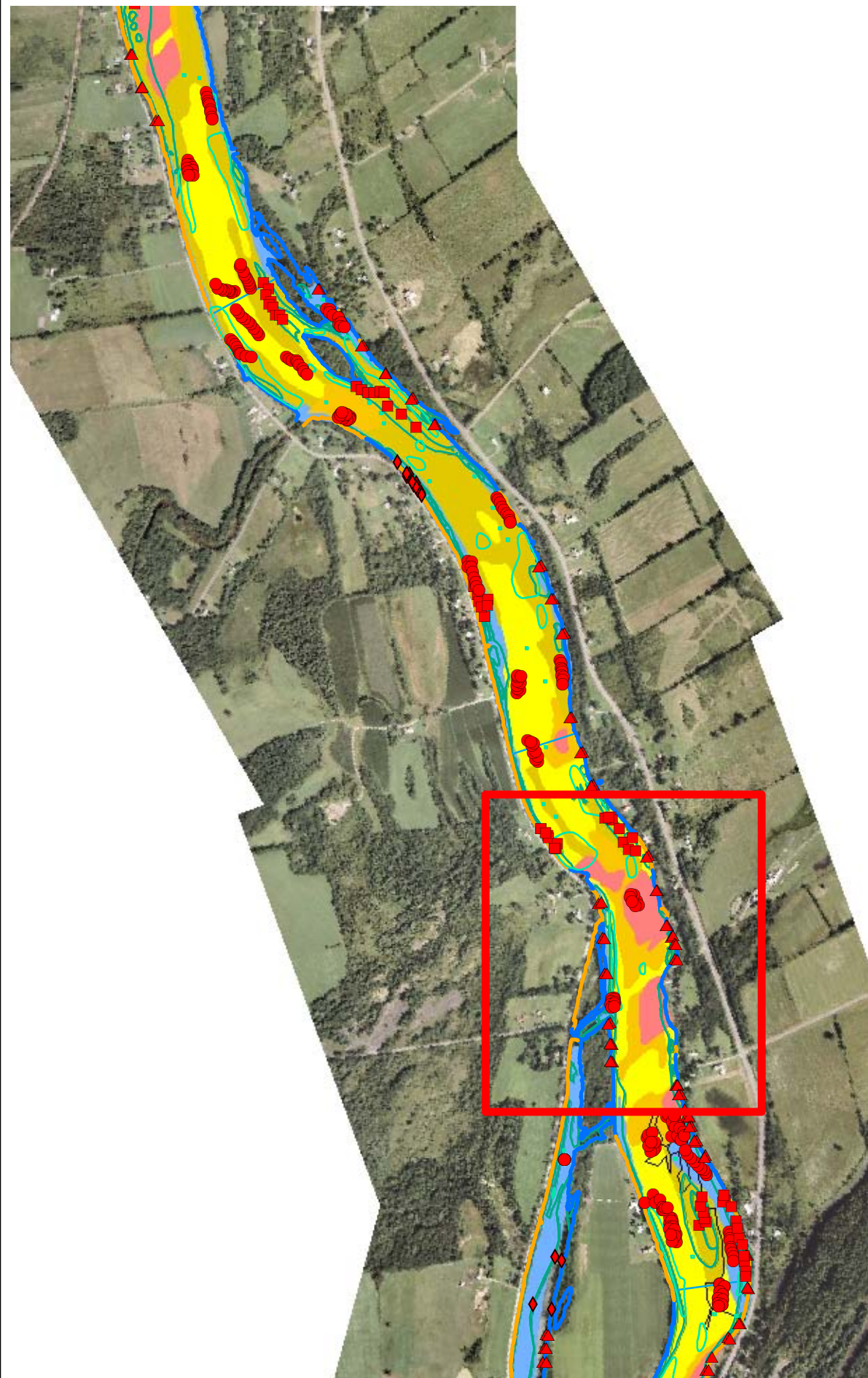
Figure 5

**Phase II Habitat
Assessment Stations**



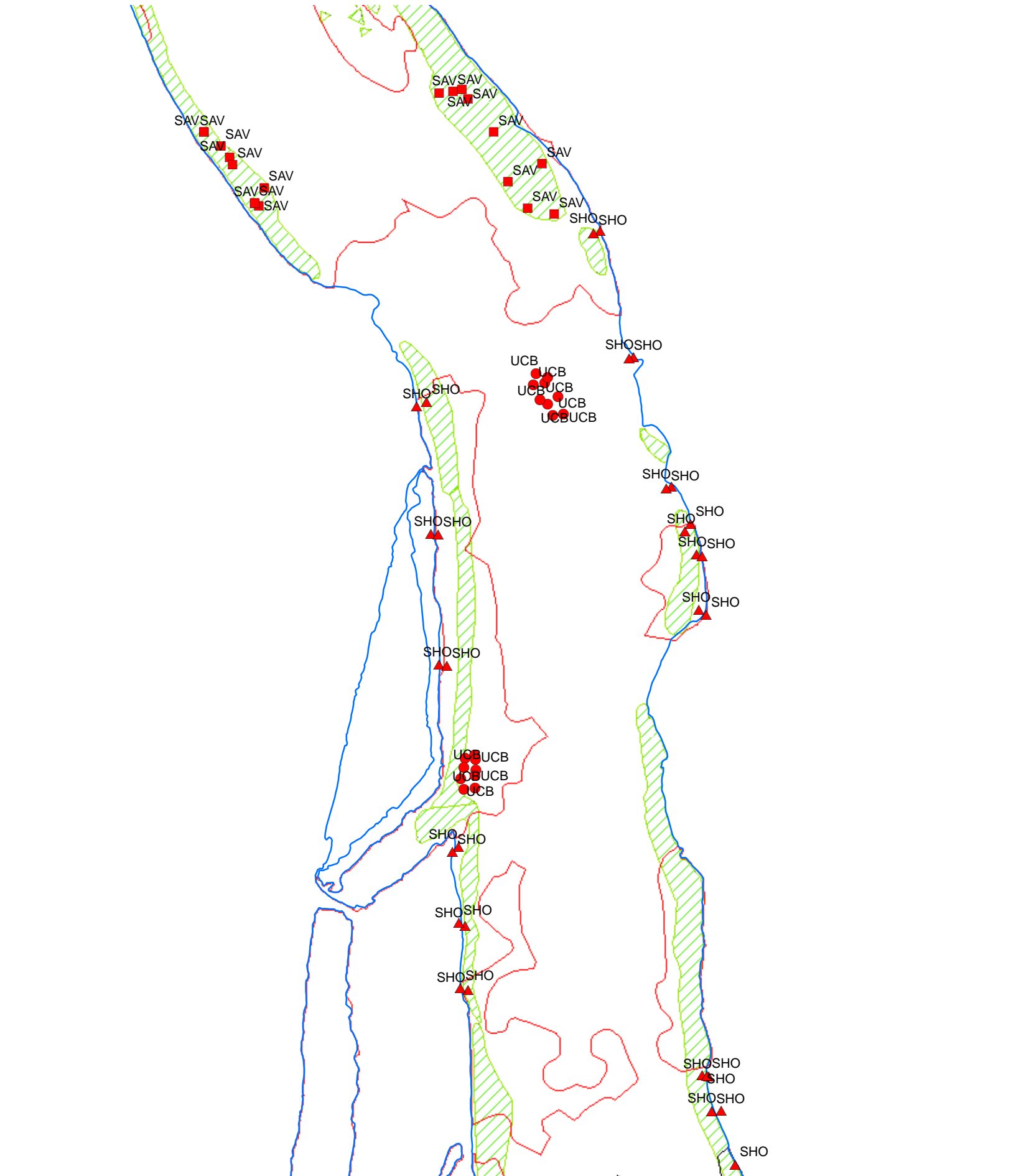
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Overview



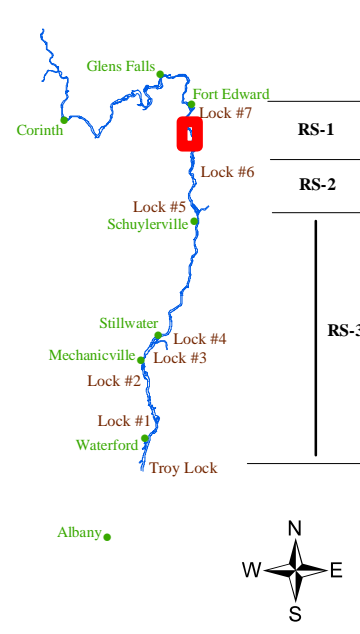
0 0.07 0.14 0.21 0.28 Miles

Focused Area



0 100 200 300 400 Feet

LOCATOR MAP OF THE HUDSON RIVER



LEGEND

- Phase 1 Quadrat/Transect Stations**
- SAV
- ▲ Shoreline
- Unconsolidated Bottom
- ◆ Wetland
- Phase 1 Dredge Areas
- Phase 2 Dredge Areas
- Habitat Shoreline**
- Maintained Shore
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- Type IV Sediment
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- River Miles
- Dams and Locks
- Habitat Delineation**
- Backwater Wetland
- Fringe Wetland
- Trapa
- SAV

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Figure 6

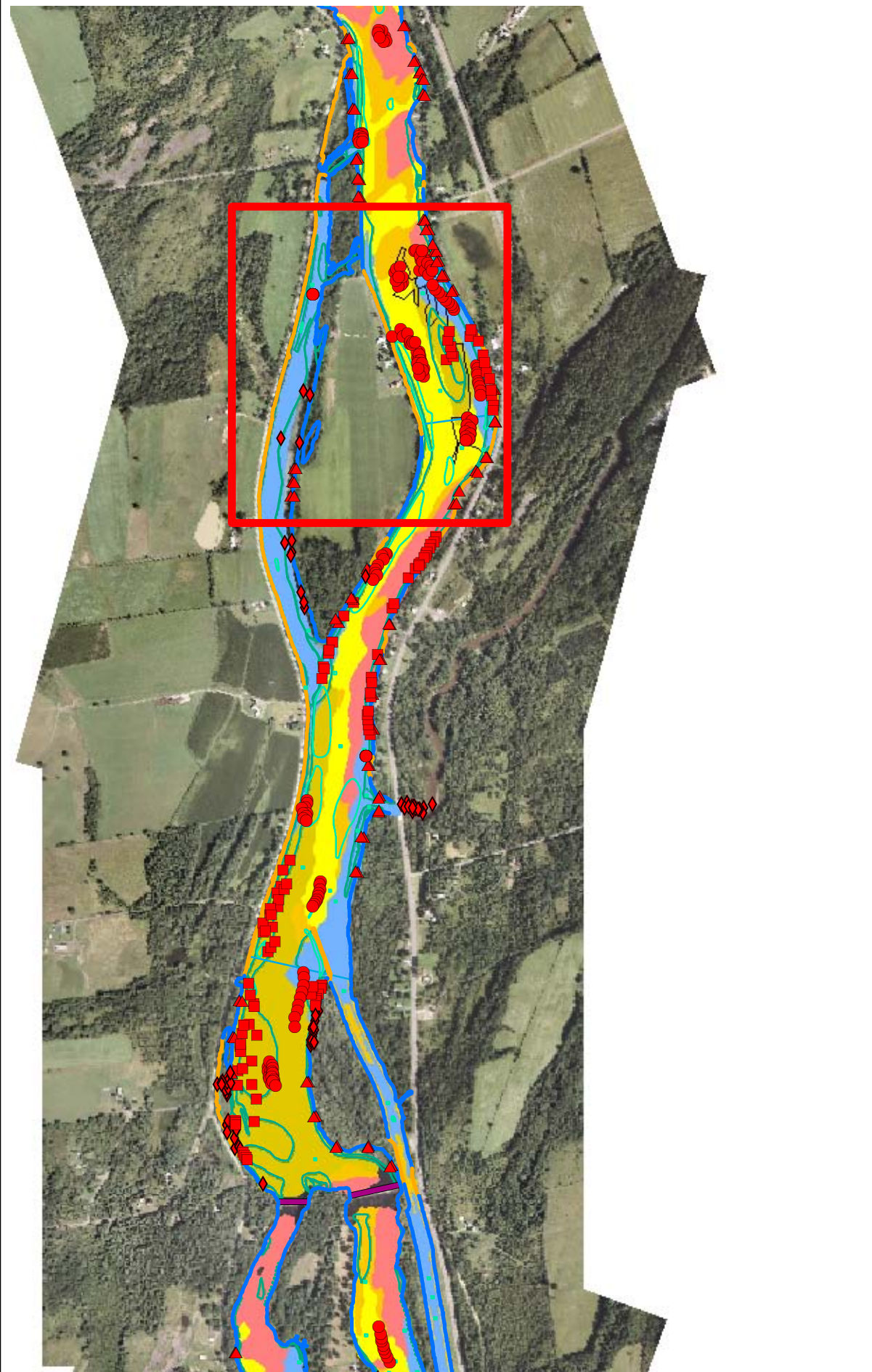
**Phase II Habitat
Assessment Stations**



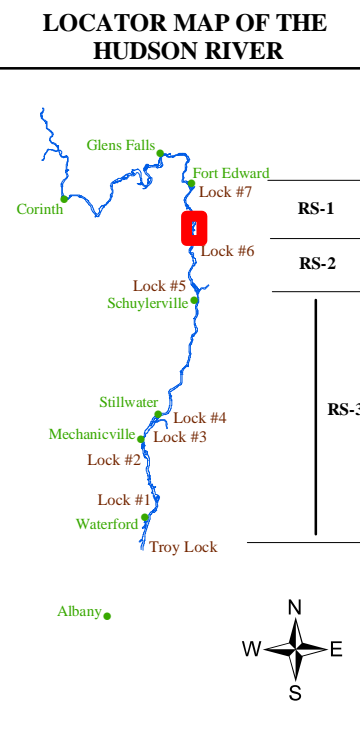
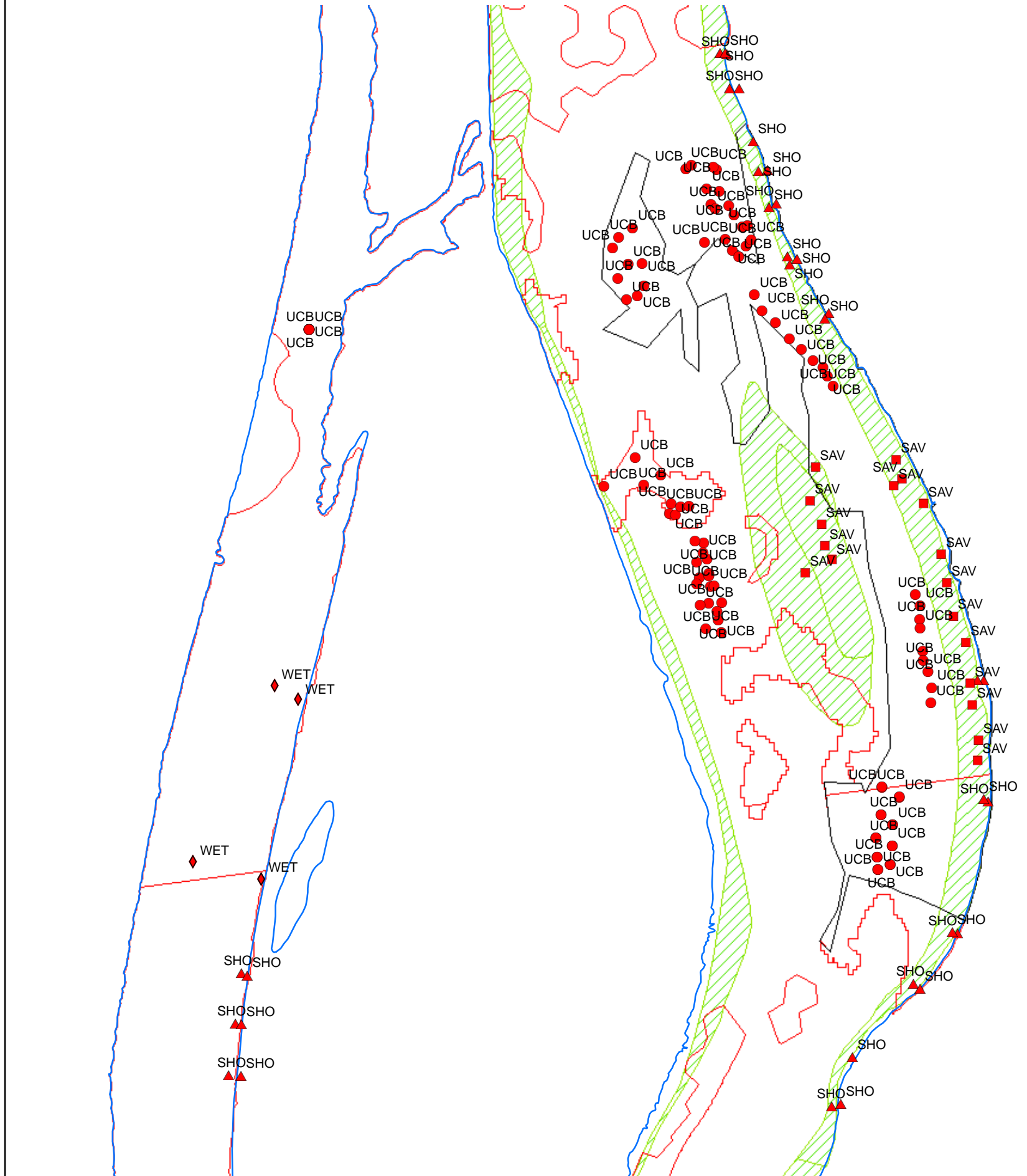
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Overview



Focused Area



LEGEND

Phase 1 Quadrat/Transect Stations

- SAV
- ▲ Shoreline
- Unconsolidated Bottom
- ◆ Wetland

Phase 1 Dredge Areas

- Phase 1 Dredge Areas
- Phase 2 Dredge Areas

Habitat Shoreline

- Maintained Shore
- Natural Shore

SSS Sediment Types

- Type I Sediment
- Type II Sediment
- Type III Sediment
- Type IV Sediment
- Type V Sediment

SSS Debris & Attributes

- Shoreline
- River Miles
- Dams and Locks

Habitat Delineation

- Backwater Wetland
- Fringe Wetland
- Trapa
- SAV

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Hudson River Project**

Figure 7

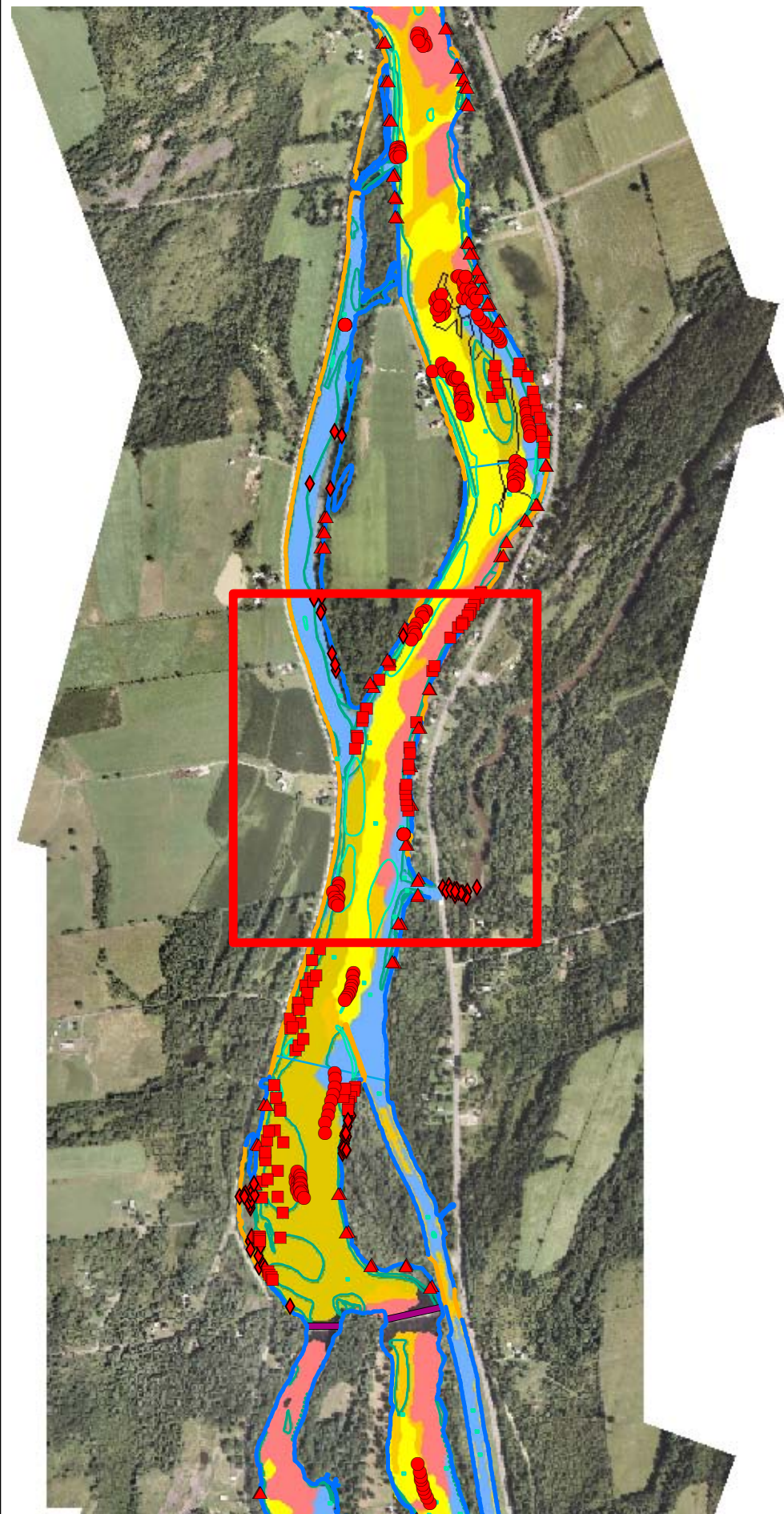
**Phase II Habitat
Assessment Stations**

GENhab June 2009

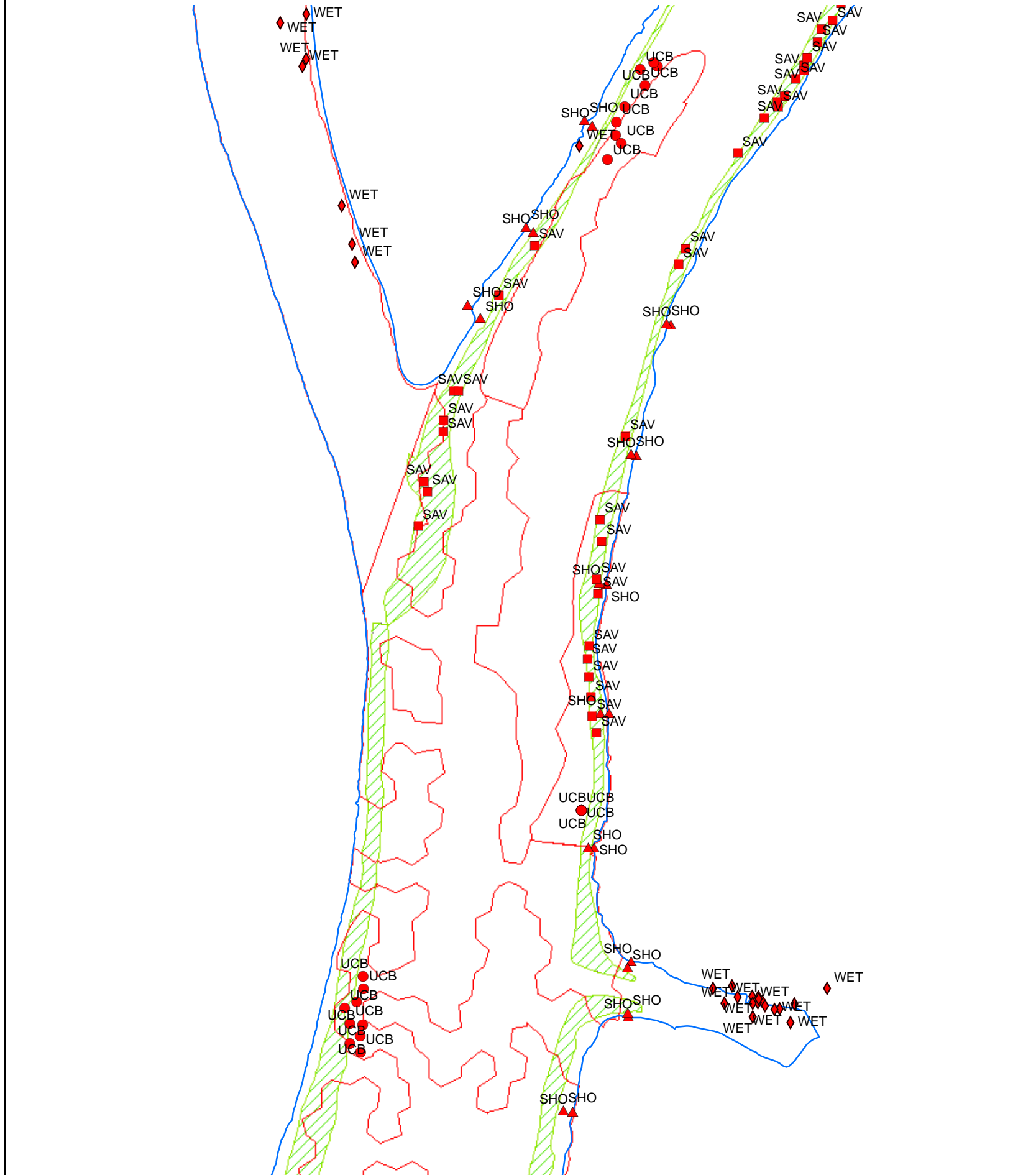
0 0.07 0.14 0.21 0.28 Miles

0 100 200 300 400 Feet

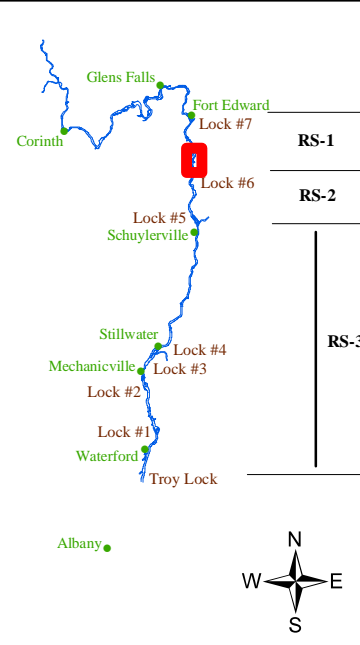
Overview



Focused Area



LOCATOR MAP OF THE HUDSON RIVER



LEGEND

- Phase 1 Quadrat/Transect Stations**
- SAV
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- Dams and Locks
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Figure 8

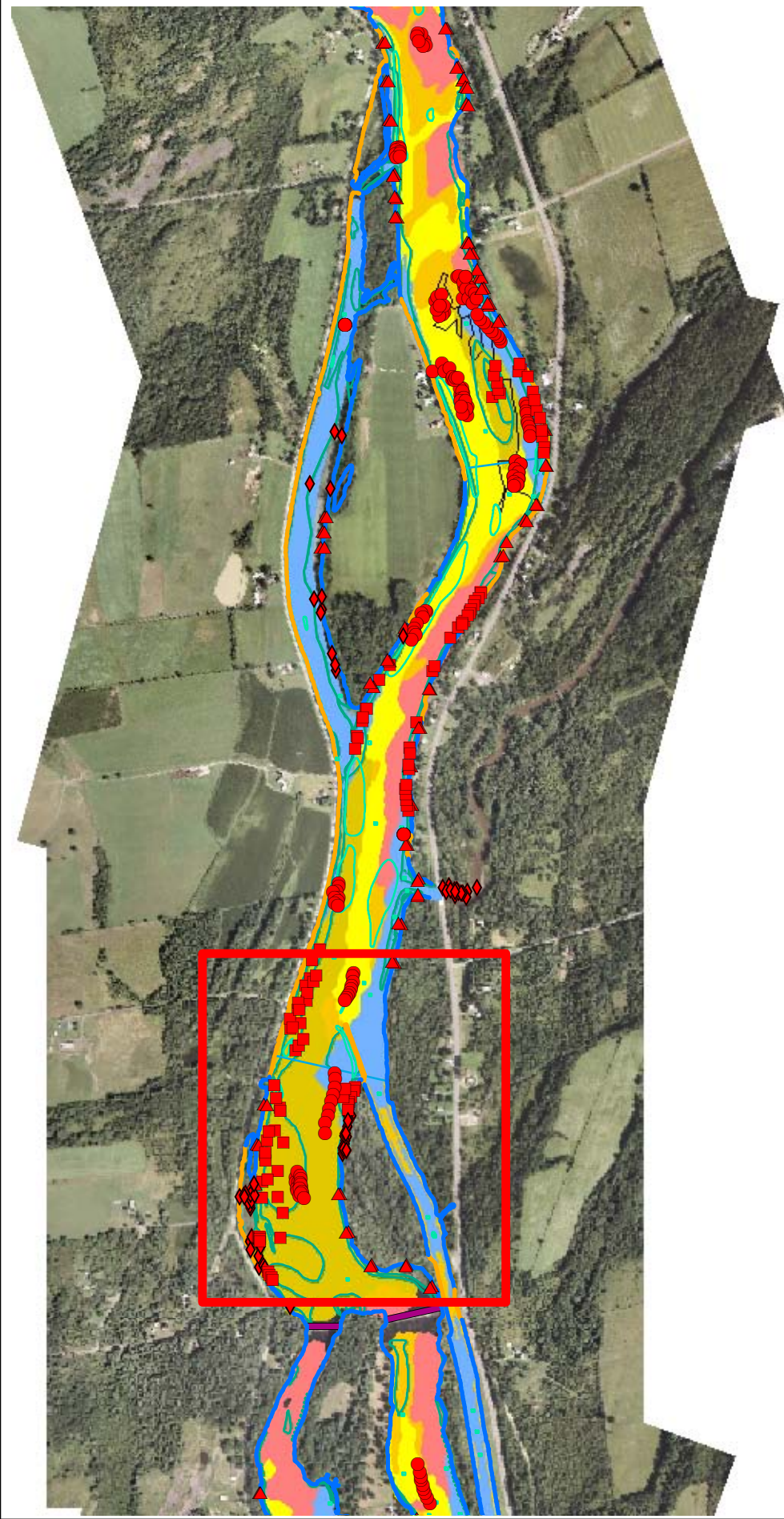
Phase II Habitat Assessment Stations



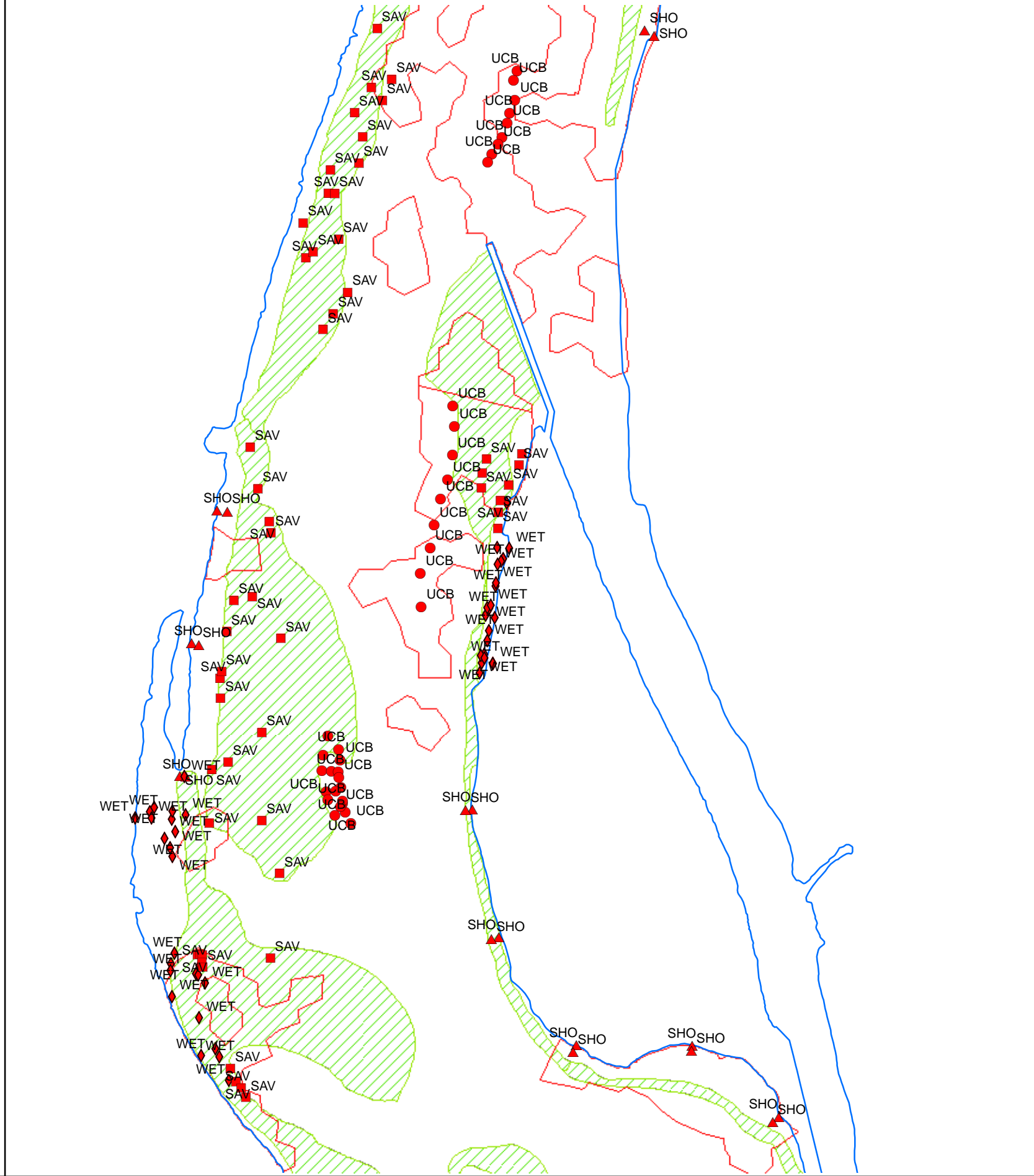
0 0.07 0.14 0.21 0.28 Miles

0 100 200 300 400 Feet

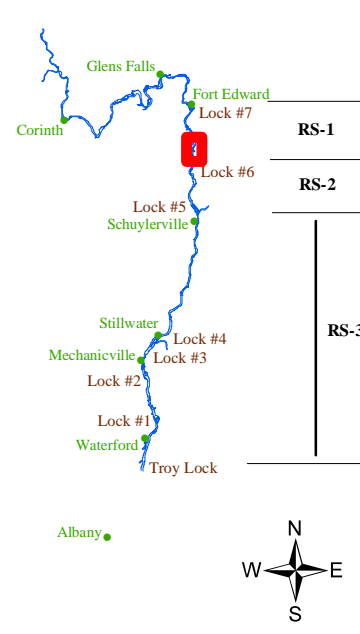
Overview



Focused Area



LOCATOR MAP OF THE HUDSON RIVER



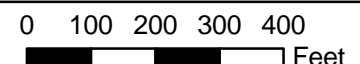
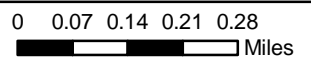
LEGEND

- Phase 1 Quadrat/Transect Stations**
- SAV
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- SSS Debris & Attributes
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- River Miles
- Dams and Locks
- Habitat Delineation**
- Backwater Wetland
- Fringe Wetland
- Trapa
- SAV

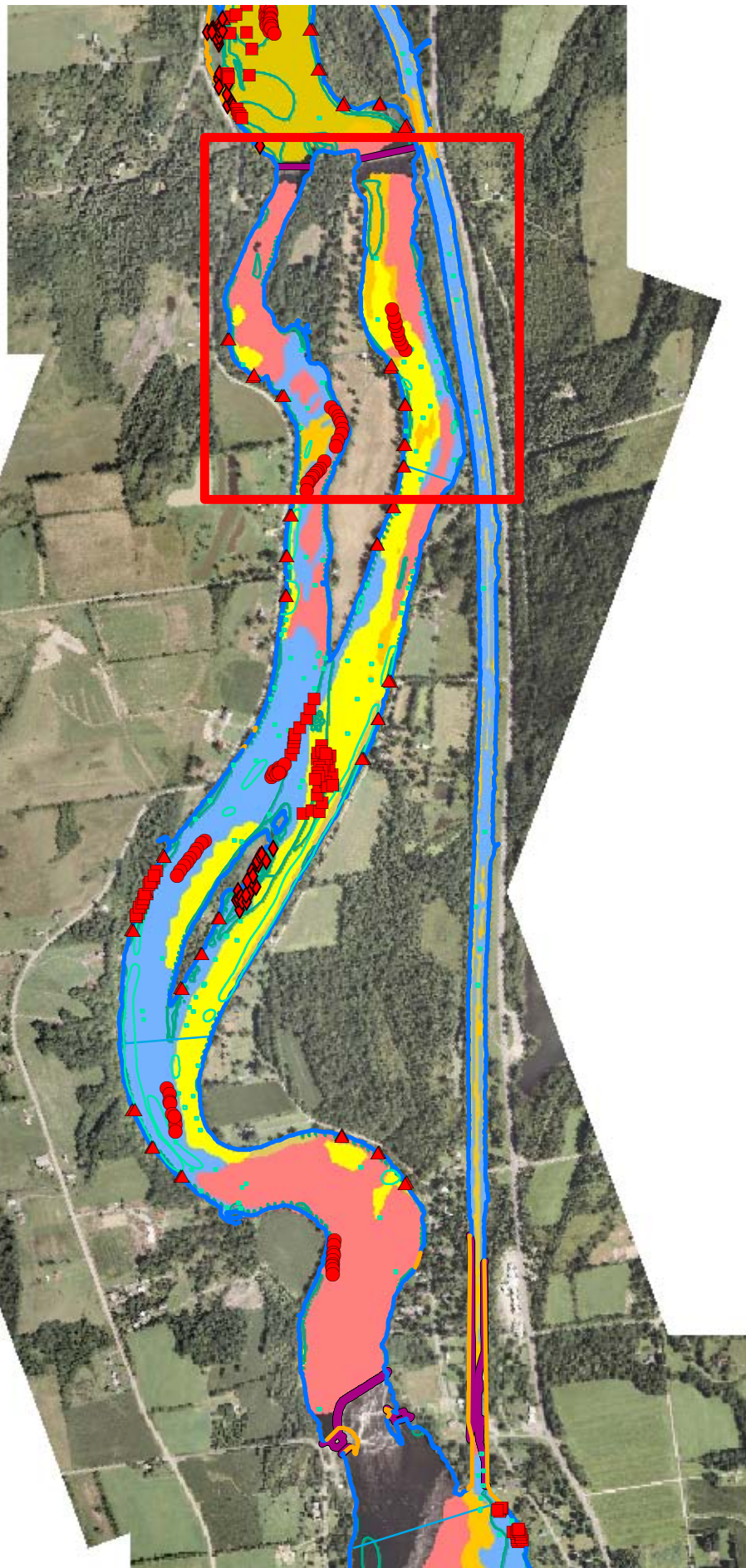
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Figure 9

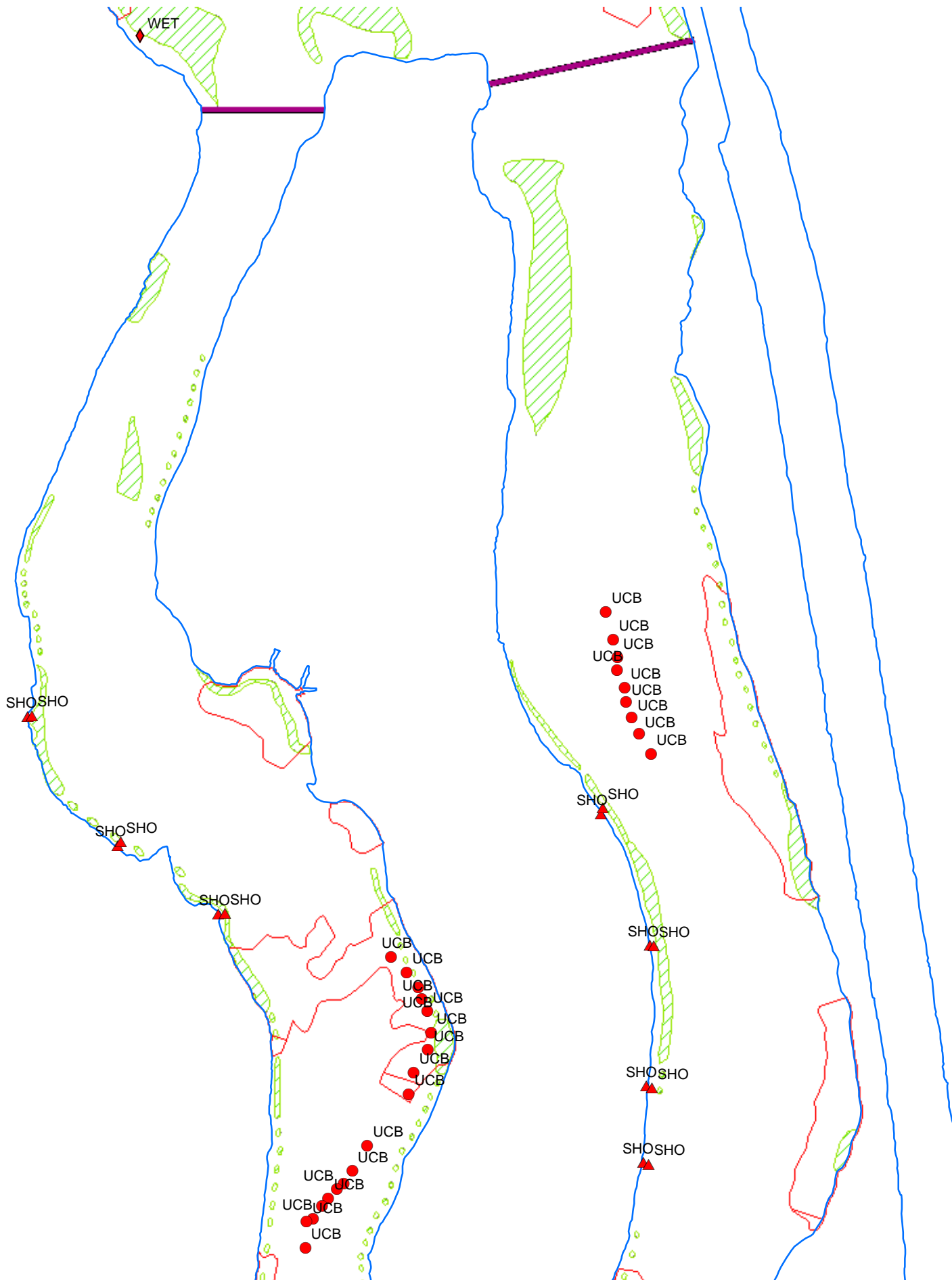
**Phase II Habitat
Assessment Stations**



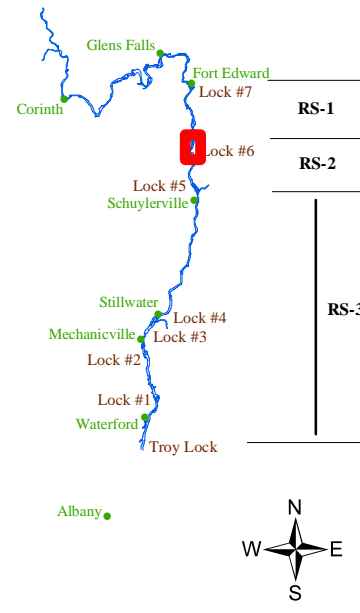
Overview



Focused Area



LOCATOR MAP OF THE HUDSON RIVER



LEGEND

- Phase 1 Quadrat/Transect Stations**
- SAV
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 - ◆ Wetland
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- Backwater Wetland
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 - Trapa
 - SAV

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Figure 10

**Phase II Habitat
Assessment Stations**



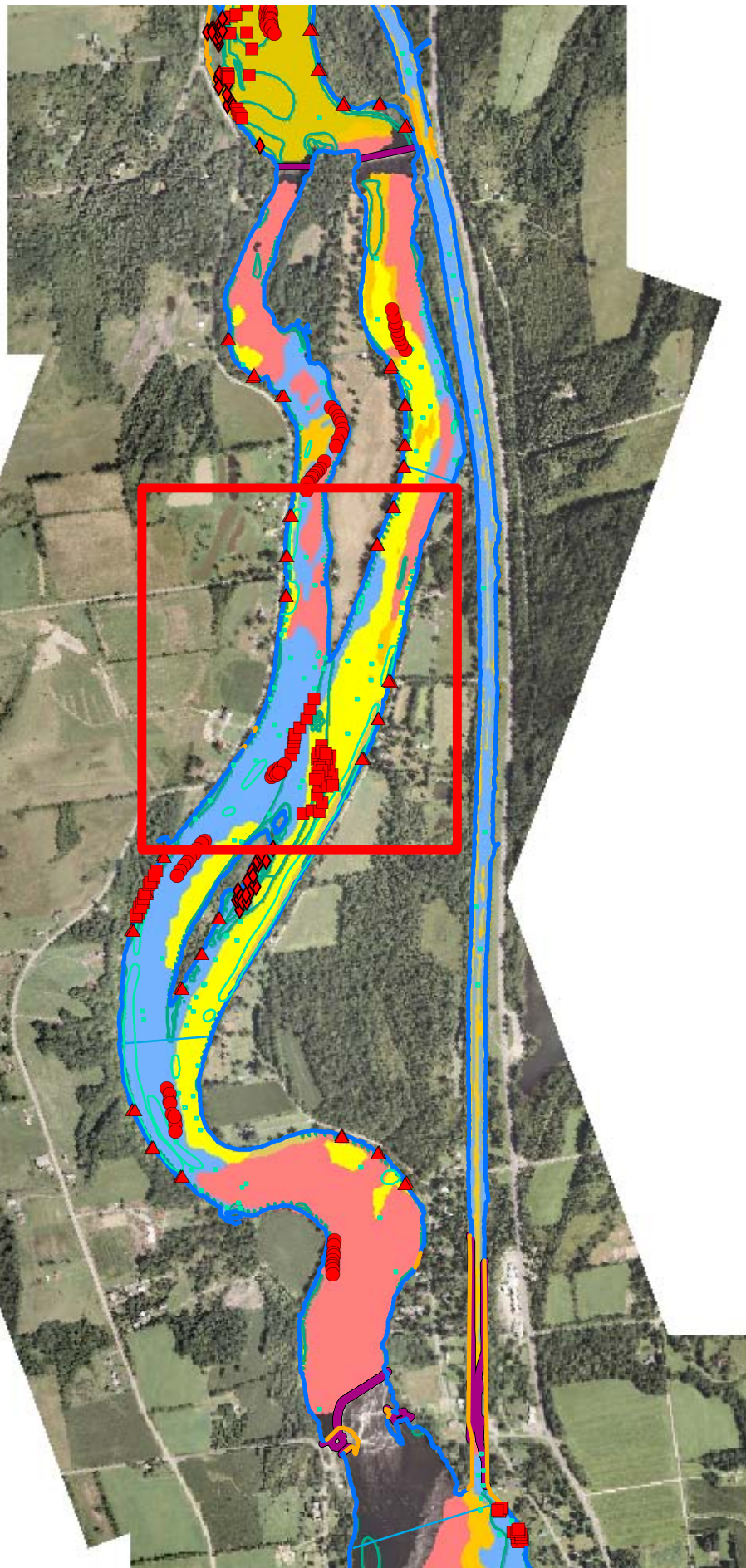
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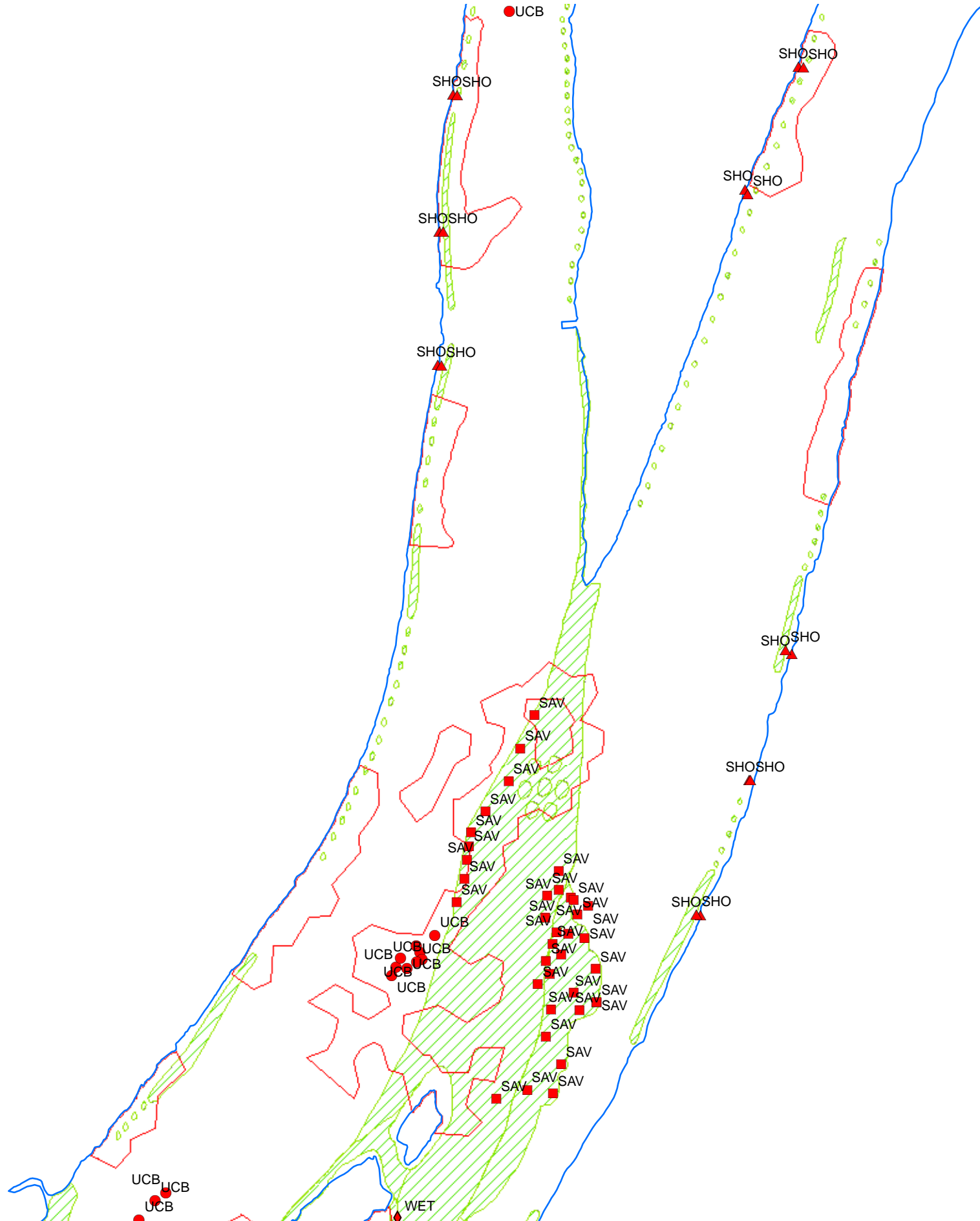
0 0.07 0.14 0.21 0.28 Miles

0 100 200 300 400 Feet

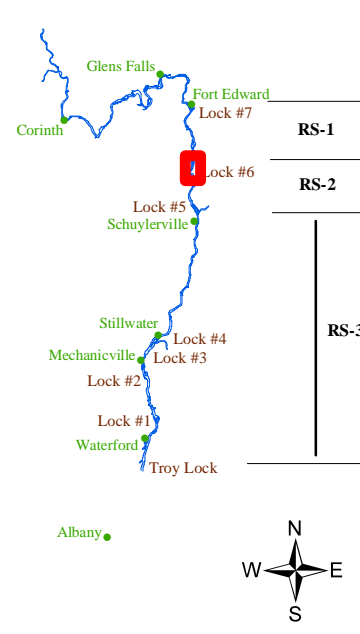
Overview



Focused Area



LOCATOR MAP OF THE HUDSON RIVER



LEGEND

- Phase 1 Quadrat/Transect Stations**
- SAV
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- Dams and Locks
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- Backwater Wetland
- Fringe Wetland
- Trapa
- SAV

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Figure 11

**Phase II Habitat
Assessment Stations**

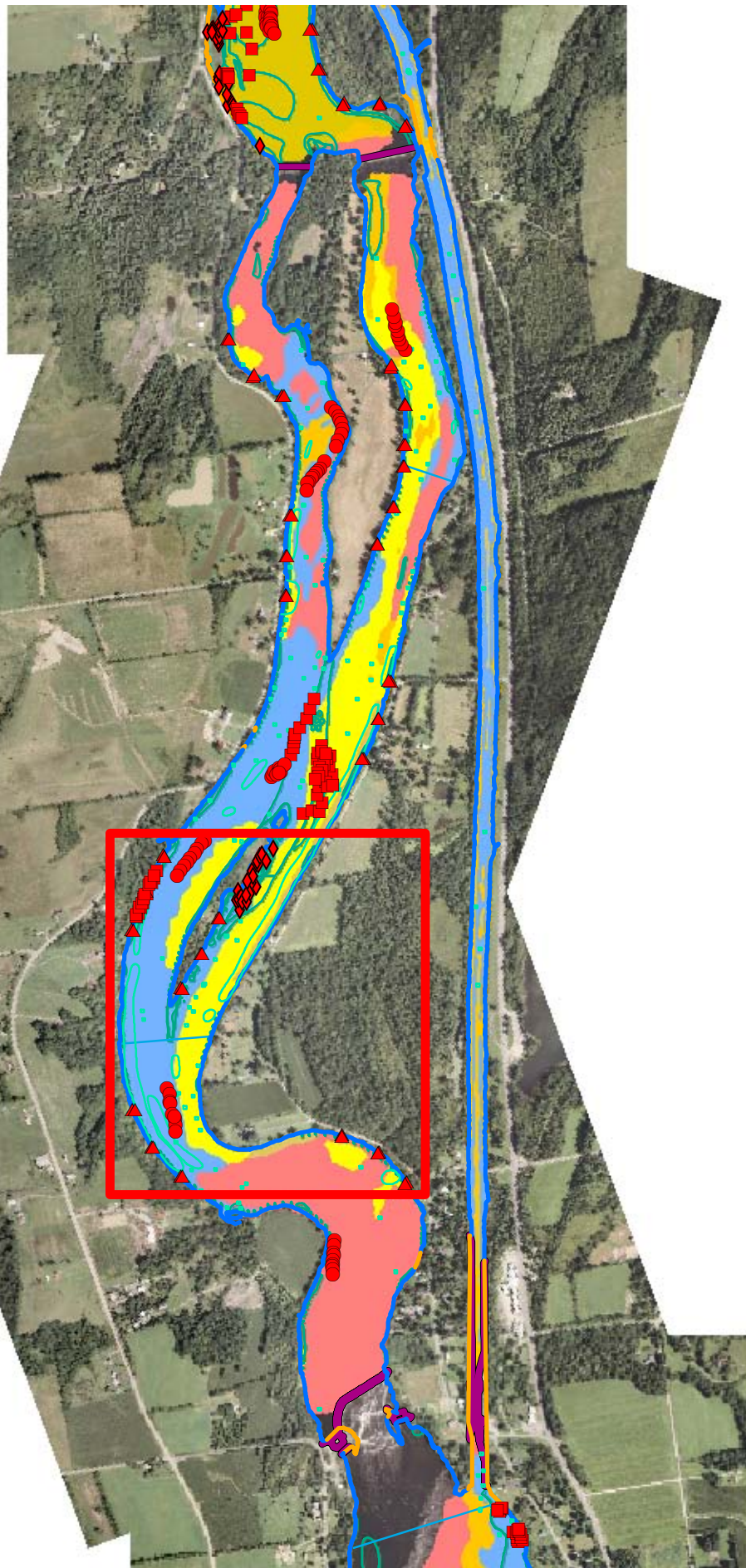


0 0.07 0.14 0.21 0.28 Miles

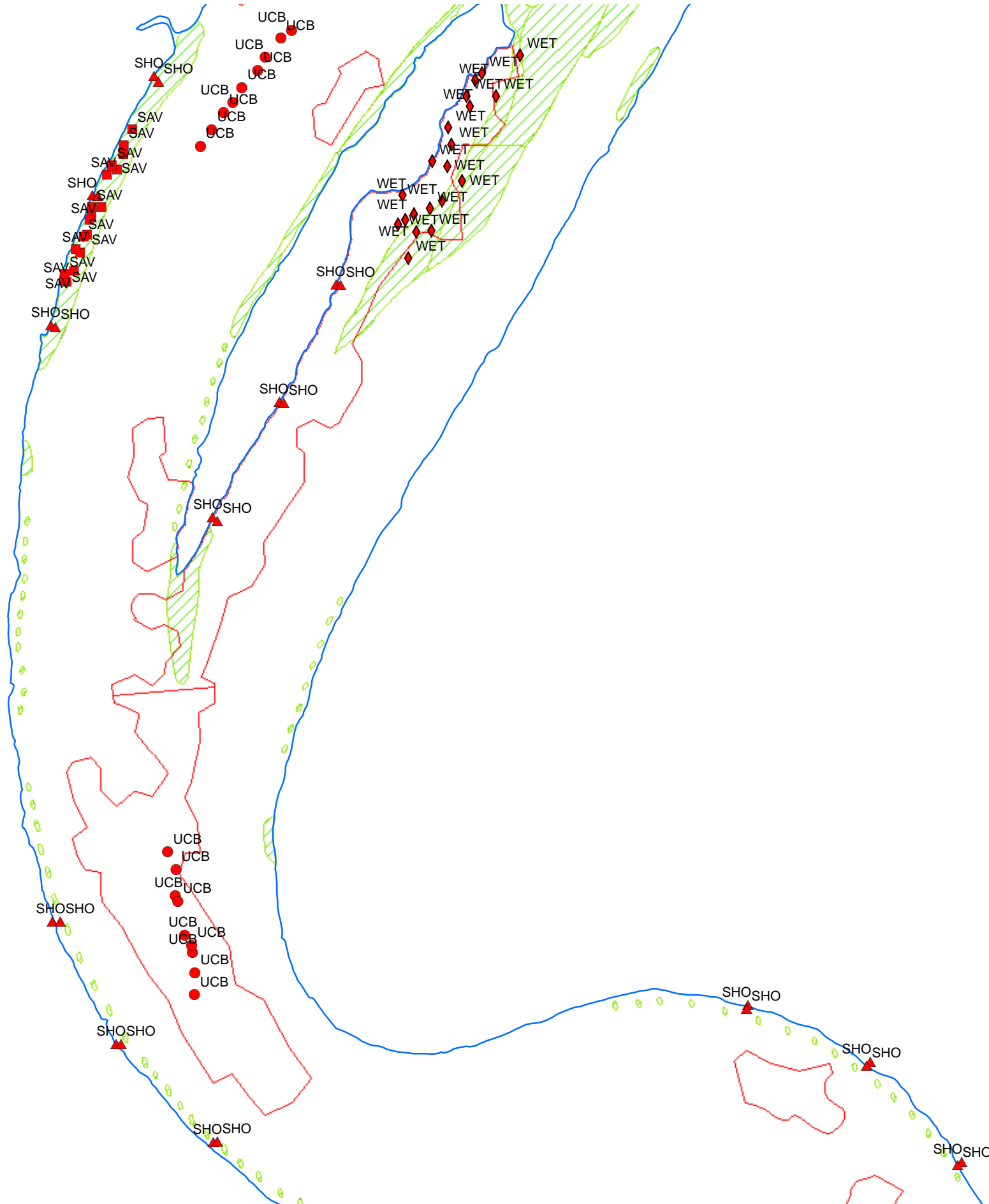
0 100 200 300 400 Feet

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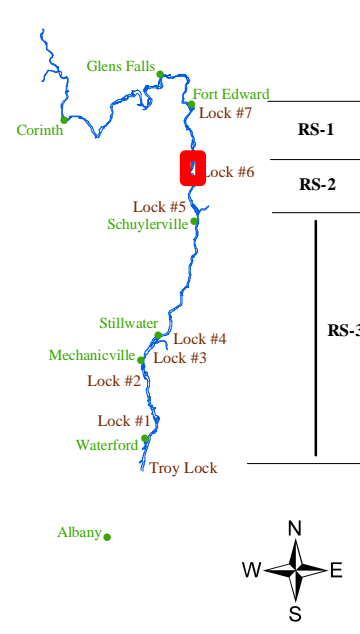
Overview



Focused Area



LOCATOR MAP OF THE HUDSON RIVER



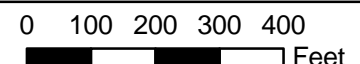
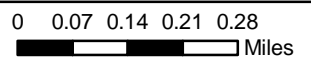
LEGEND

- Phase 1 Quadrat/Transect Stations**
- SAV
- ▲ Shoreline
- Unconsolidated Bottom
- ◆ Wetland
- Phase 1 Dredge Areas
- Phase 2 Dredge Areas
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- River Miles
- Dams and Locks
- Habitat Delineation**
- Backwater Wetland
- Fringe Wetland
- Trapa
- SAV

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Figure 12

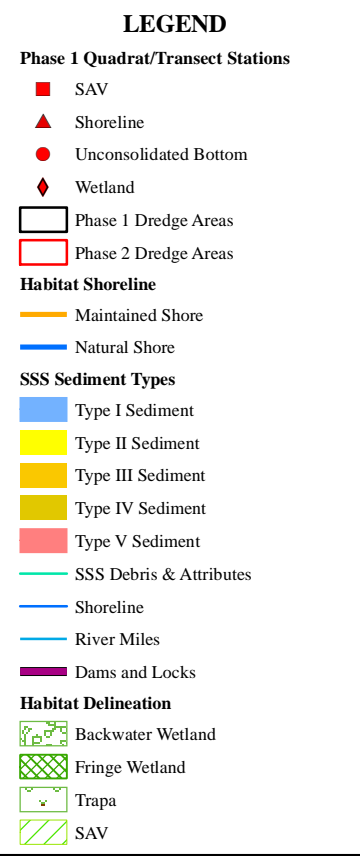
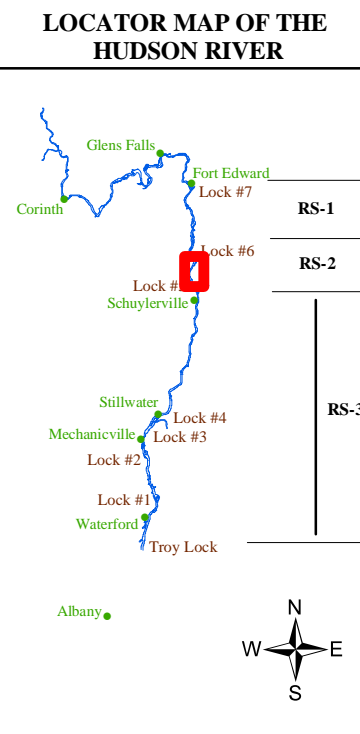
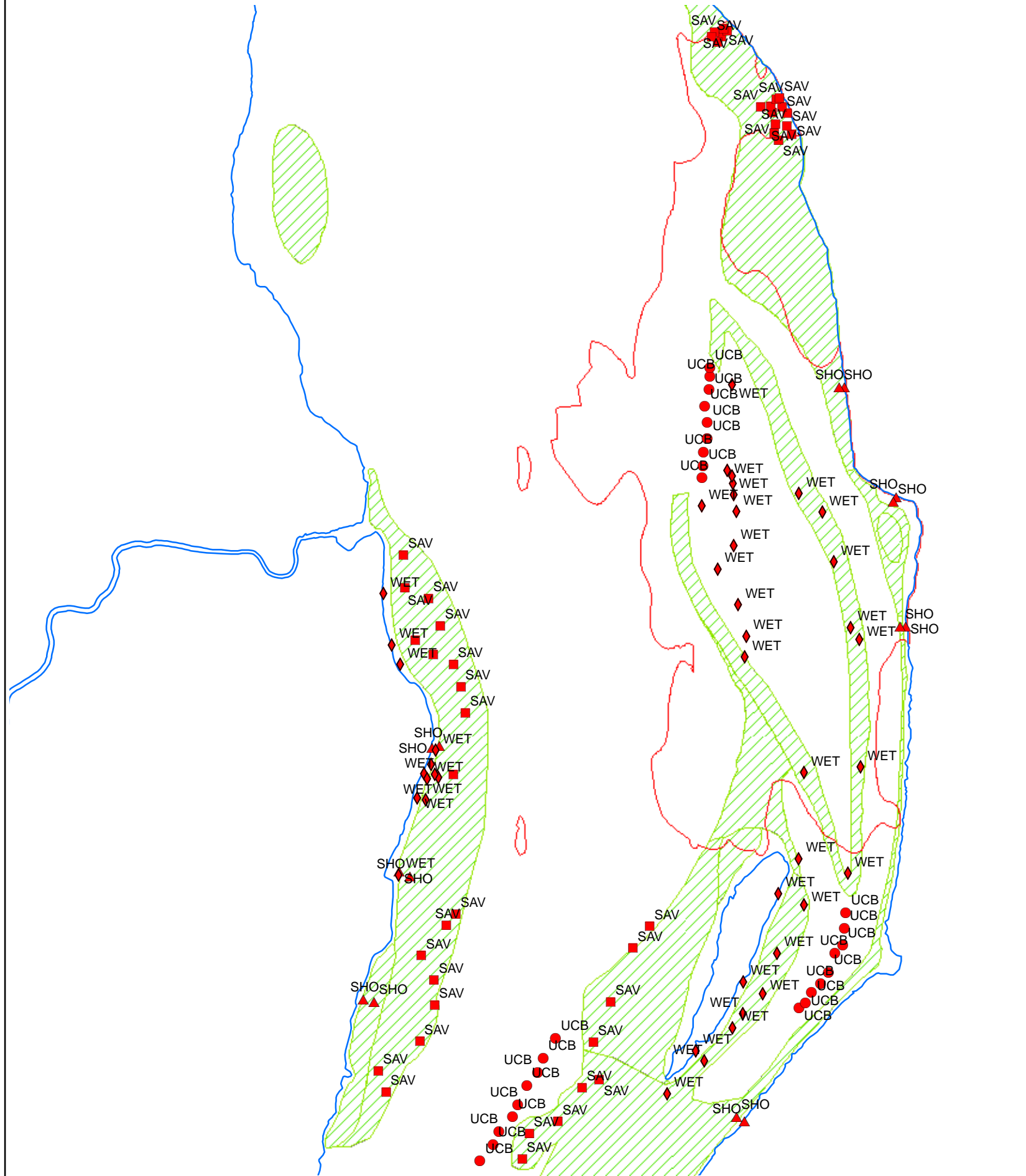
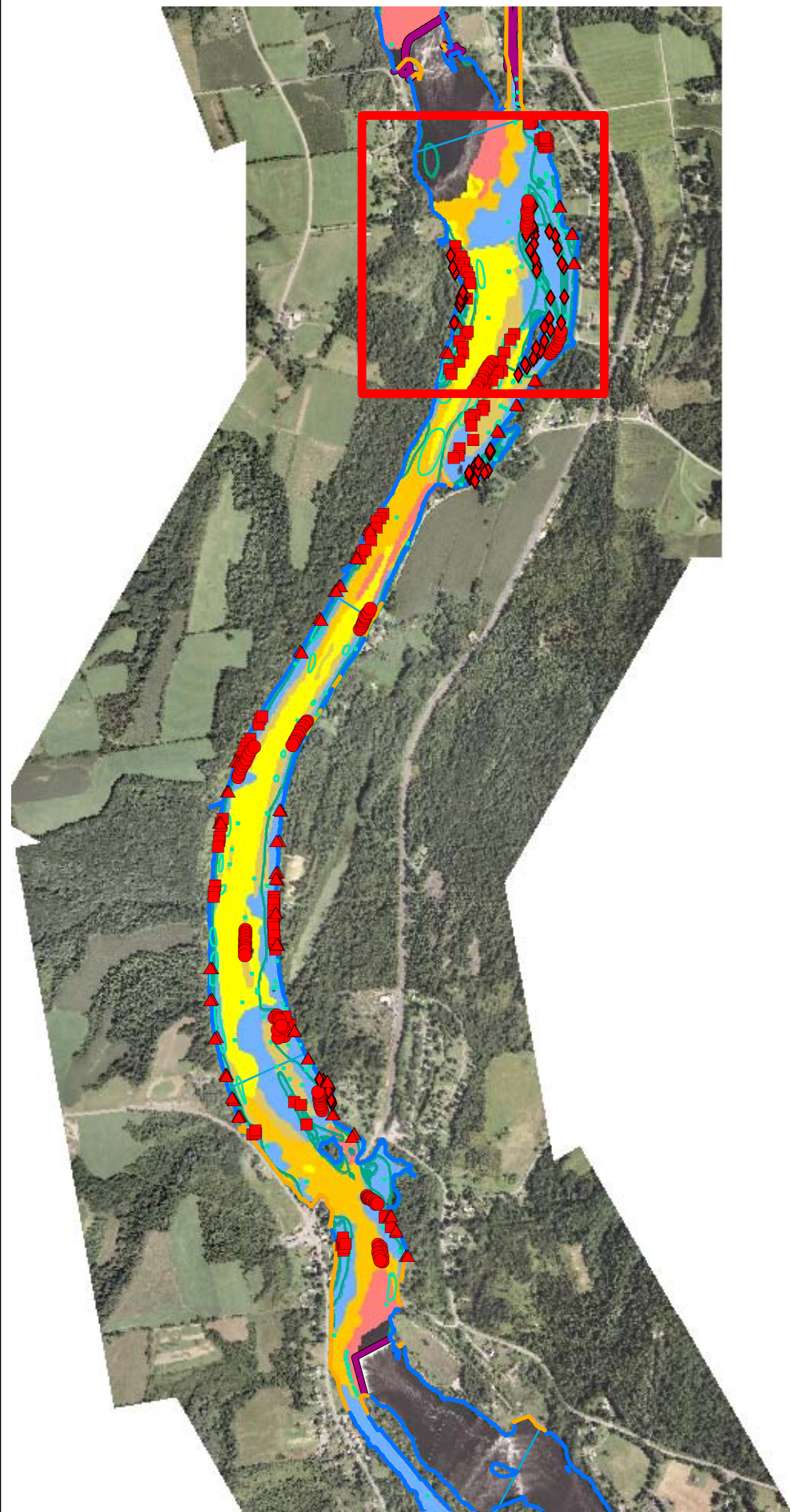
Phase II Habitat Assessment Stations



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Overview

Focused Area



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Figure 13

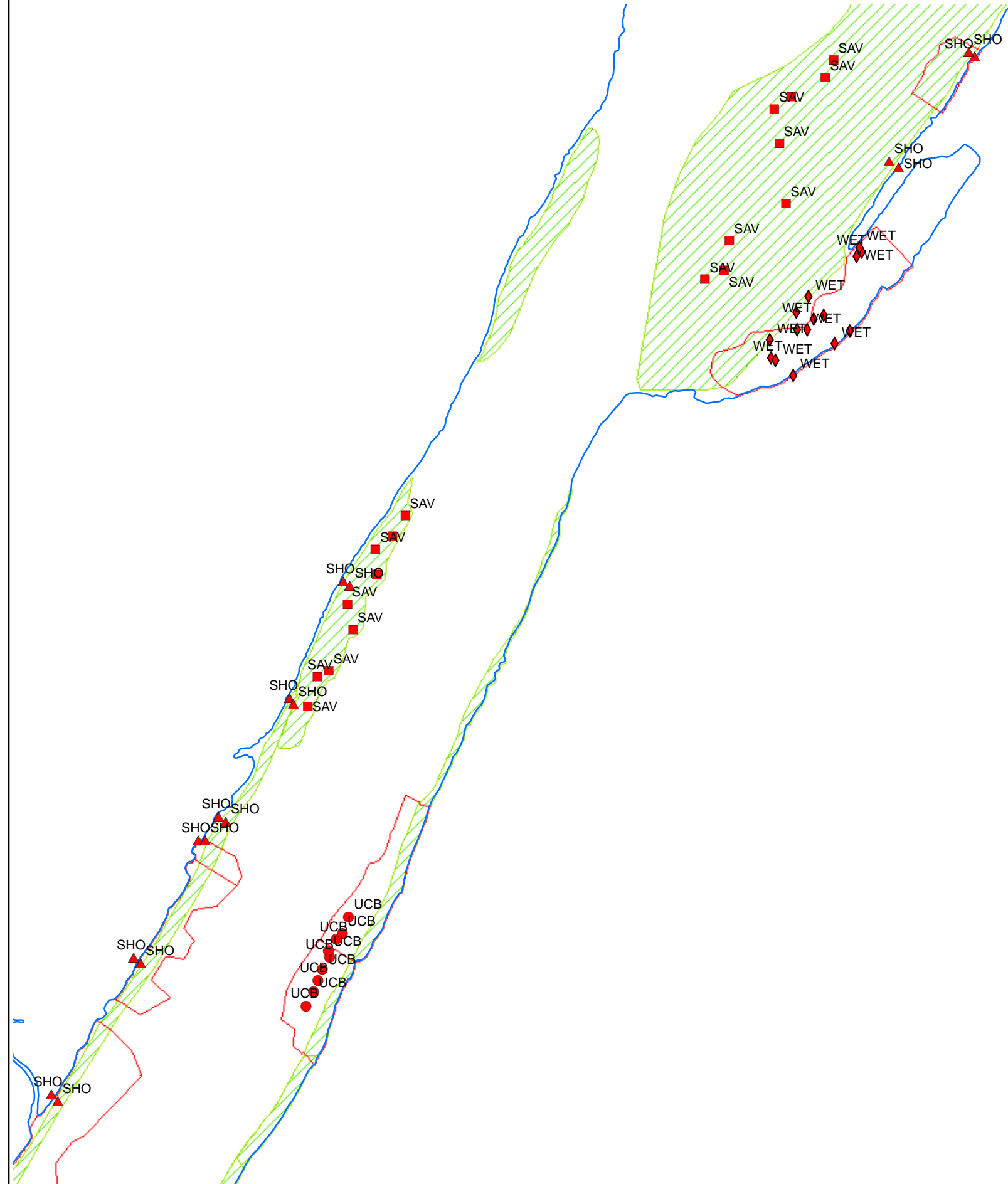
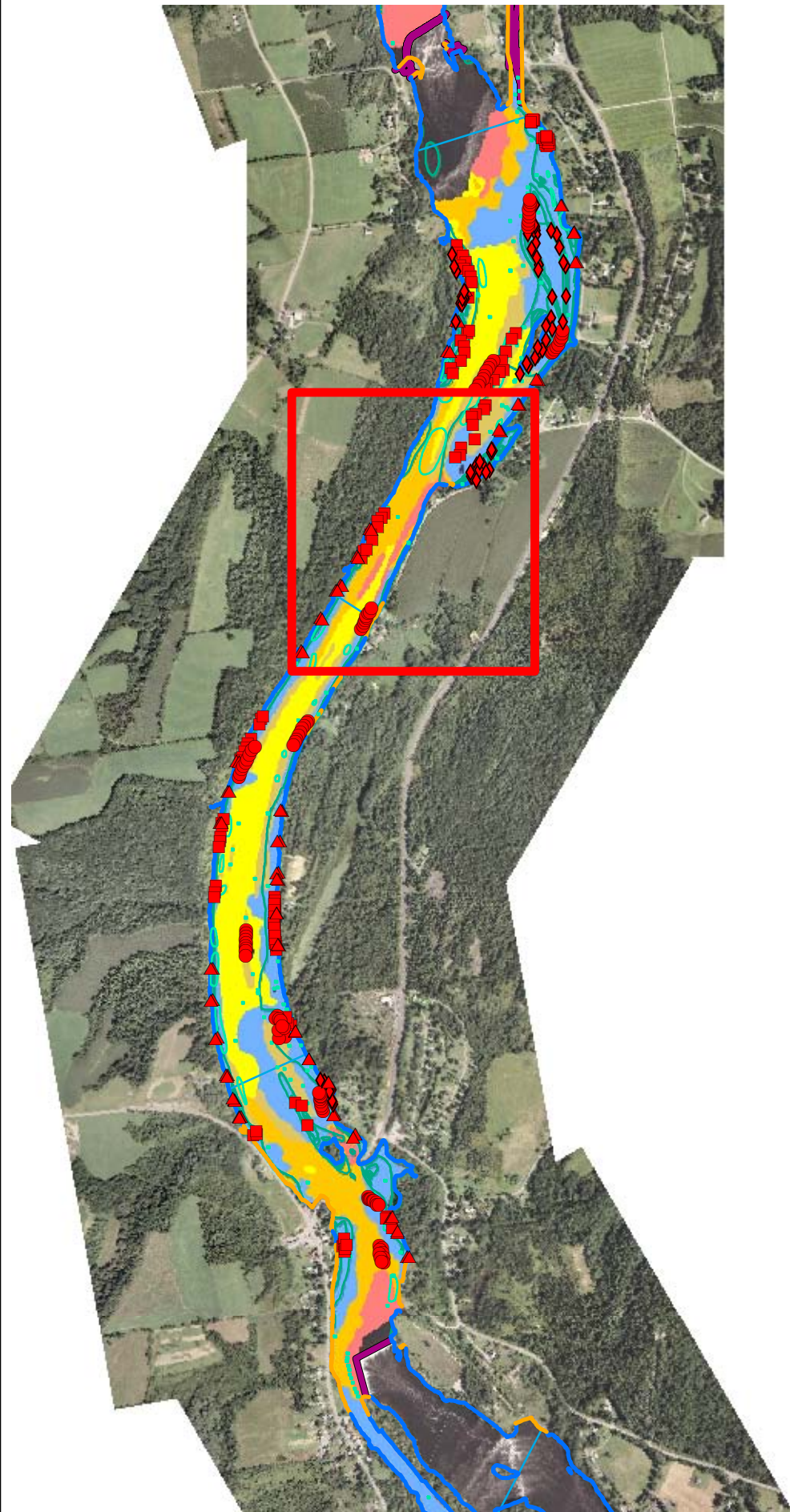
**Phase II Habitat
Assessment Stations**

0 0.09 0.18 0.27 0.36 Miles

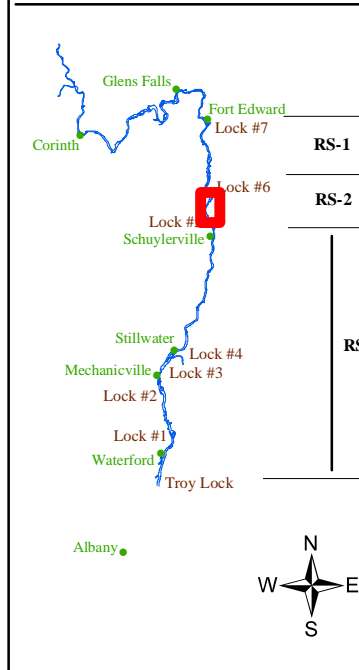
0 100 200 300 400 Feet

Overview

Focused Area



LOCATOR MAP OF THE HUDSON RIVER



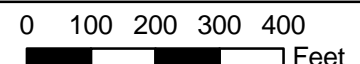
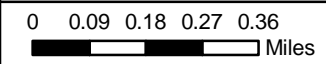
LEGEND

- Phase I Quadrat/Transect Stations**
- SAV
- ▲ Shoreline
- Unconsolidated Bottom
- ◆ Wetland
- Phase I Dredge Areas
- Phase 2 Dredge Areas
- Habitat Shoreline**
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- Habitat Delineation**
- Backwater Wetland
- Fringe Wetland
- Trapa
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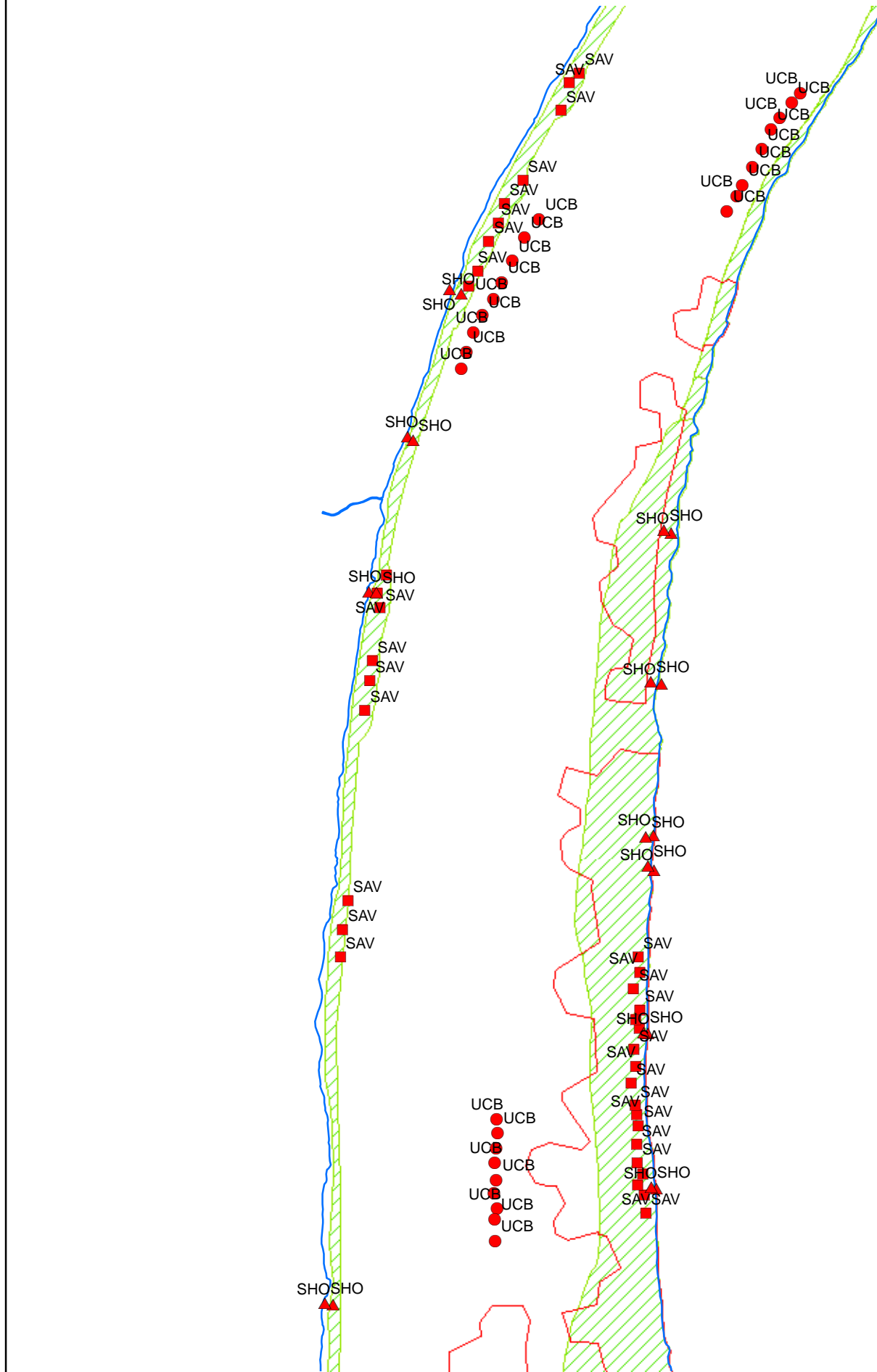
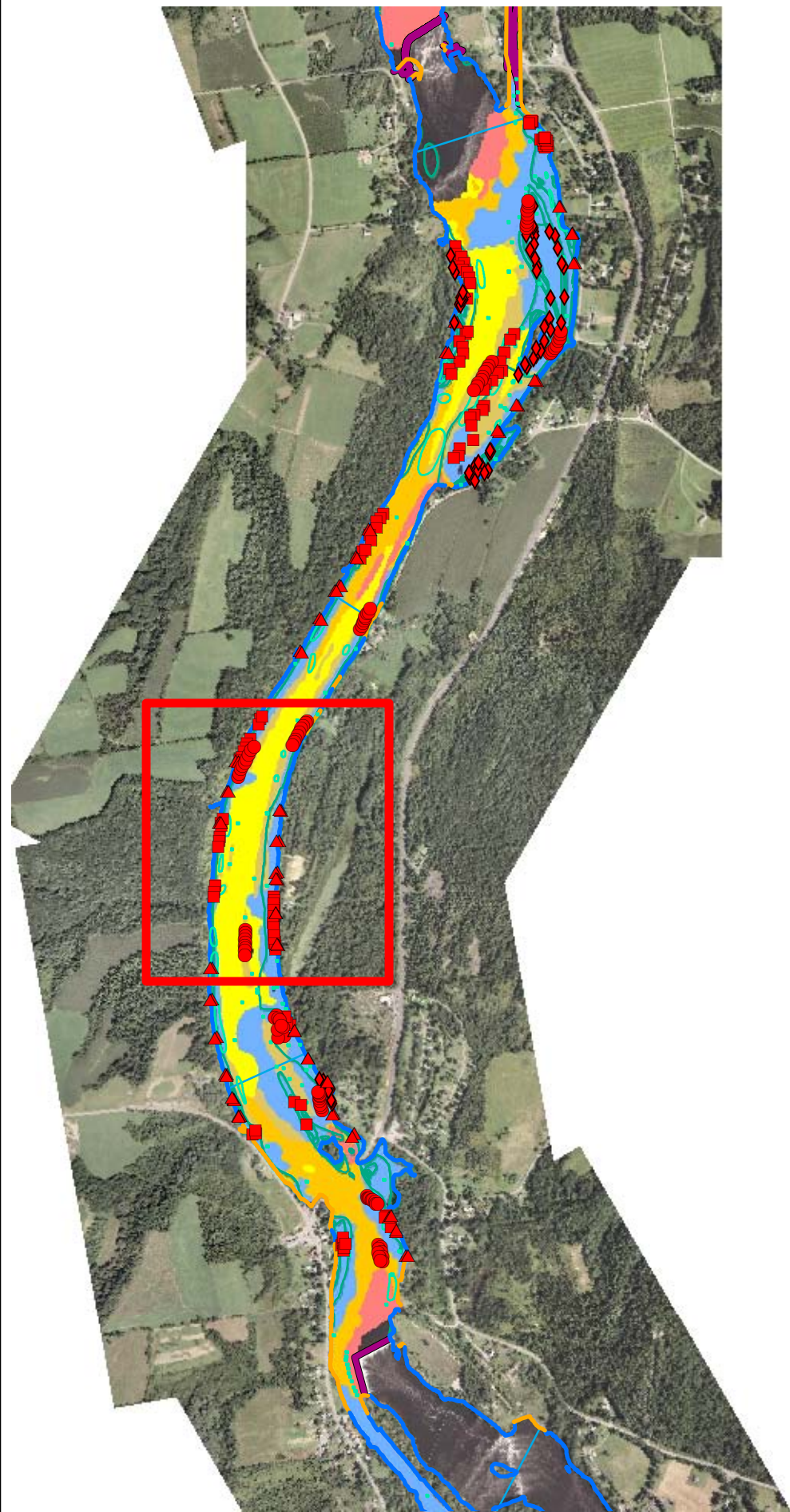
Figure 14

**Phase II Habitat
Assessment Stations**

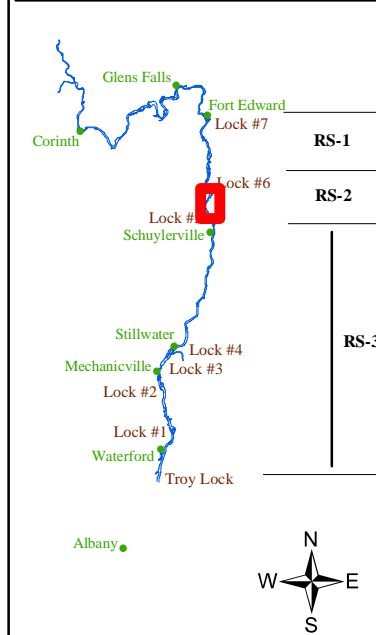


Overview

Focused Area



LOCATOR MAP OF THE HUDSON RIVER



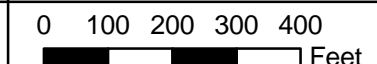
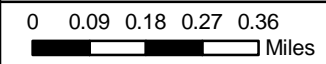
LEGEND

- Phase I Quadrat/Transect Stations**
- SAV
- ▲ Shoreline
- Unconsolidated Bottom
- ◆ Wetland
- Phase I Dredge Areas
- Phase II Dredge Areas
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- Dams and Locks
- Habitat Delineation**
- Backwater Wetland
- Fringe Wetland
- Trapa
- SAV

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Hudson River Project**

Figure 15

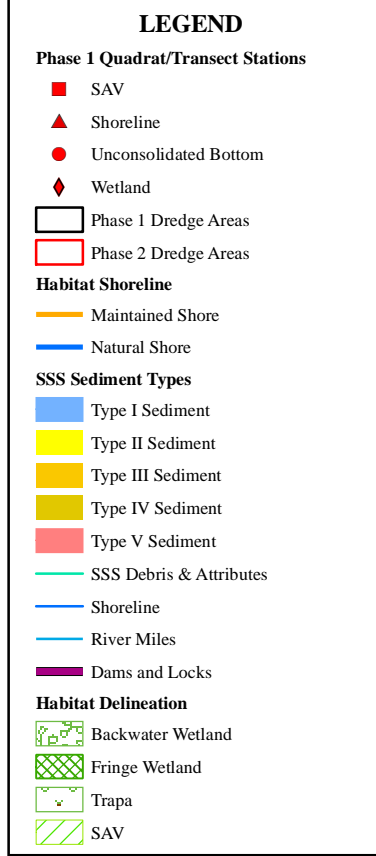
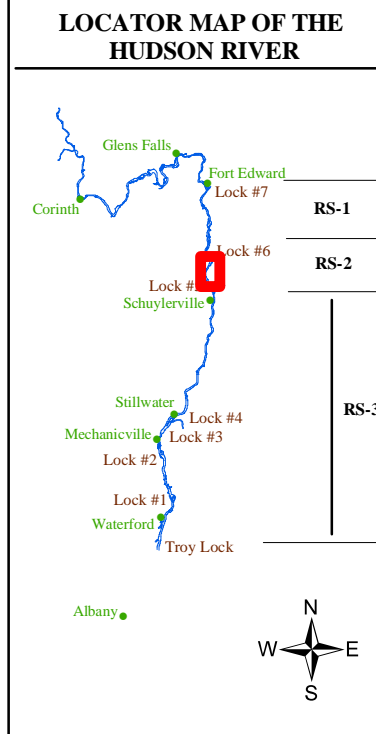
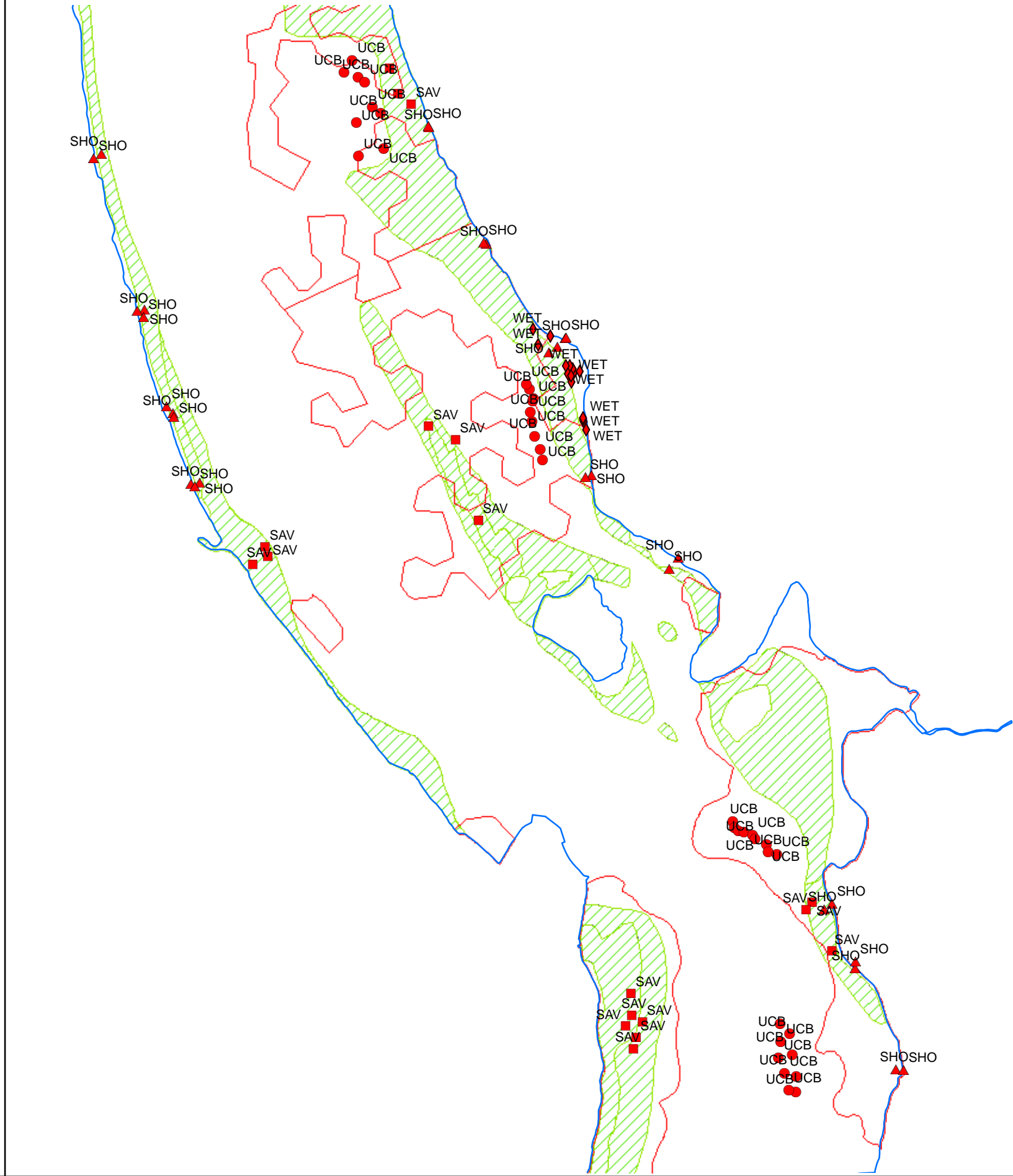
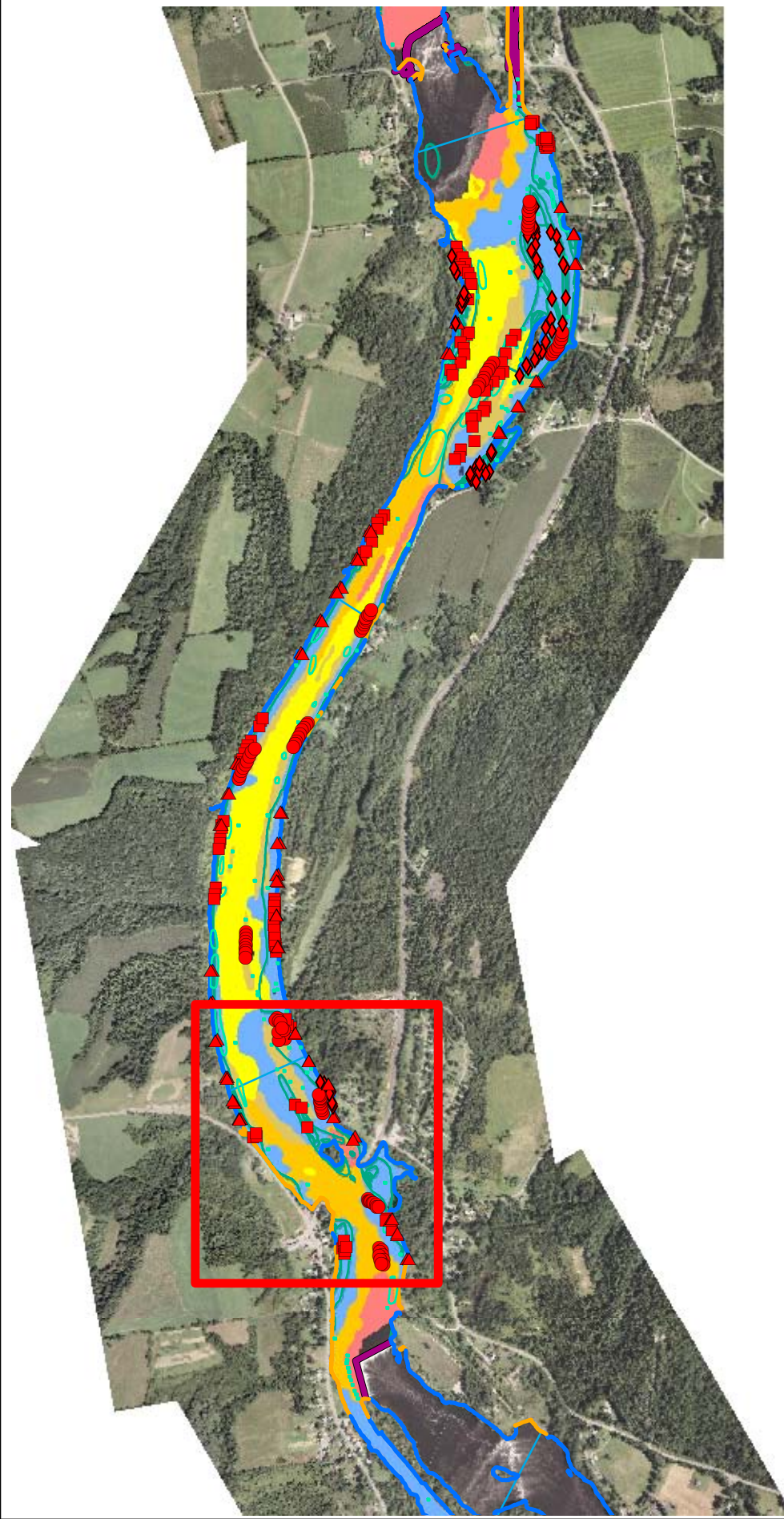
**Phase II Habitat
Assessment Stations**



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Overview

Focused Area



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Figure 16

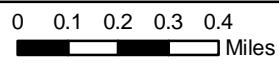
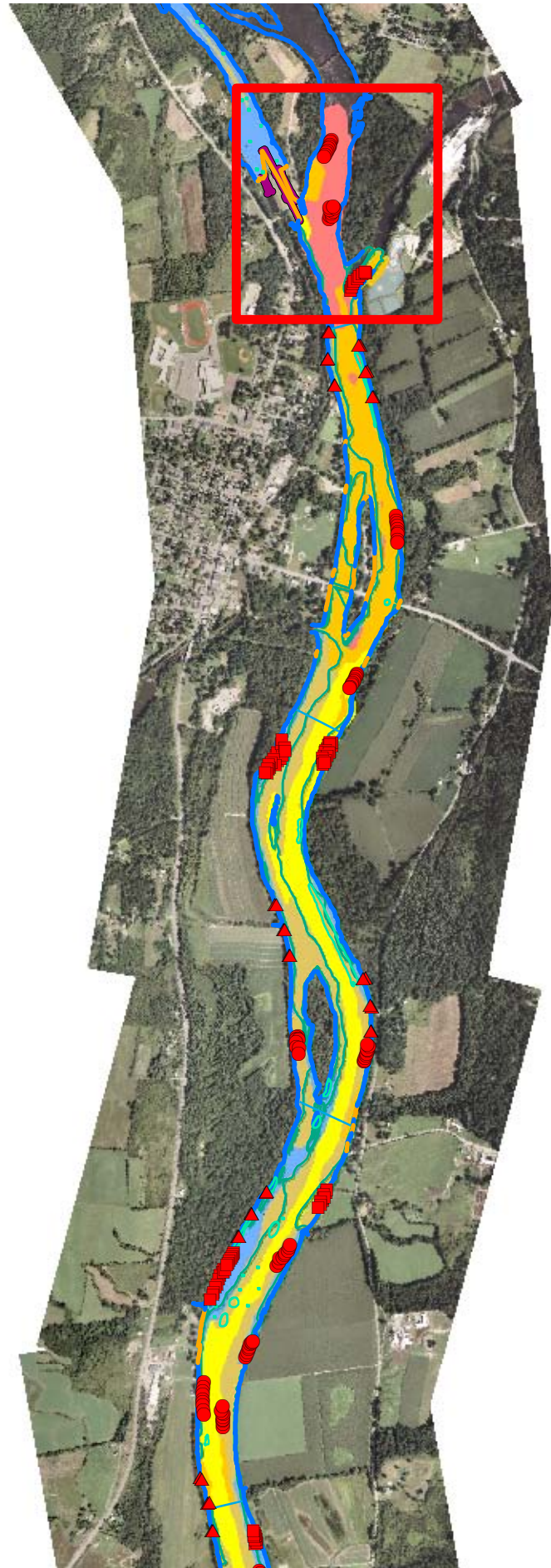
**Phase II Habitat
Assessment Stations**

0 0.09 0.18 0.27 0.36 Miles

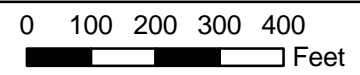
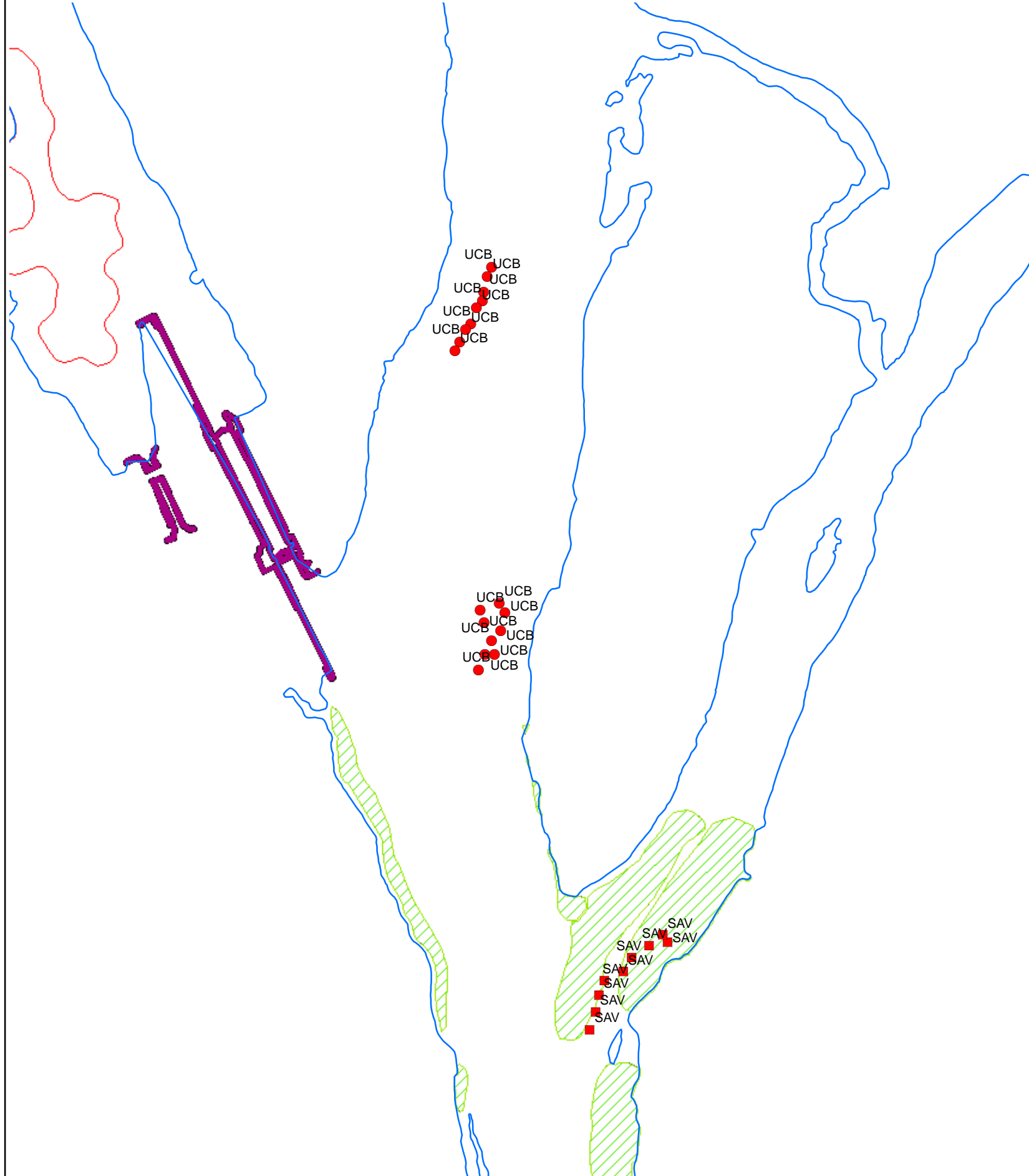
0 100 200 300 400 Feet

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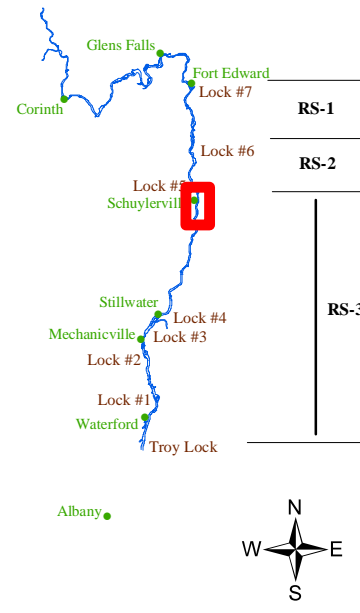
Overview



Focused Area



LOCATOR MAP OF THE HUDSON RIVER



LEGEND

- Phase 1 Quadrat/Transect Stations**
- SAV
- ▲ Shoreline
- Unconsolidated Bottom
- ◆ Wetland
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- SSS Debris & Attributes
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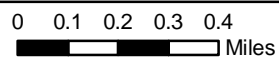
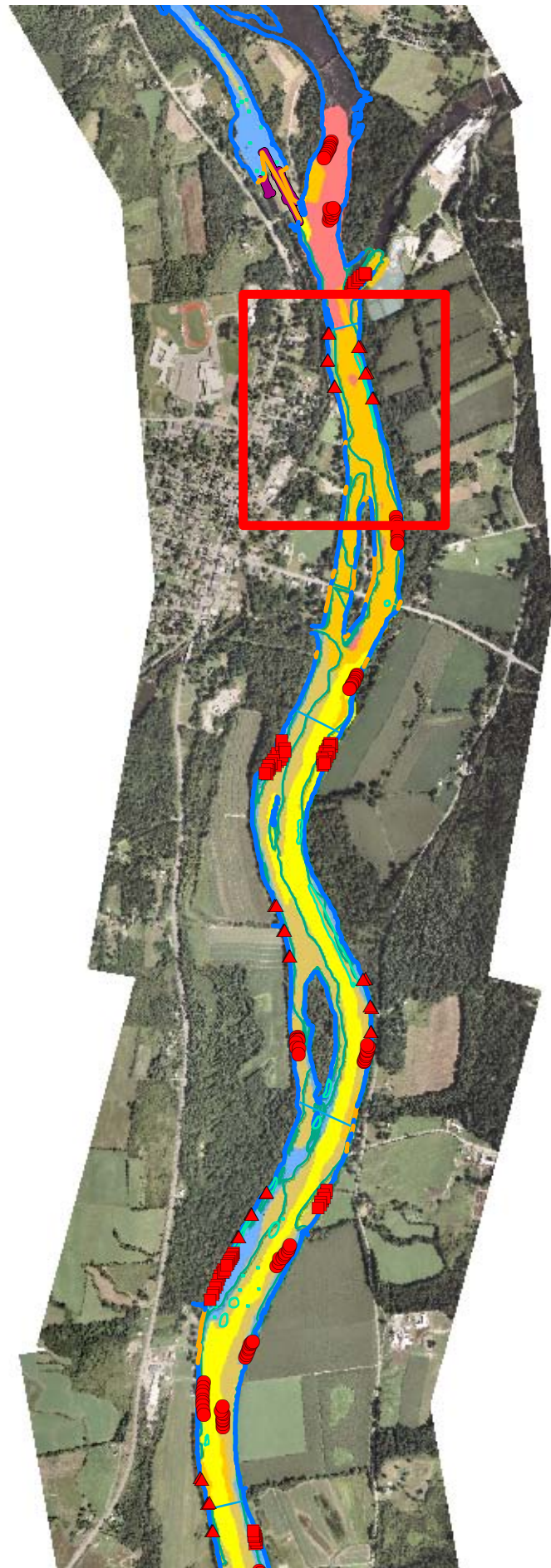
General Electric Company
Hudson River Project

Figure 17

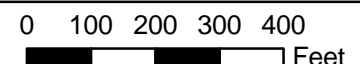
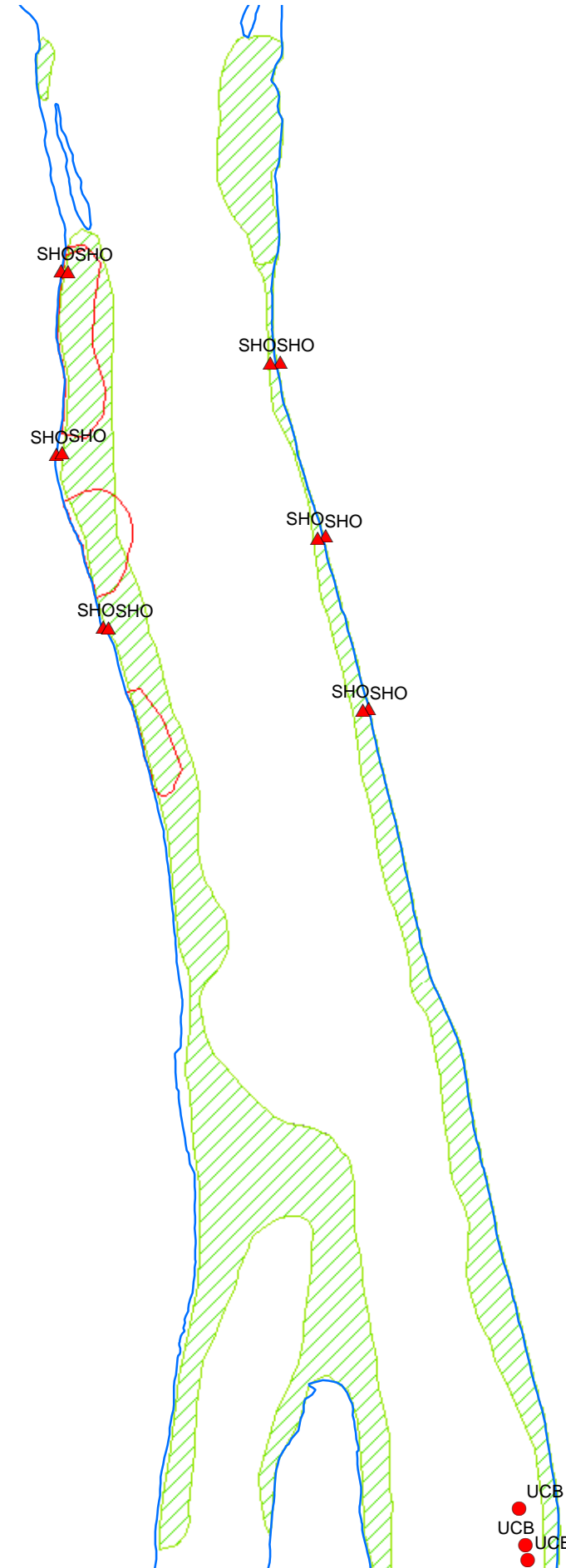
Phase II Habitat
Assessment Stations



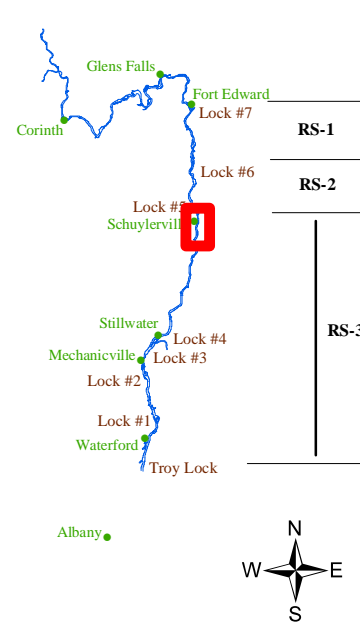
Overview



Focused Area



LOCATOR MAP OF THE HUDSON RIVER



LEGEND

- Phase 1 Quadrat/Transect Stations**
- SAV
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- Unconsolidated Bottom
- ◆ Wetland
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- Backwater Wetland
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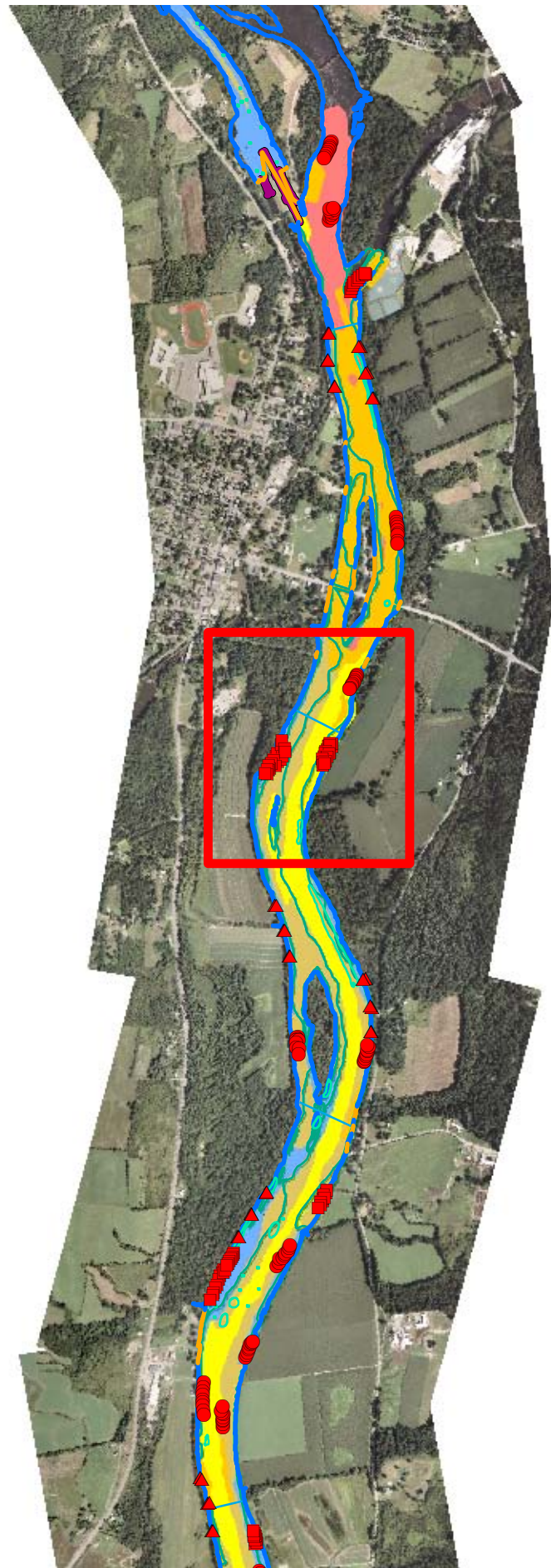
Figure 18

Phase II Habitat
Assessment Stations

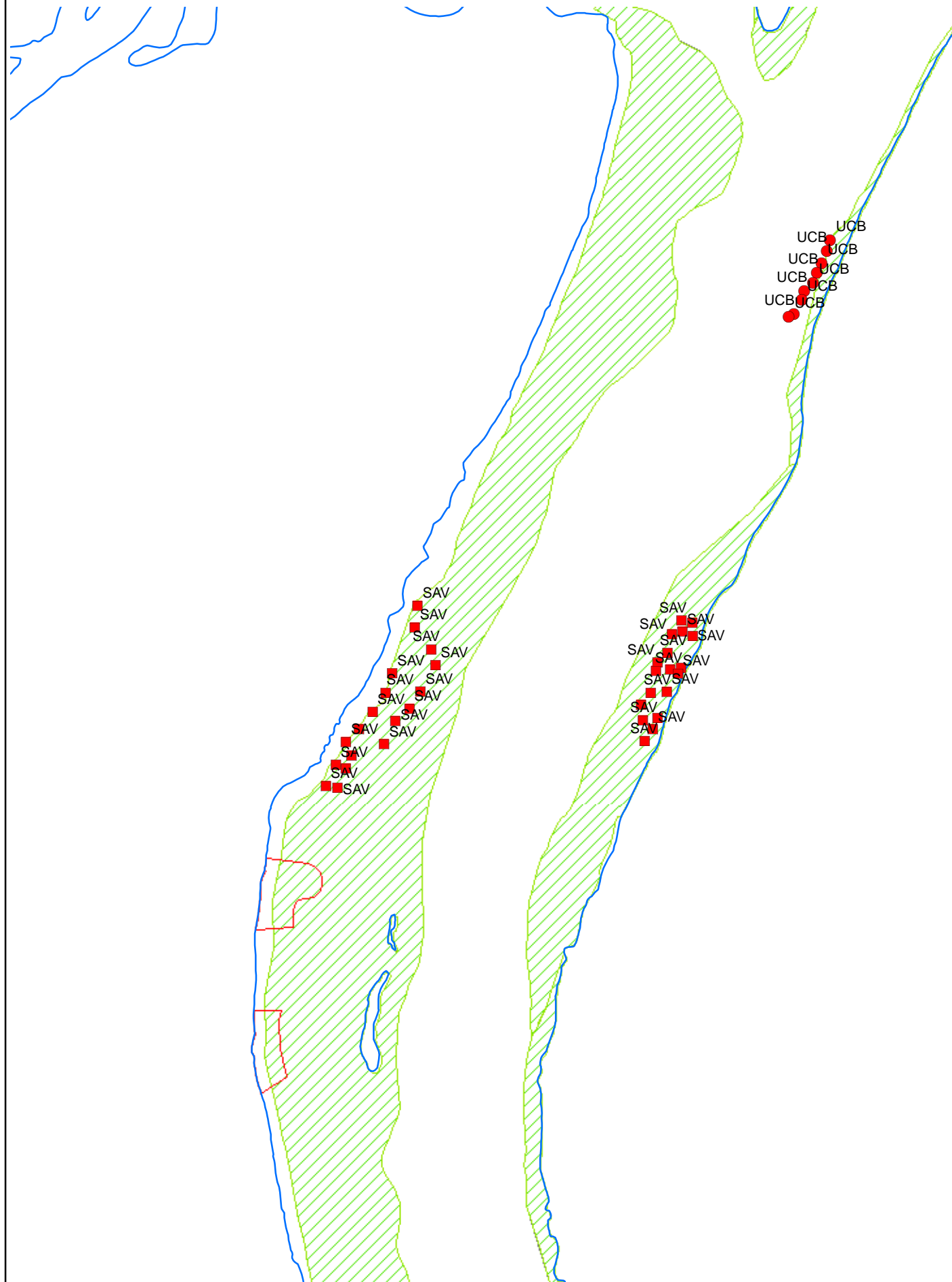


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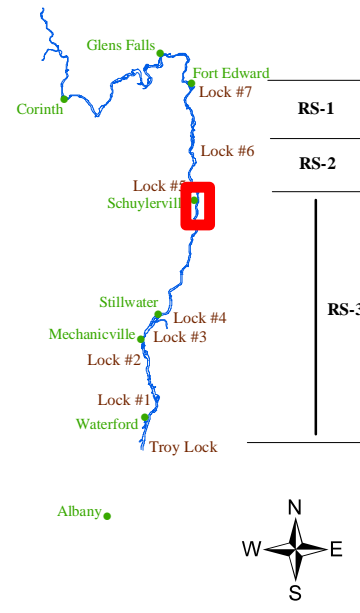
Overview



Focused Area



LOCATOR MAP OF THE HUDSON RIVER



LEGEND

- Phase I Quadrat/Transect Stations**
 - SAV
 - ▲ Shoreline
 - Unconsolidated Bottom
 - ◆ Wetland
- Phase 1 Dredge Areas**
 - Phase 1 Dredge Areas
 - Phase 2 Dredge Areas
- Habitat Shoreline**
 - Maintained Shore
 - Natural Shore
- SSS Sediment Types**
 - Type I Sediment
 - Type II Sediment
 - Type III Sediment
 - Type IV Sediment
 - Type V Sediment
- SSS Debris & Attributes**
 - Shoreline
 - River Miles
 - Dams and Locks
- Habitat Delineation**
 - Backwater Wetland
 - Fringe Wetland
 - Trapa
 - SAV

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Figure 19

**Phase II Habitat
Assessment Stations**



GENhab

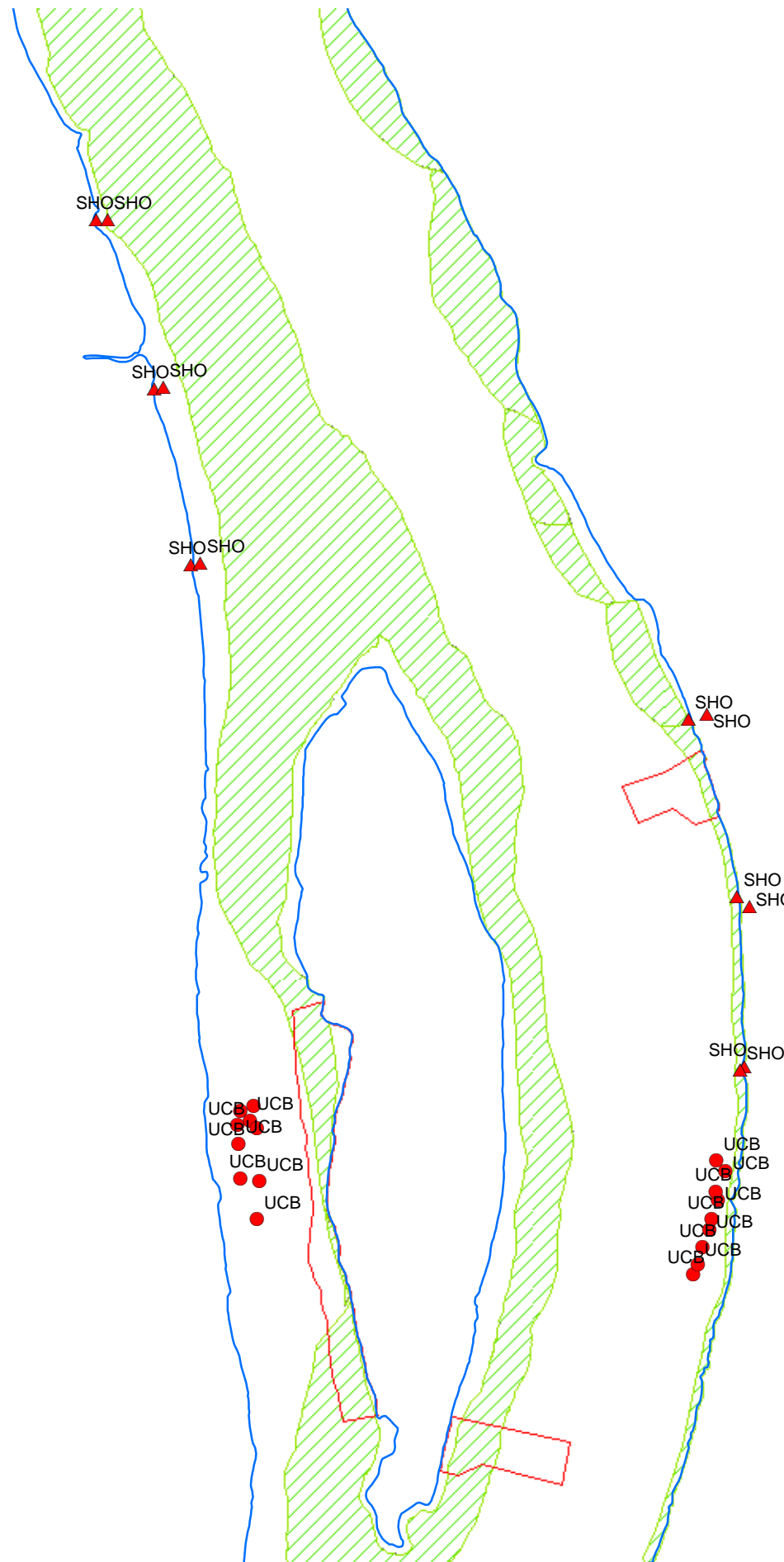
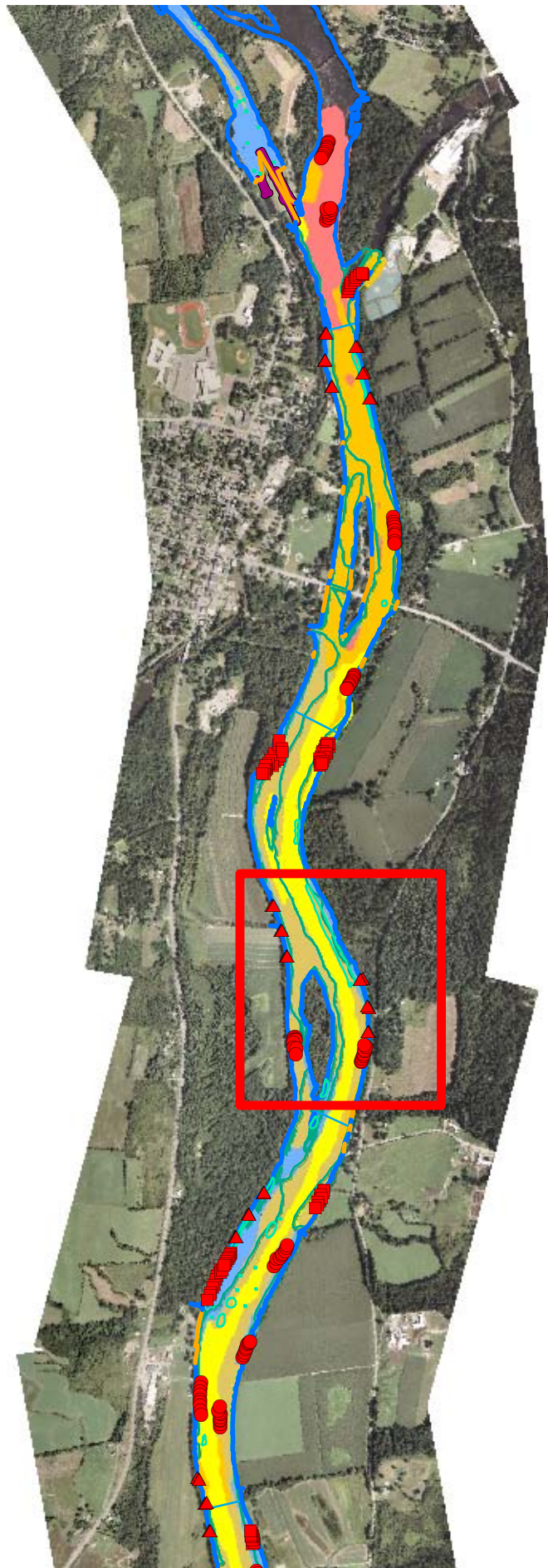
June 2009

0 0.1 0.2 0.3 0.4
Miles

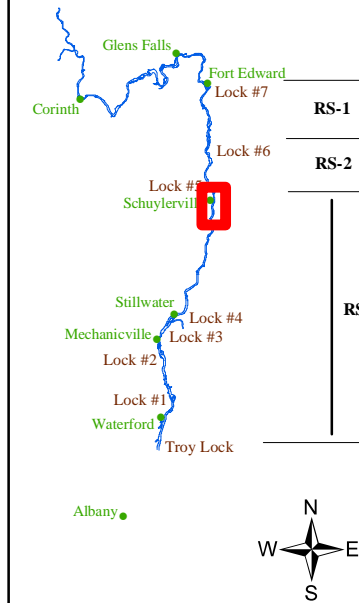
0 100 200 300 400
Feet

Overview

Focused Area



LOCATOR MAP OF THE HUDSON RIVER



LEGEND

- Phase 1 Quadrat/Transect Stations**
- SAV
 - ▲ Shoreline
 - Unconsolidated Bottom
 - ◆ Wetland
- Phase 1 Dredge Areas**
□
- Phase 2 Dredge Areas**
□
- Habitat Shoreline**
- Maintained Shore
 - Natural Shore
- SSS Sediment Types**
- Type I Sediment
 - Type II Sediment
 - Type III Sediment
 - Type IV Sediment
 - Type V Sediment
- SSS Debris & Attributes
- Shoreline
- River Miles
- Dams and Locks
- Habitat Delineation**
- Backwater Wetland
 - Fringe Wetland
 - Trapa
 - SAV

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Figure 20

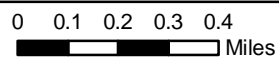
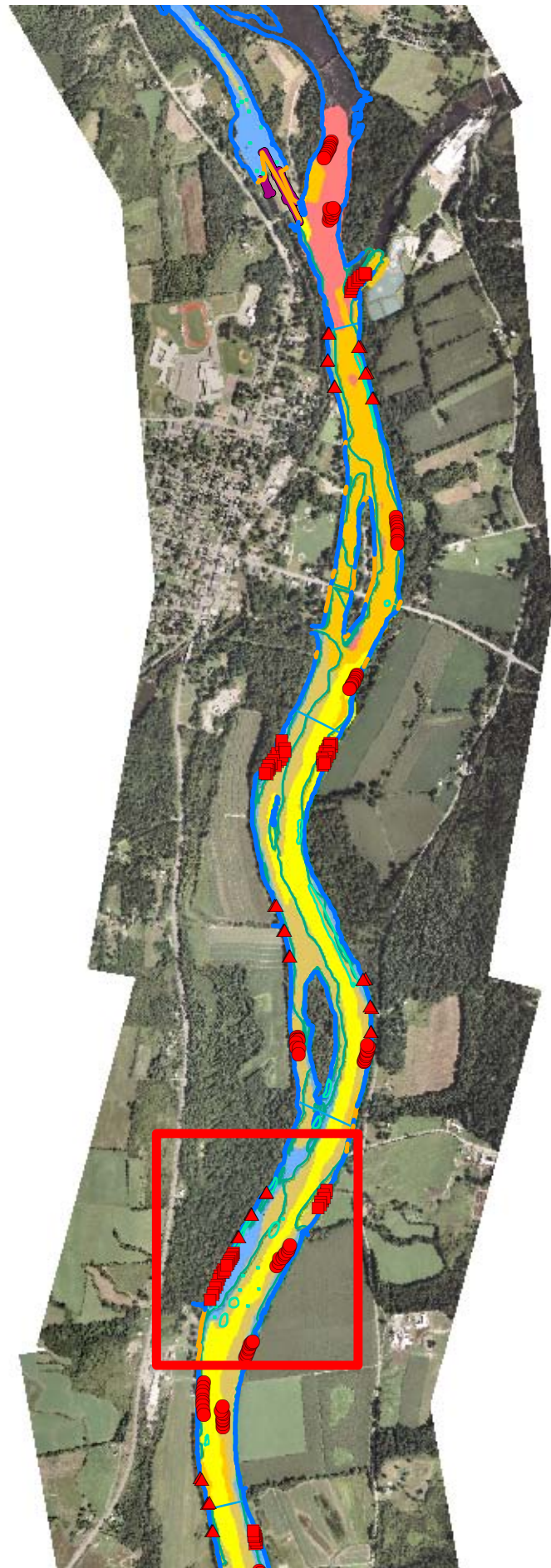
**Phase II Habitat
Assessment Stations**



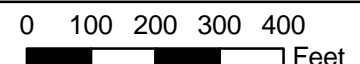
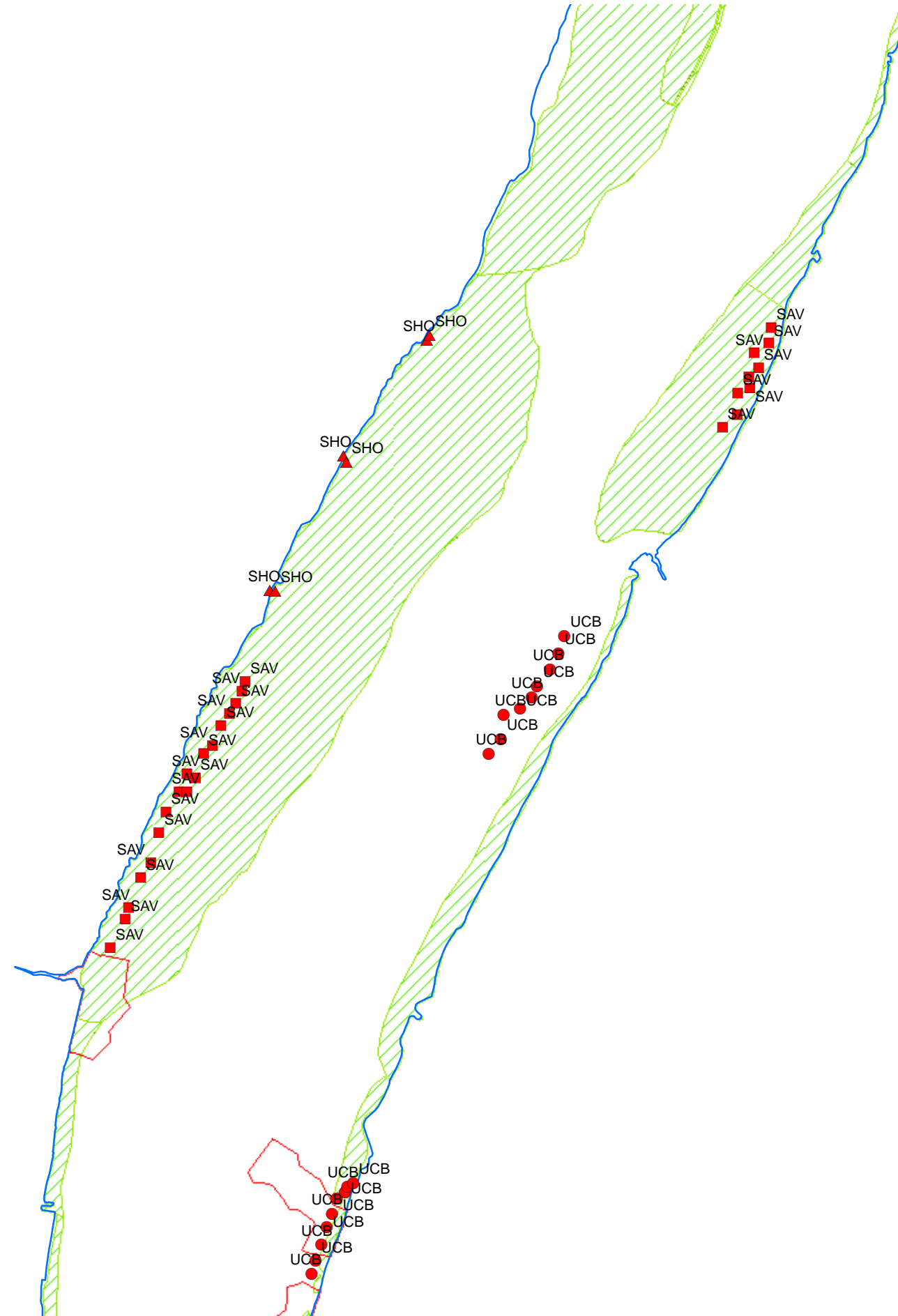
0 0.1 0.2 0.3 0.4 Miles

0 100 200 300 400 Feet

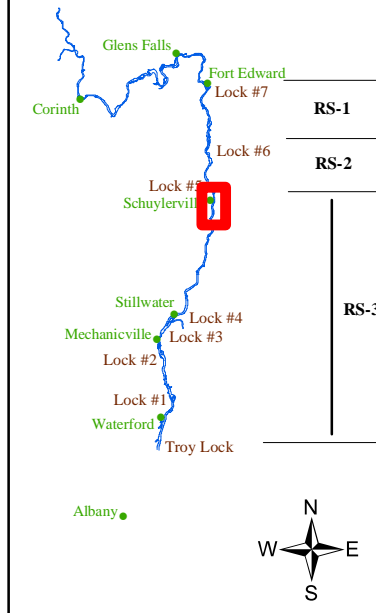
Overview



Focused Area



LOCATOR MAP OF THE HUDSON RIVER



LEGEND

- Phase 1 Quadrat/Transect Stations**
- SAV
 - ▲ Shoreline
 - Unconsolidated Bottom
 - ◆ Wetland
- Phase 1 Dredge Areas**
□
- Phase 2 Dredge Areas**
□
- Habitat Shoreline**
- Maintained Shore
 - Natural Shore
- SSS Sediment Types**
- Type I Sediment
 - Type II Sediment
 - Type III Sediment
 - Type IV Sediment
 - Type V Sediment
- SSS Debris & Attributes
- Shoreline
- River Miles
- Dams and Locks
- Habitat Delineation**
- Backwater Wetland
 - Fringe Wetland
 - Trapa
 - SAV

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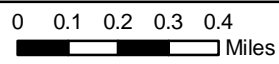
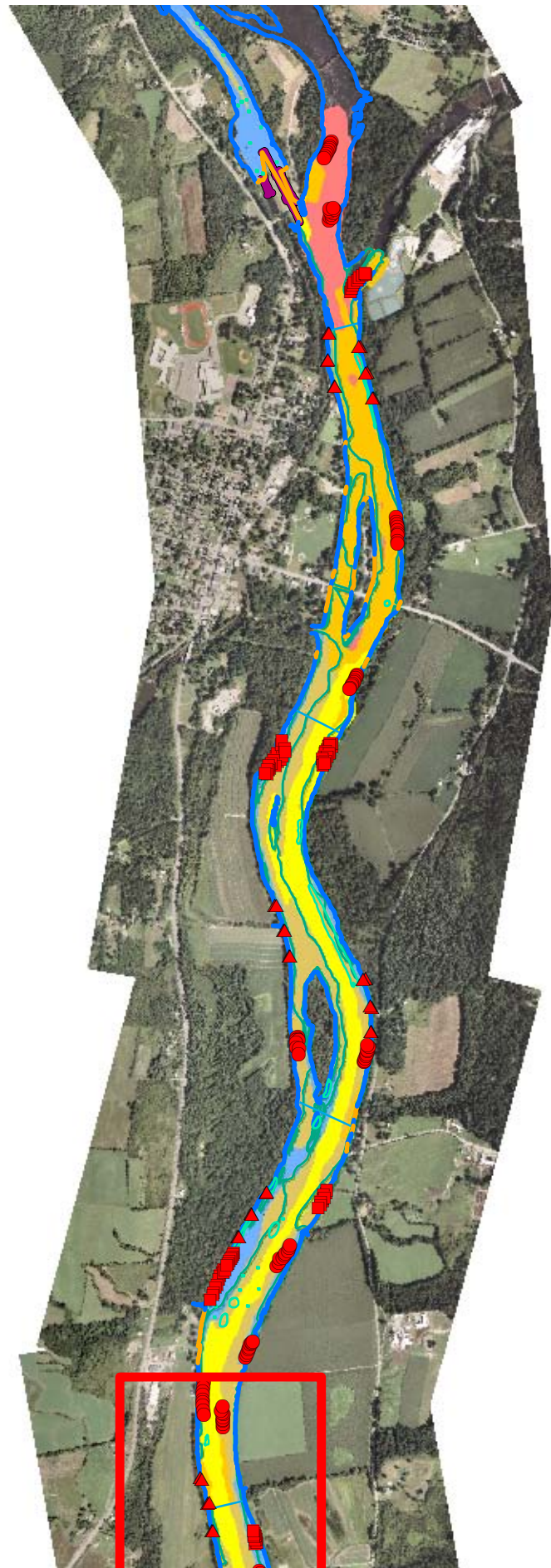
Figure 21

**Phase II Habitat
Assessment Stations**

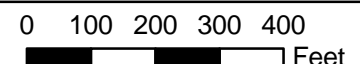
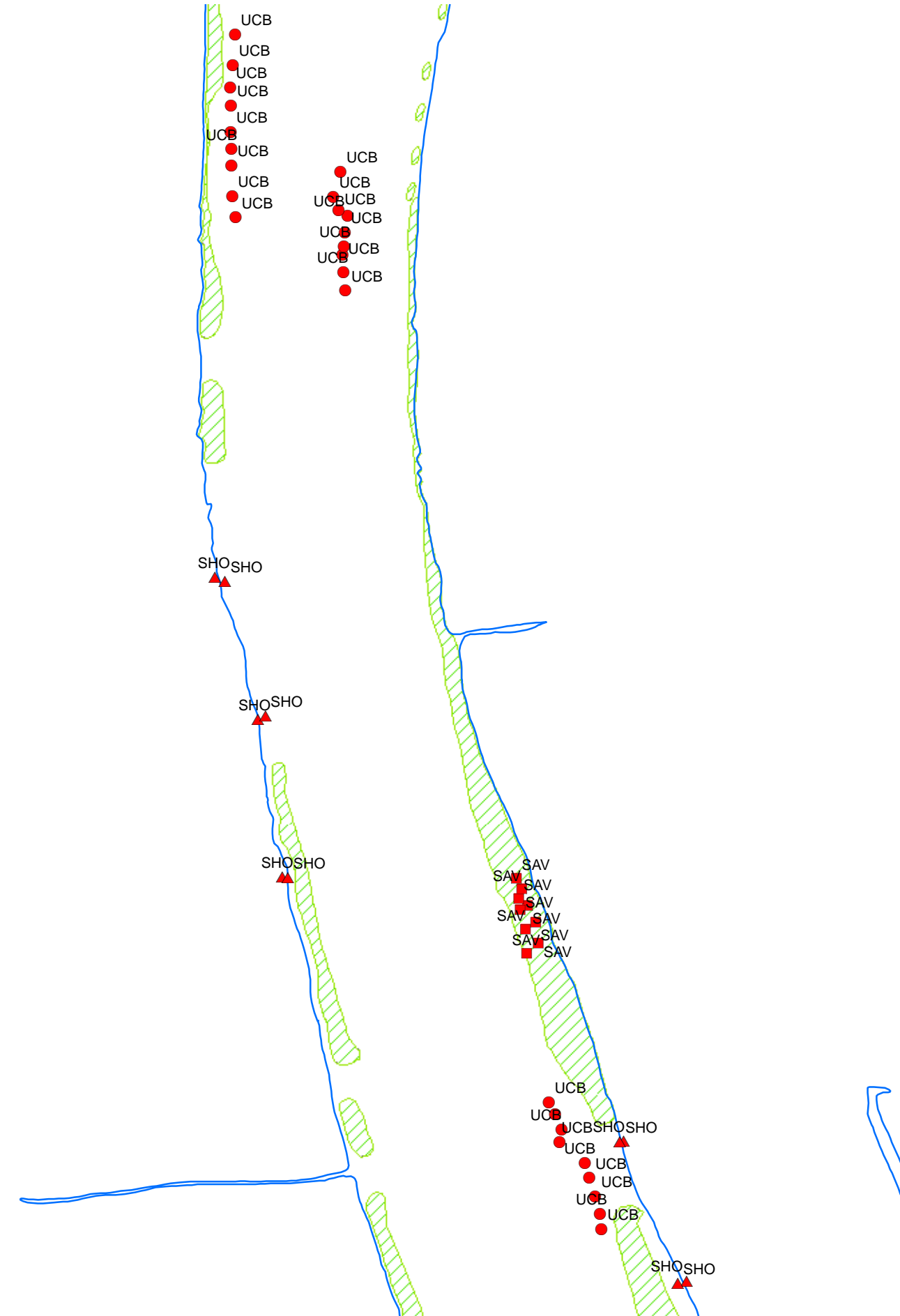


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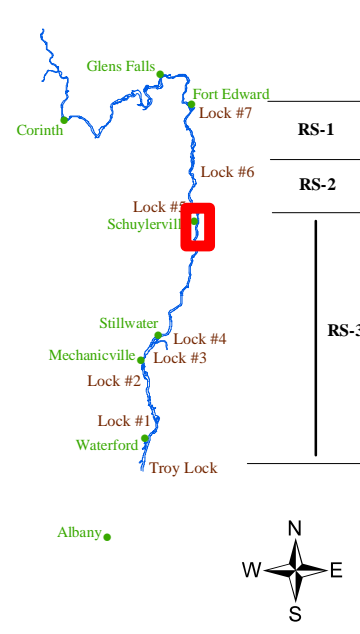
Overview



Focused Area



LOCATOR MAP OF THE HUDSON RIVER



LEGEND

- Phase 1 Quadrat/Transect Stations**
- SAV
- ▲ Shoreline
- Unconsolidated Bottom
- ◆ Wetland
- Phase 1 Dredge Areas
- Phase 2 Dredge Areas
- Habitat Shoreline**
- Maintained Shore
- Natural Shore
- SSS Sediment Types**
- Type I Sediment
- Type II Sediment
- Type III Sediment
- Type IV Sediment
- Type V Sediment
- SSS Debris & Attributes
- Shoreline
- River Miles
- Dams and Locks
- Habitat Delineation**
- Backwater Wetland
- Fringe Wetland
- Trapa
- SAV

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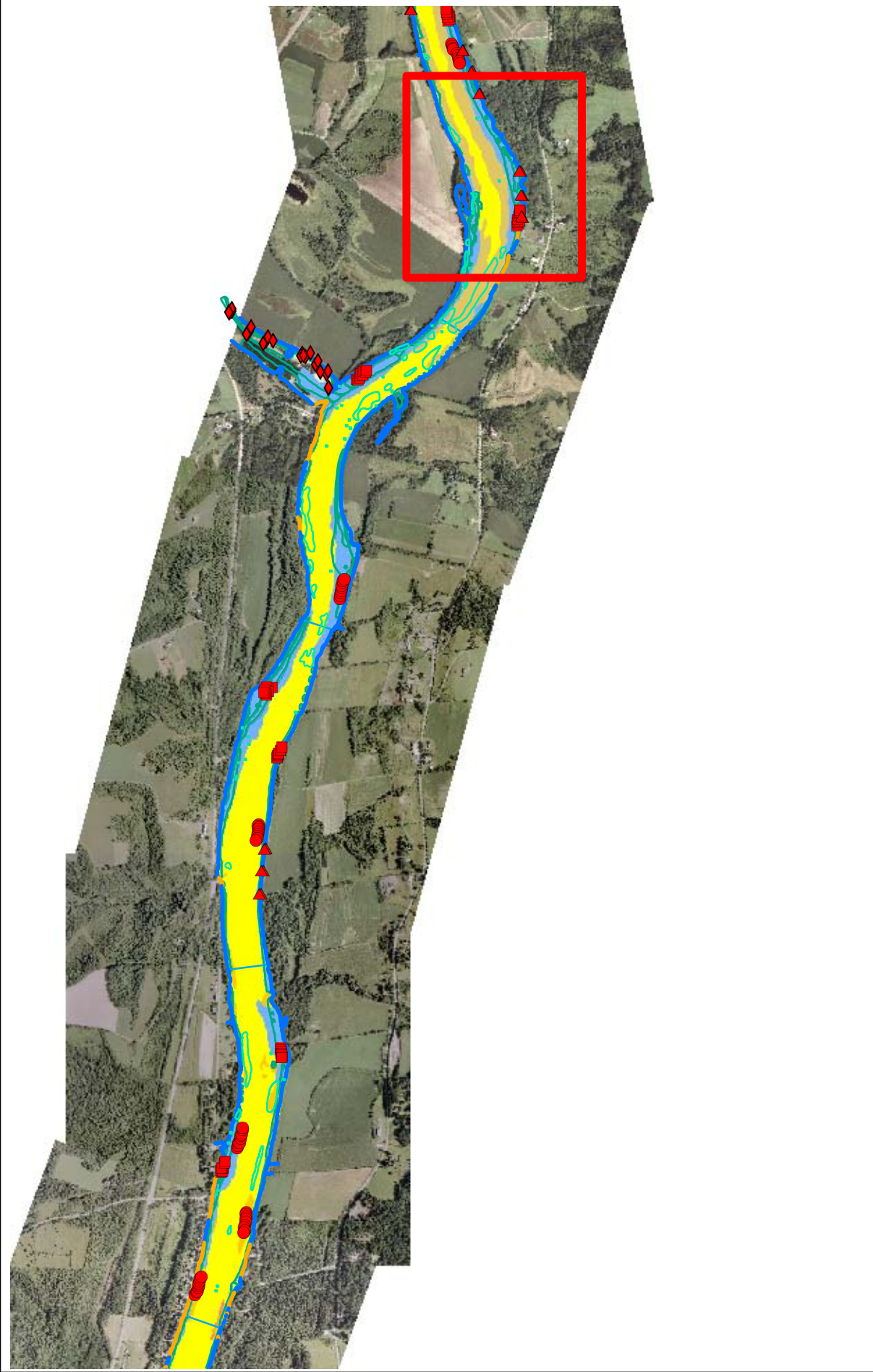
Figure 22

Phase II Habitat
Assessment Stations

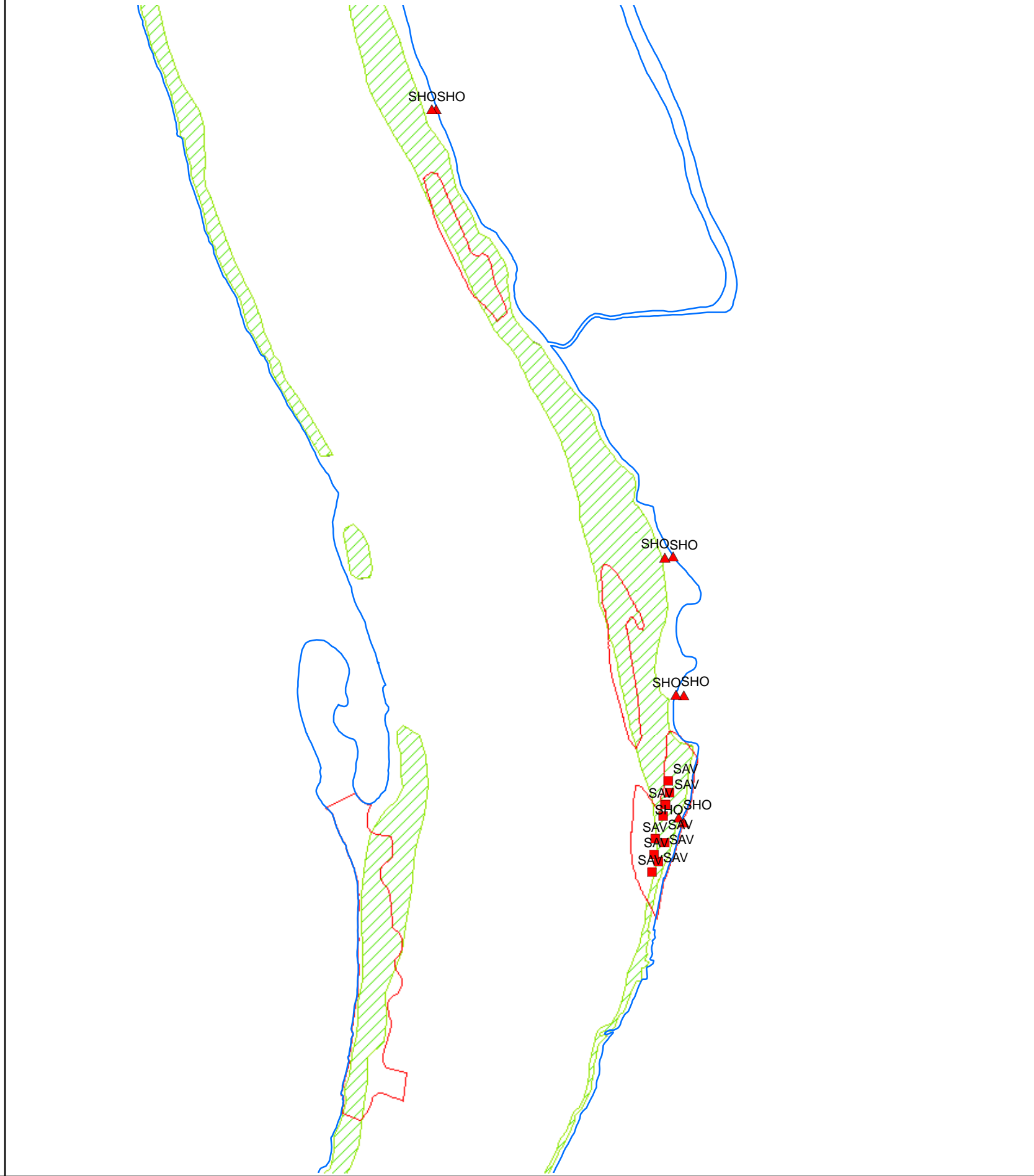


KS-\\ALGONQUINE_Drive\GENrem\WORKING\GIS\maps\ARCGIS8_maps\Habitat\Habitat_Delineation\11x17_Assessment_Maps_20091223

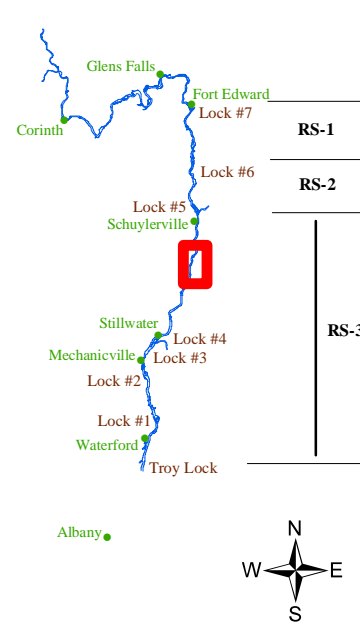
Overview



Focused Area



LOCATOR MAP OF THE HUDSON RIVER



LEGEND

- Phase 1 Quadrat/Transect Stations**
- SAV
- ▲ Shoreline
- Unconsolidated Bottom
- ◆ Wetland
- Phase 1 Dredge Areas
- Phase 2 Dredge Areas
- Habitat Shoreline**
- Maintained Shore
- Natural Shore
- SSS Sediment Types**
- Type I Sediment
- Type II Sediment
- Type III Sediment
- Type IV Sediment
- Type V Sediment
- SSS Debris & Attributes
- Shoreline
- River Miles
- Dams and Locks
- Habitat Delineation**
- Backwater Wetland
- Fringe Wetland
- Trapa
- SAV

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Figure 23

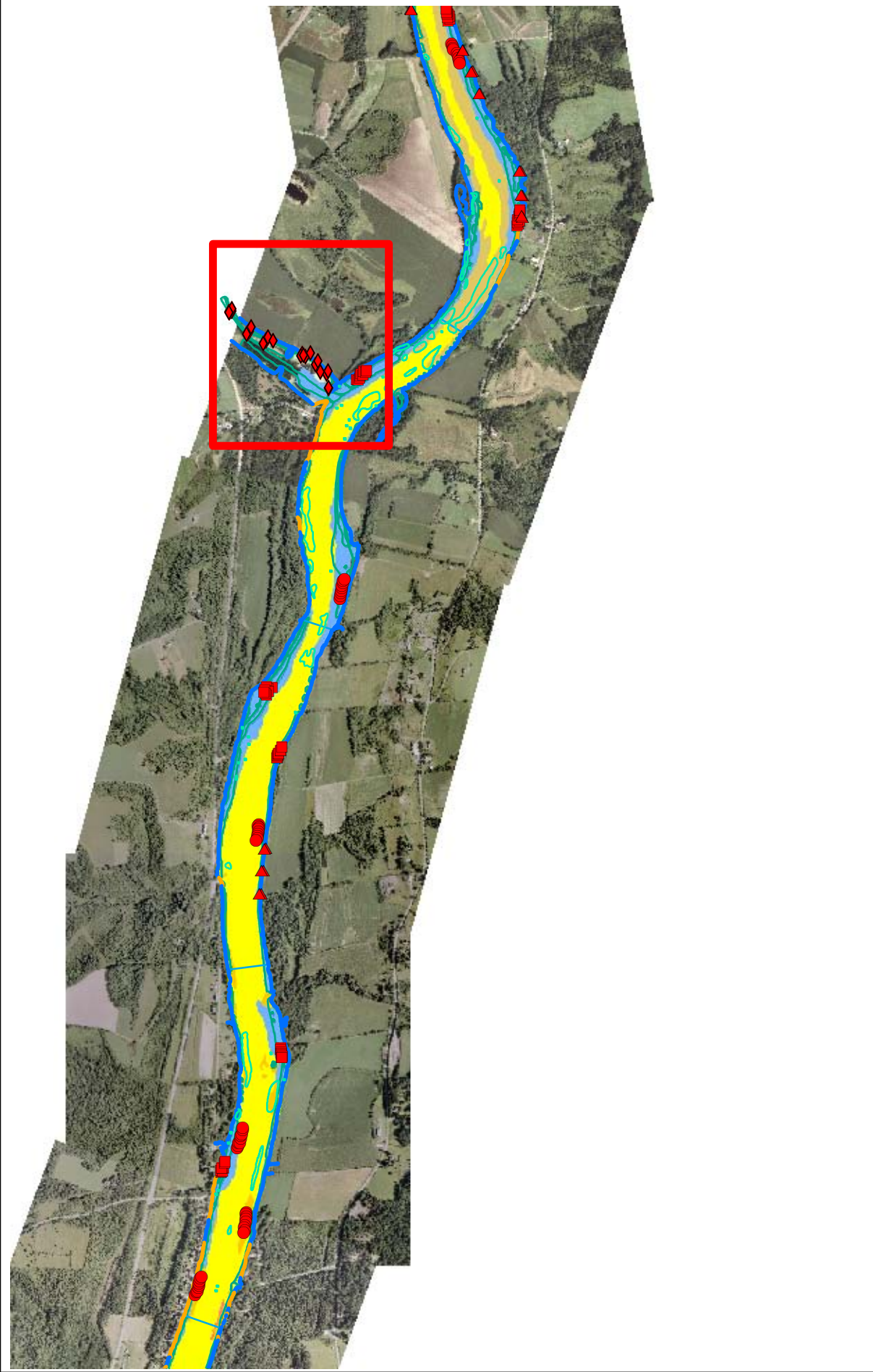
**Phase II Habitat
Assessment Stations**



0 0.1 0.2 0.3 0.4 Miles

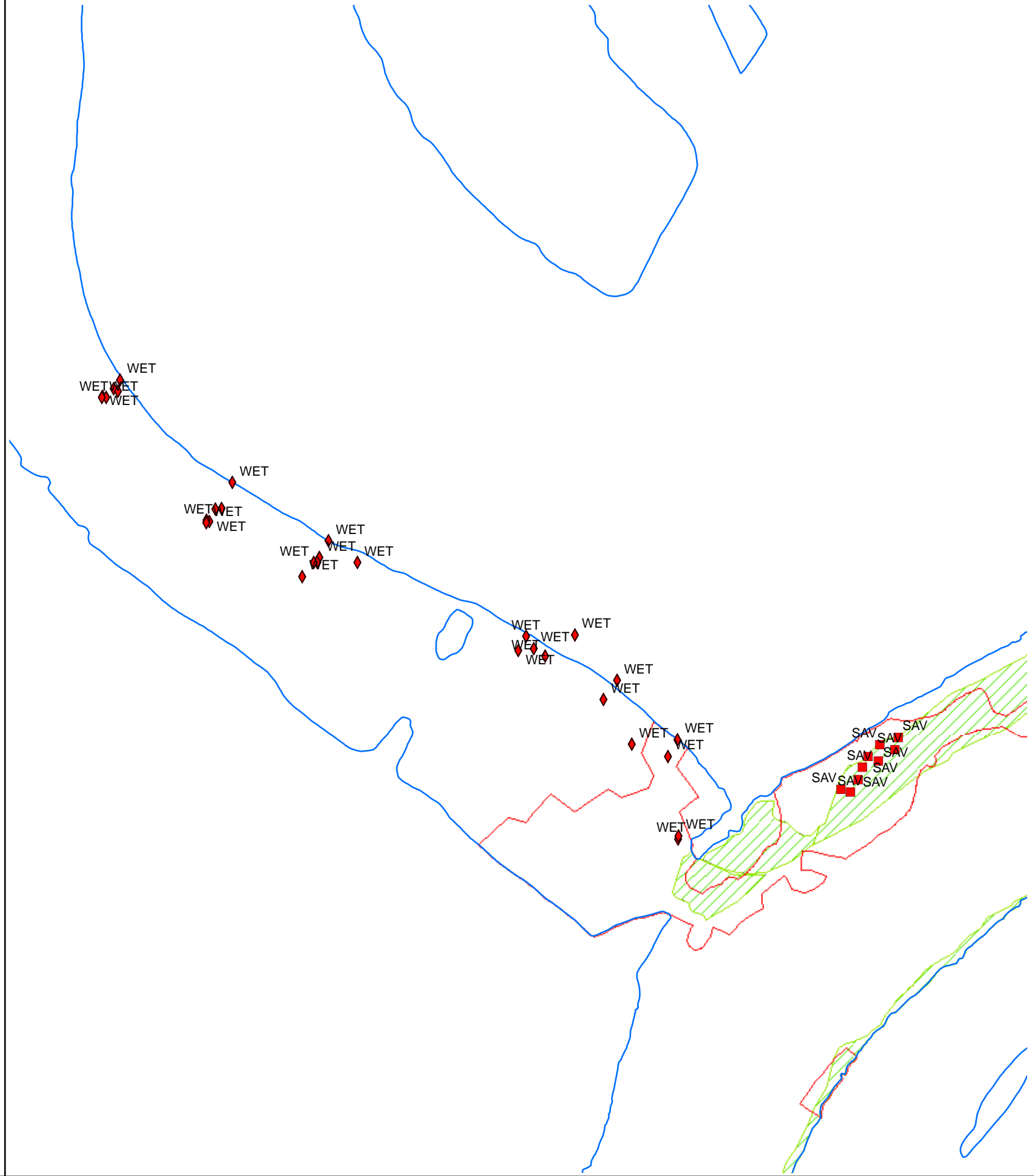
0 100 200 300 400 Feet

Overview



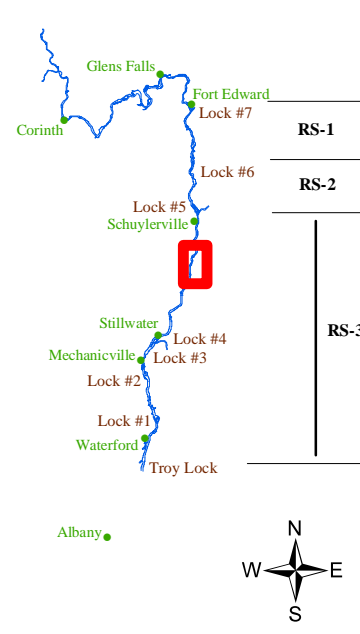
0 0.1 0.2 0.3 0.4 Miles

Focused Area



0 100 200 300 400 Feet

LOCATOR MAP OF THE HUDSON RIVER



LEGEND

- Phase 1 Quadrat/Transect Stations**
- SAV
- ▲ Shoreline
- Unconsolidated Bottom
- ◆ Wetland
- Phase 1 Dredge Areas
- Phase 2 Dredge Areas
- Habitat Shoreline**
- Maintained Shore
- Natural Shore
- SSS Sediment Types**
- Type I Sediment
- Type II Sediment
- Type III Sediment
- Type IV Sediment
- Type V Sediment
- SSS Debris & Attributes
- Shoreline
- River Miles
- Dams and Locks
- Habitat Delineation**
- Backwater Wetland
- Fringe Wetland
- Trapa
- SAV

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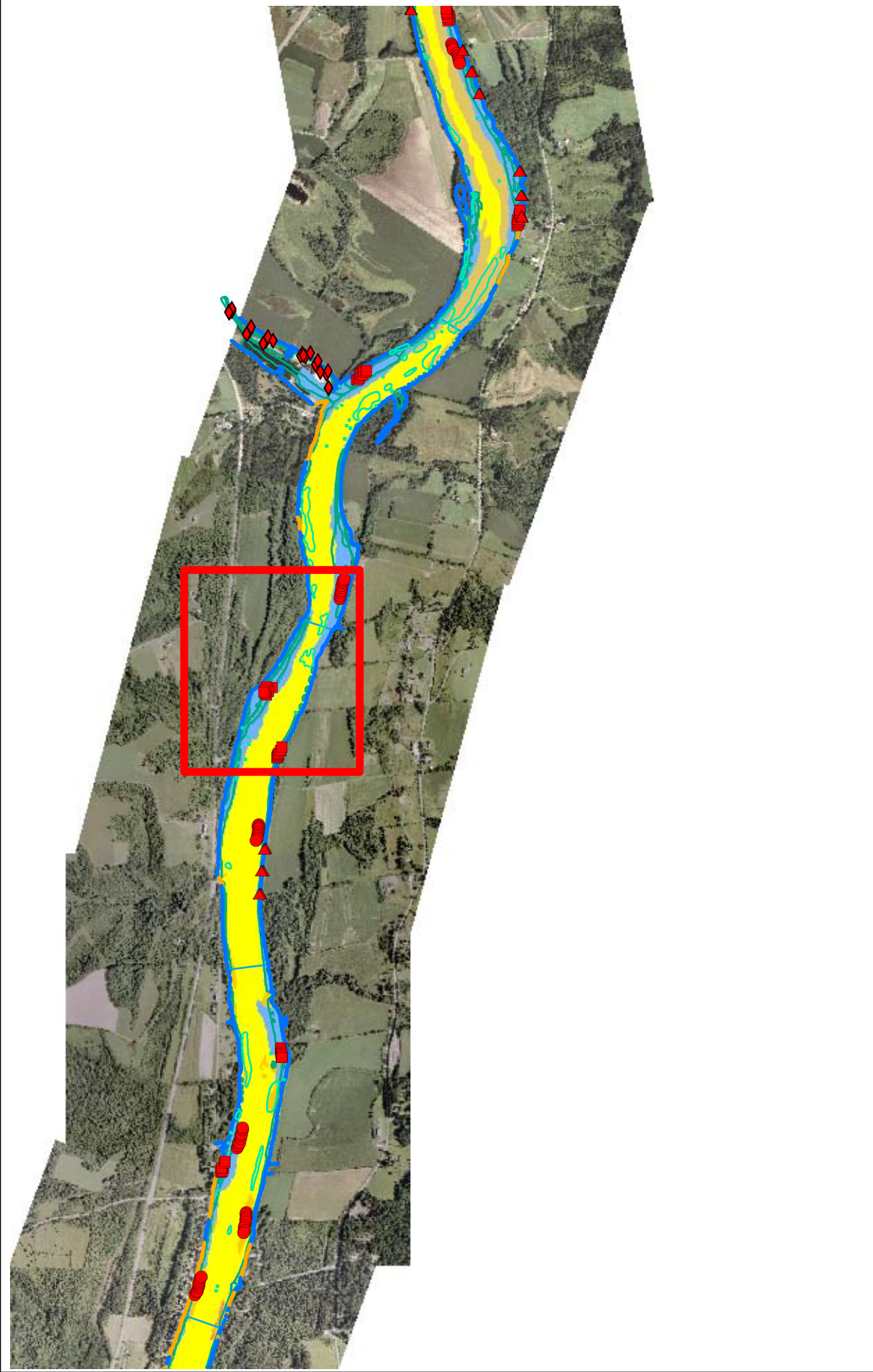
Figure 24

**Phase II Habitat
Assessment Stations**



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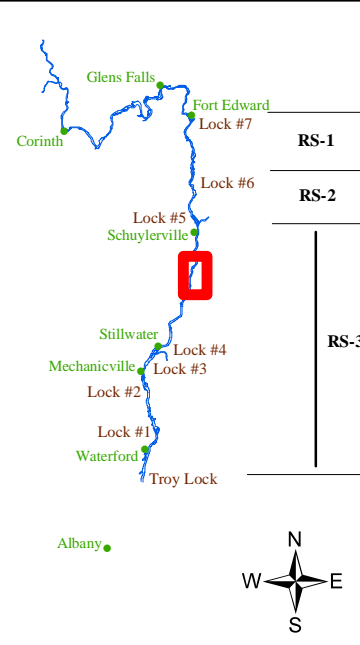
Overview



Focused Area



LOCATOR MAP OF THE HUDSON RIVER



LEGEND

- Phase 1 Quadrat/Transect Stations**
 - SAV
 - ▲ Shoreline
 - Unconsolidated Bottom
 - ◆ Wetland
- Phase 1 Dredge Areas** (White outline)
- Phase 2 Dredge Areas** (Red outline)
- Habitat Shoreline**
 - Maintained Shore (Orange line)
 - Natural Shore (Blue line)
- SSS Sediment Types**
 - Type I Sediment (Light Blue)
 - Type II Sediment (Yellow)
 - Type III Sediment (Orange)
 - Type IV Sediment (Dark Orange)
 - Type V Sediment (Red)
- SSS Debris & Attributes**
 - Shoreline (Blue line)
 - River Miles (Blue line)
 - Dams and Locks (Purple line)
- Habitat Delineation**
 - Backwater Wetland (Green hatched)
 - Fringe Wetland (Green hatched)
 - Trapa (Green hatched)
 - SAV (Green hatched)

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Figure 25

**Phase II Habitat
Assessment Stations**

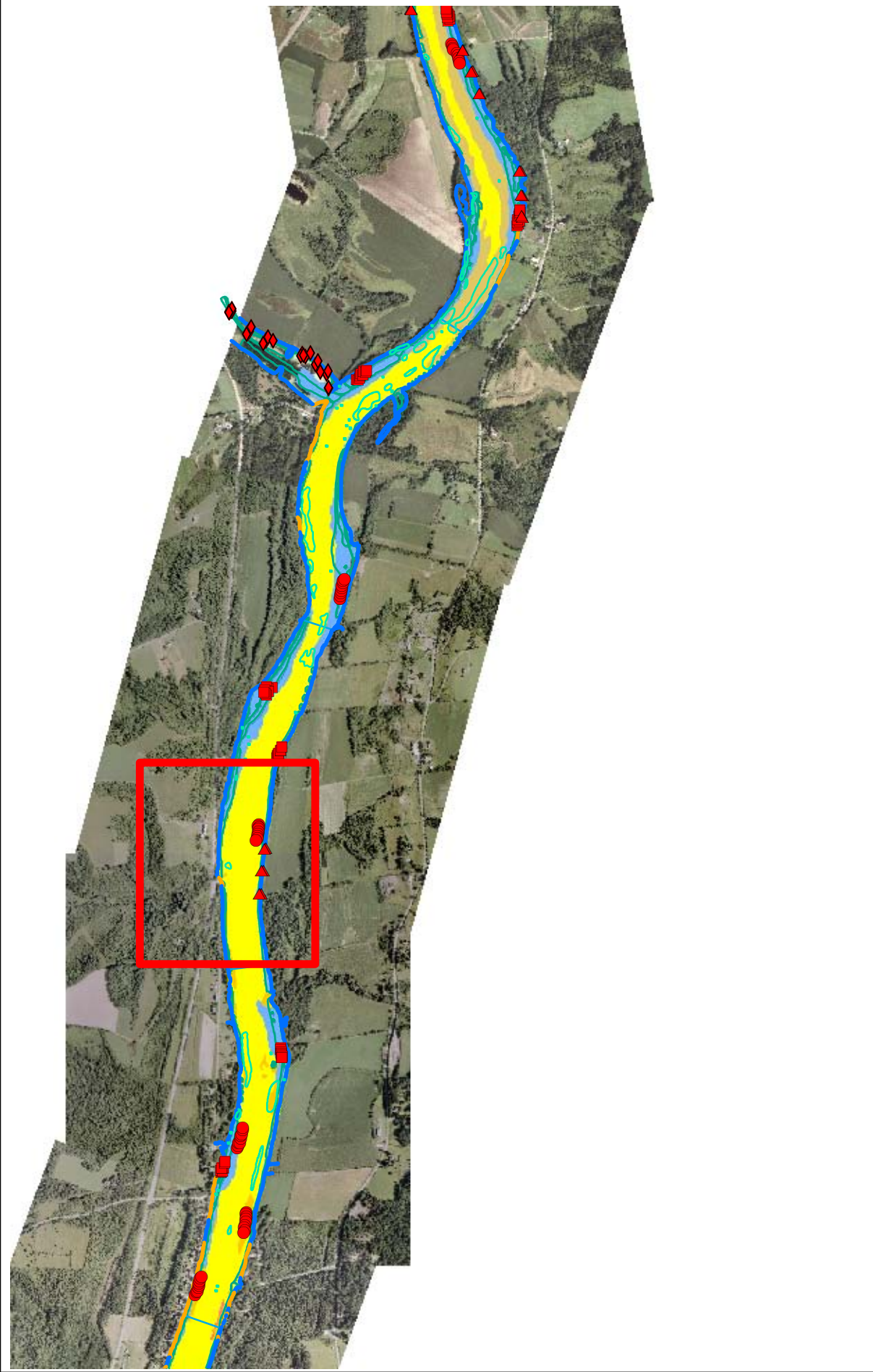


0 0.1 0.2 0.3 0.4 Miles

0 100 200 300 400 Feet

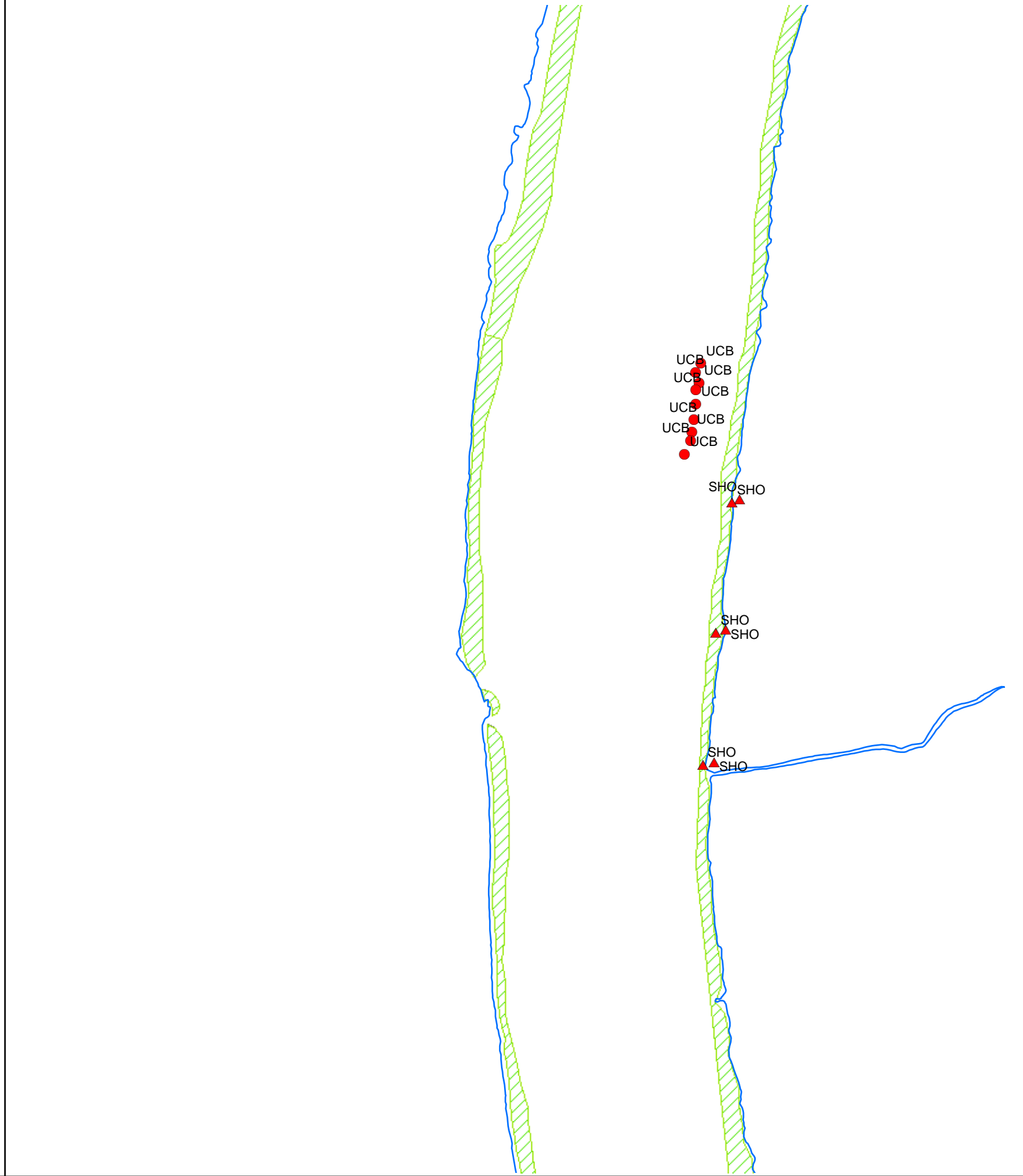
KS- \\ALGONQUINE_Drive\GENrem\WORKING\GIS\maps\ARCGIS8_maps\Habitat\Habitat_Delineation\11x17_Assessment_Maps_20091223

Overview



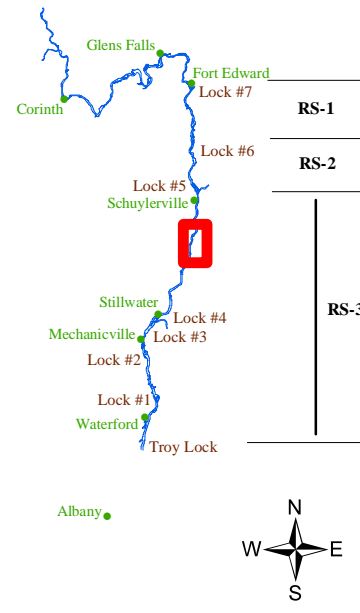
0 0.1 0.2 0.3 0.4 Miles

Focused Area



0 100 200 300 400 Feet

LOCATOR MAP OF THE HUDSON RIVER



LEGEND

- Phase 1 Quadrat/Transect Stations**
- SAV
- ▲ Shoreline
- Unconsolidated Bottom
- ◆ Wetland
- Phase 1 Dredge Areas
- Phase 2 Dredge Areas
- Habitat Shoreline**
- Maintained Shore
- Natural Shore
- SSS Sediment Types**
- Type I Sediment
- Type II Sediment
- Type III Sediment
- Type IV Sediment
- Type V Sediment
- SSS Debris & Attributes
- Shoreline
- River Miles
- Dams and Locks
- Habitat Delineation**
- Backwater Wetland
- Fringe Wetland
- Trapa
- SAV

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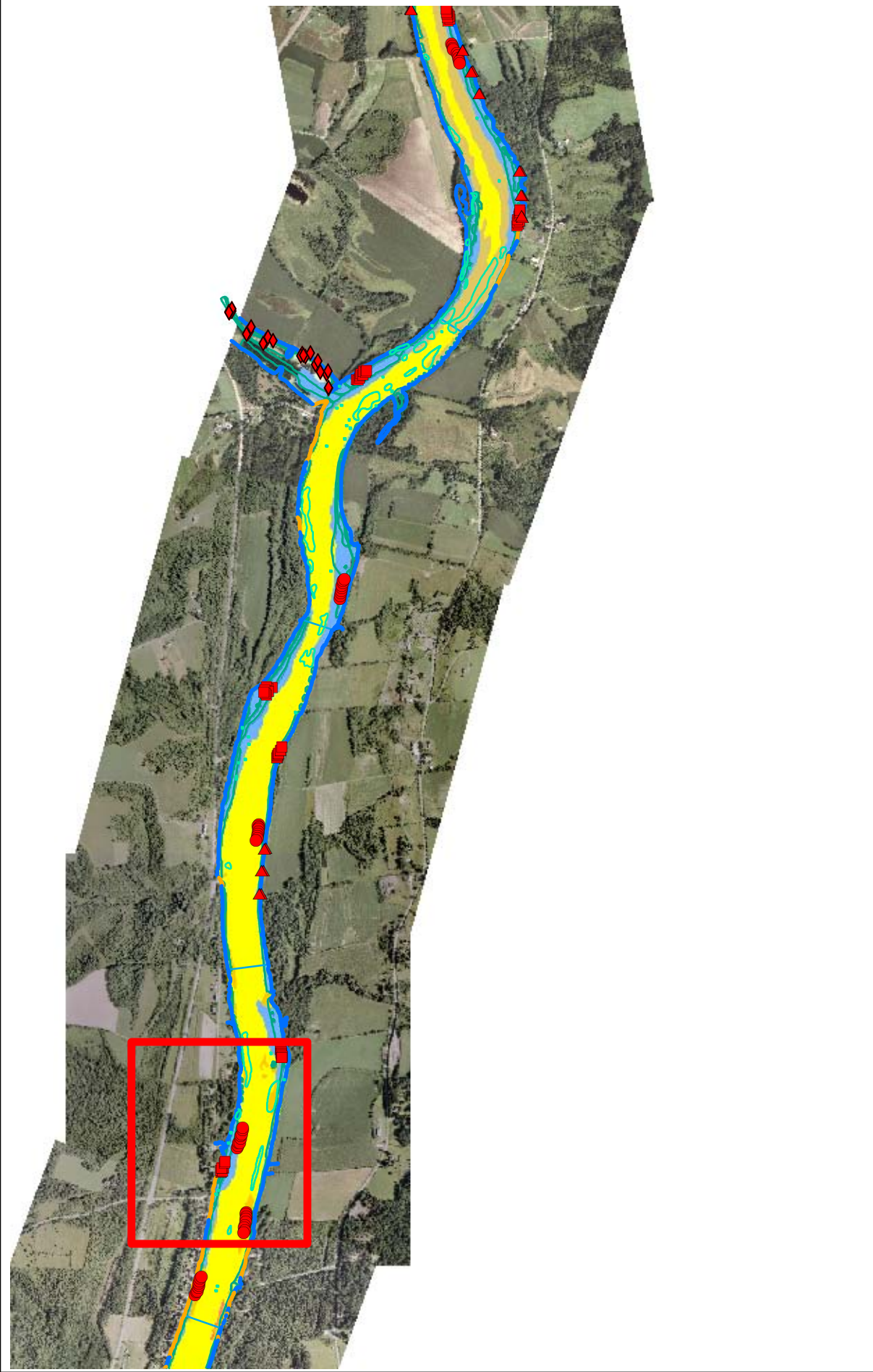
Figure 26

**Phase II Habitat
Assessment Stations**

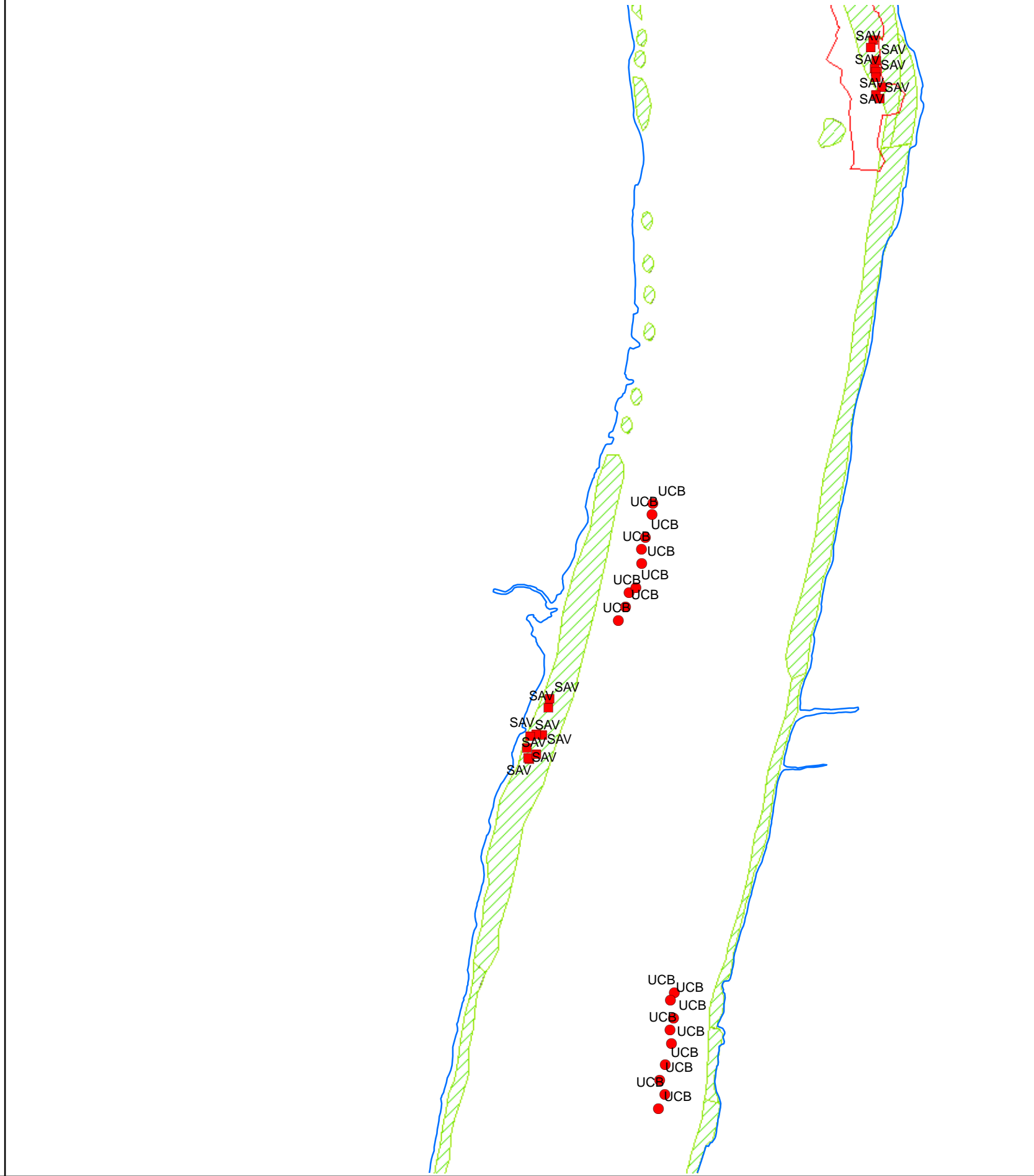


KS- \\ALGONQUINE_Drive\GENrem\WORKING\GIS\maps\ARCGIS8_maps\Habitat\Habitat_Delineation\11x17_Assessment_Maps_20091223

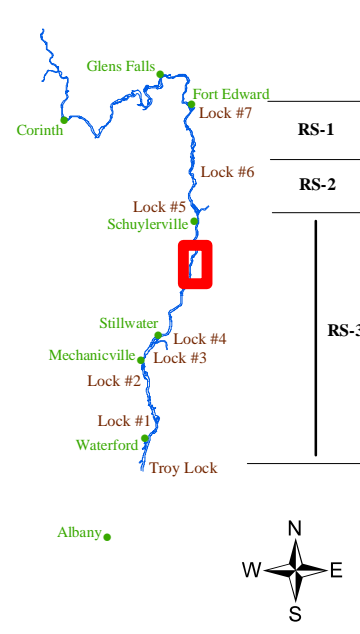
Overview



Focused Area



LOCATOR MAP OF THE HUDSON RIVER



LEGEND

- Phase 1 Quadrat/Transect Stations**
 - SAV
 - ▲ Shoreline
 - Unconsolidated Bottom
 - ◆ Wetland
- Phase 1 Dredge Areas** (White outline)
- Phase 2 Dredge Areas** (Red outline)
- Habitat Shoreline**
 - Maintained Shore (Orange line)
 - Natural Shore (Blue line)
- SSS Sediment Types**
 - Type I Sediment (Light Blue)
 - Type II Sediment (Yellow)
 - Type III Sediment (Orange)
 - Type IV Sediment (Dark Orange)
 - Type V Sediment (Red)
- SSS Debris & Attributes**
 - Shoreline (Blue line)
 - River Miles (Blue line)
 - Dams and Locks (Purple line)
- Habitat Delineation**
 - Backwater Wetland (Green hatched)
 - Fringe Wetland (Green hatched)
 - Trapa (Green hatched)
 - SAV (Green hatched)

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Figure 27

**Phase II Habitat
Assessment Stations**

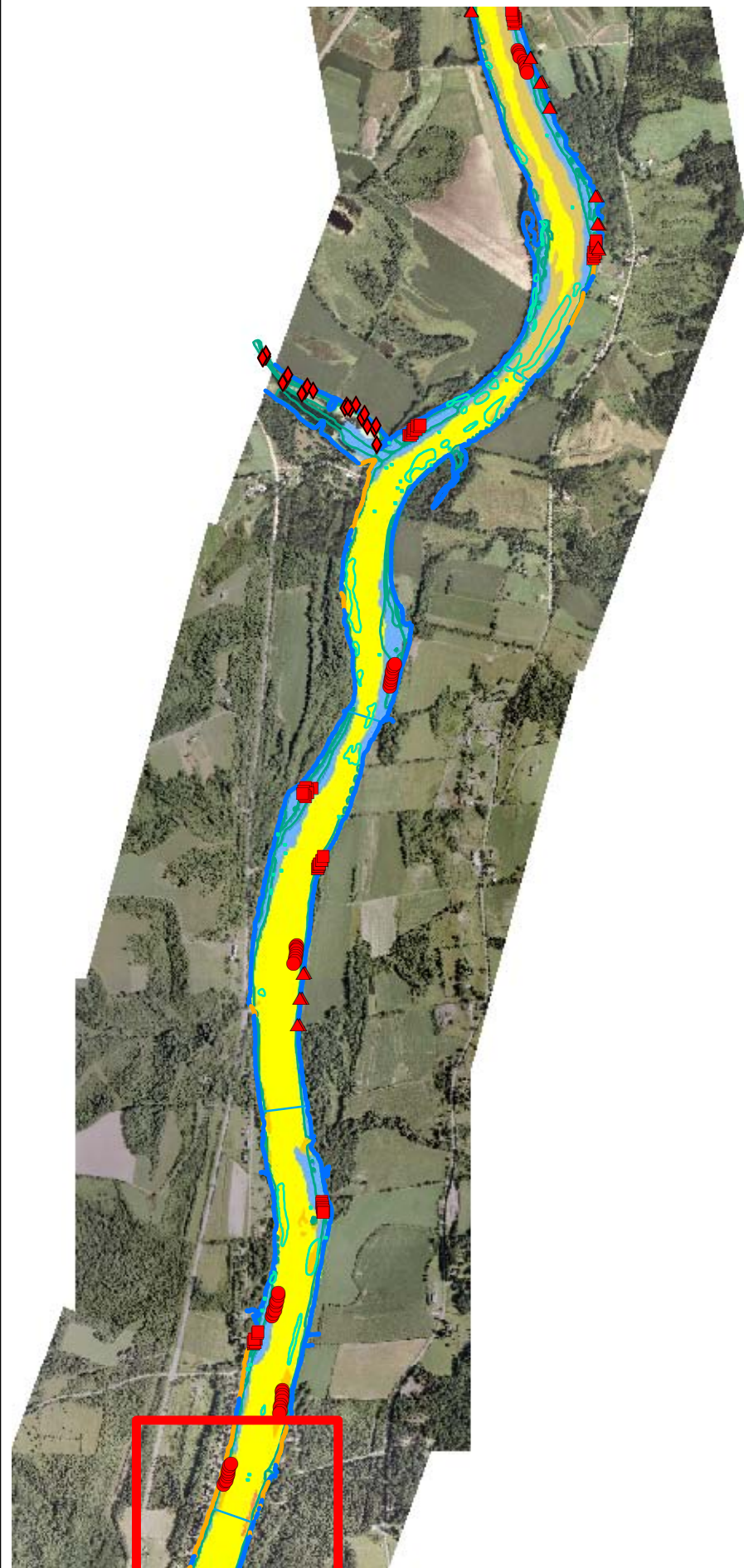


0 0.1 0.2 0.3 0.4 Miles

0 100 200 300 400 Feet

KS- \\ALGONQUINE_Drive\GENrem\WORKING\GIS\maps\ARCGIS8_maps\Habitat\Habitat_Delineation\11x17_Assessment_Maps_20091223

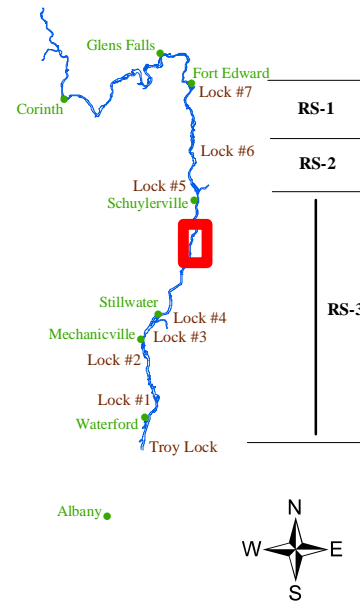
Overview



Focused Area



LOCATOR MAP OF THE HUDSON RIVER



LEGEND

- Phase 1 Quadrat/Transect Stations**
- SAV
- ▲ Shoreline
- Unconsolidated Bottom
- ◆ Wetland
- Phase 1 Dredge Areas
- Phase 2 Dredge Areas
- Habitat Shoreline**
- Maintained Shore
- Natural Shore
- SSS Sediment Types**
- Type I Sediment
- Type II Sediment
- Type III Sediment
- Type IV Sediment
- Type V Sediment
- SSS Debris & Attributes
- Shoreline
- River Miles
- Dams and Locks
- Habitat Delineation**
- Backwater Wetland
- Fringe Wetland
- Trapa
- SAV

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Figure 28

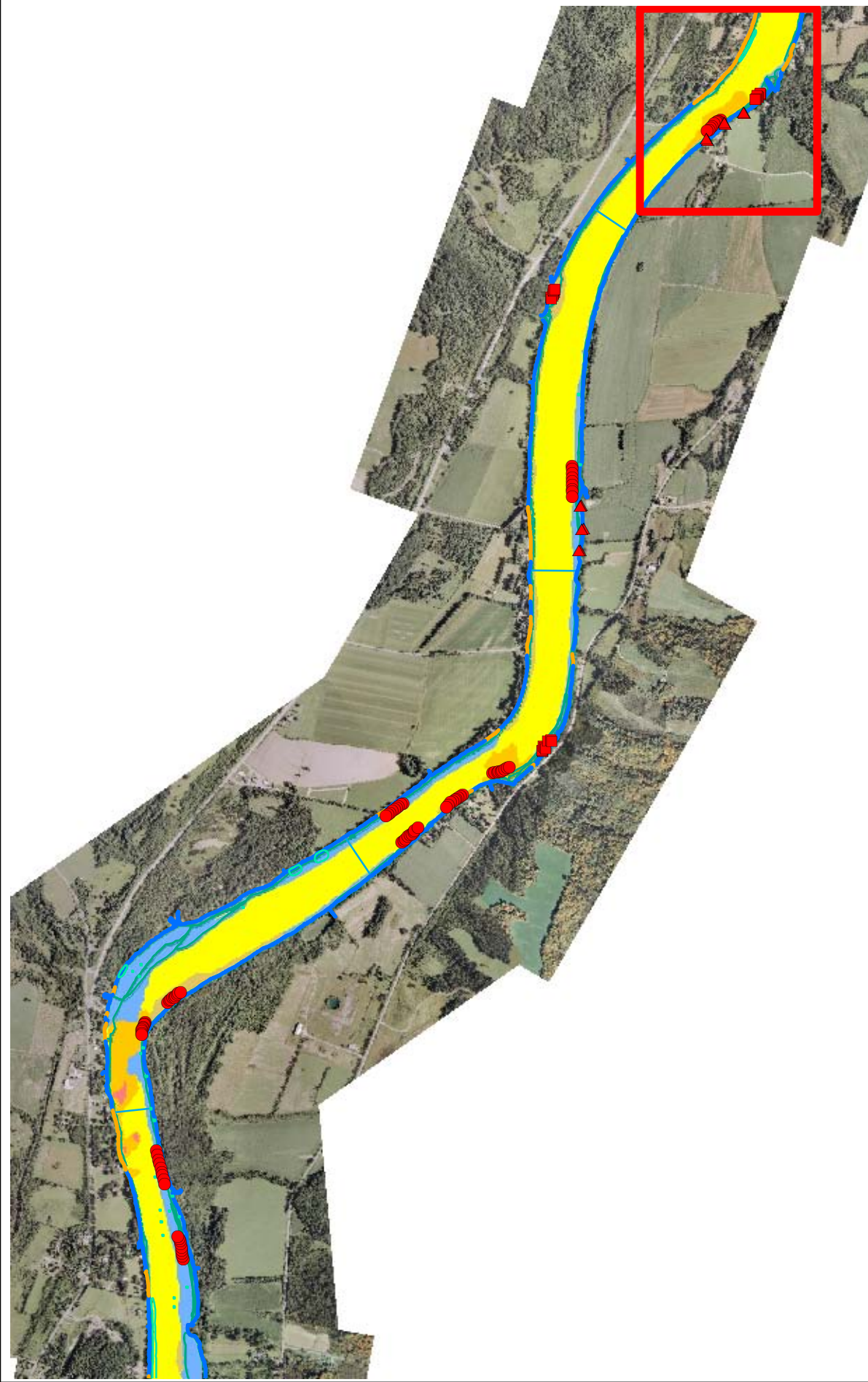
Phase II Habitat
Assessment Stations



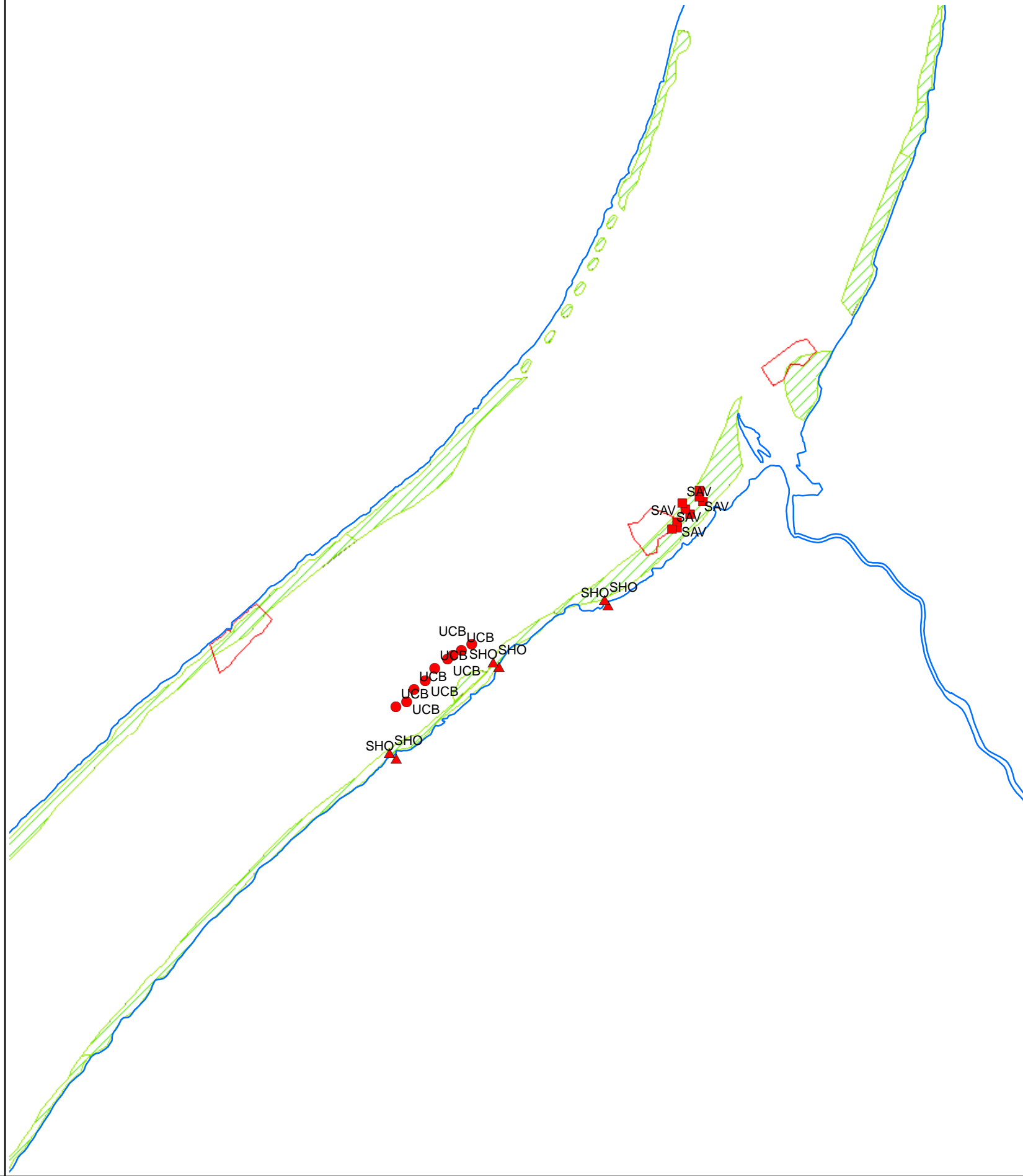
0 0.1 0.2 0.3 0.4 Miles

0 100 200 300 400 Feet

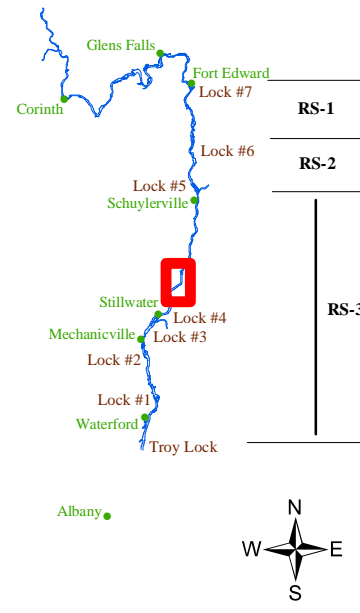
Overview



Focused Area



LOCATOR MAP OF THE HUDSON RIVER



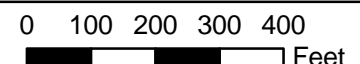
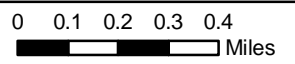
LEGEND

- Phase I Quadrat/Transect Stations**
- SAV
- ▲ Shoreline
- Unconsolidated Bottom
- ◆ Wetland
- Phase I Dredge Areas
- Phase 2 Dredge Areas
- Habitat Shoreline**
- Maintained Shore
- Natural Shore
- SSS Sediment Types**
- Type I Sediment
- Type II Sediment
- Type III Sediment
- Type IV Sediment
- Type V Sediment
- SSS Debris & Attributes
- Shoreline
- River Miles
- Dams and Locks
- Habitat Delineation**
- Backwater Wetland
- Fringe Wetland
- Trapa
- SAV

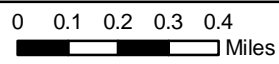
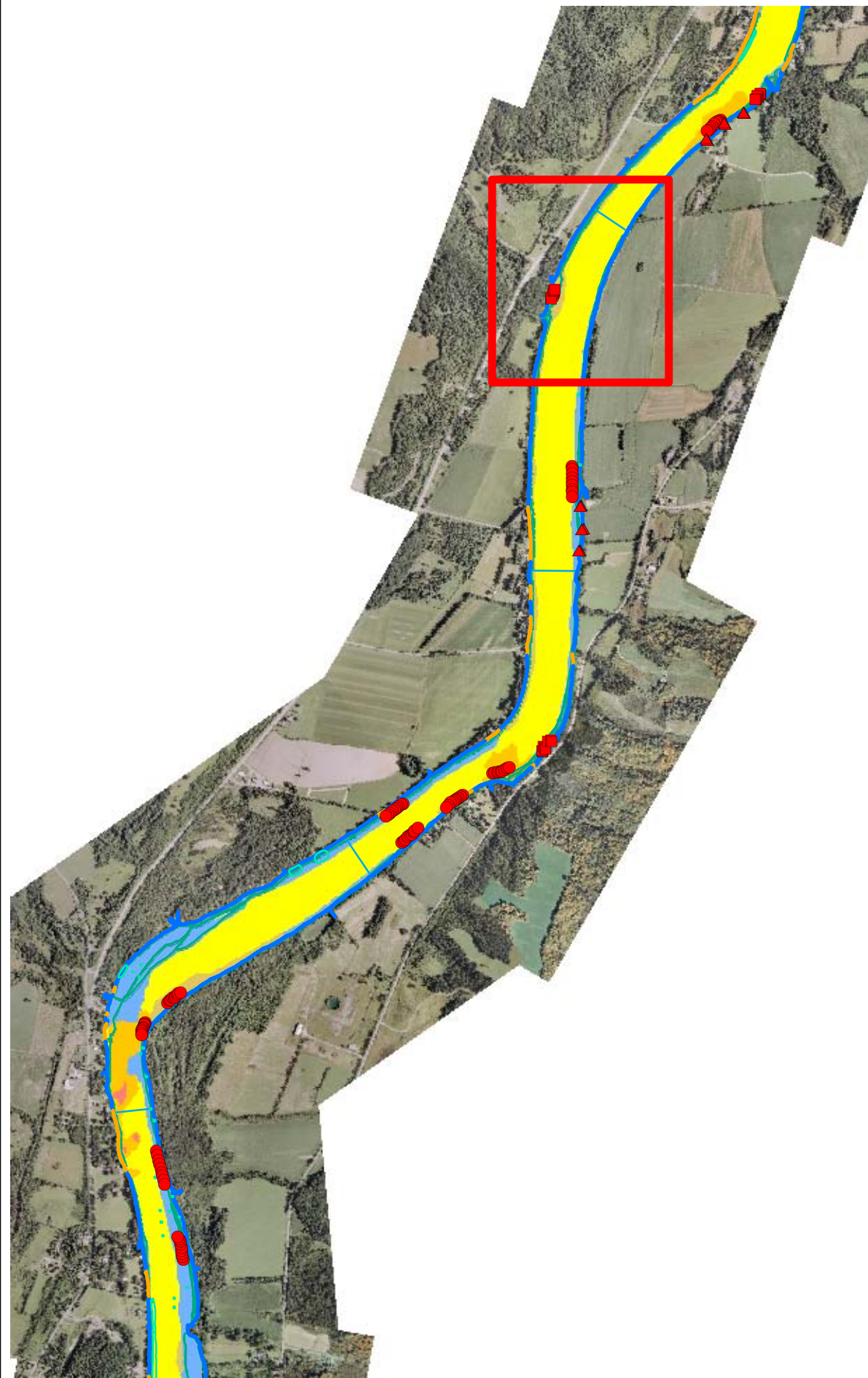
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Hudson River Project

Figure 29

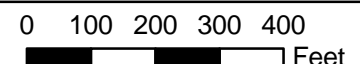
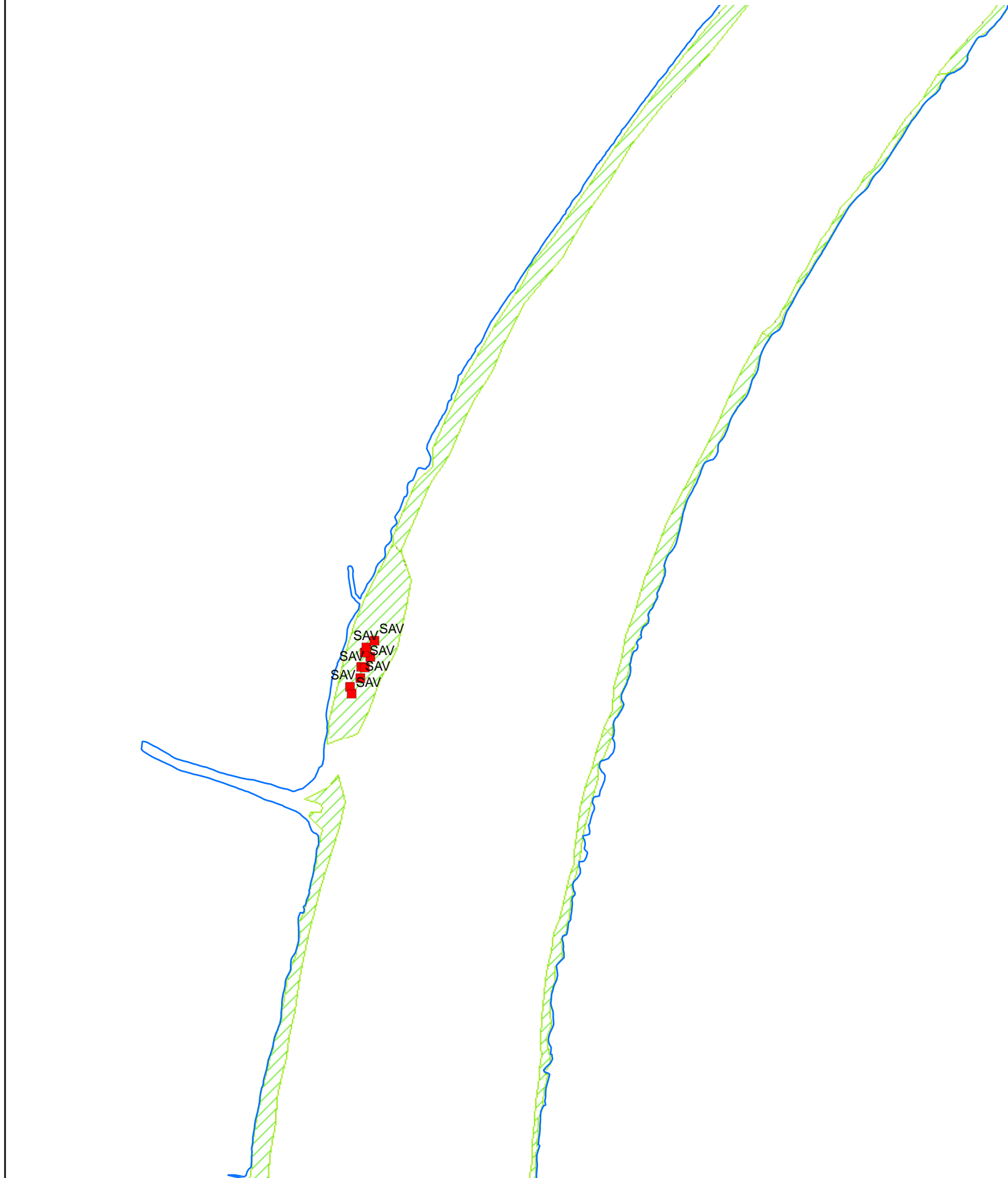
Phase II Habitat
Assessment Stations



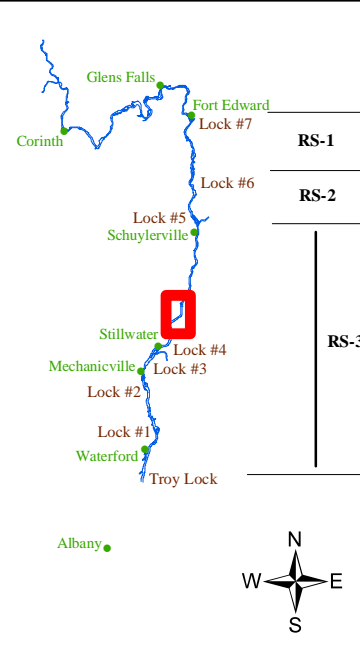
Overview



Focused Area



LOCATOR MAP OF THE HUDSON RIVER



LEGEND

- Phase 1 Quadrat/Transect Stations**
 - SAV
 - ▲ Shoreline
 - Unconsolidated Bottom
 - ◆ Wetland
- Phase 1 Dredge Areas** (White rectangle)
- Phase 2 Dredge Areas** (Red rectangle)
- Habitat Shoreline**
 - Maintained Shore (Orange line)
 - Natural Shore (Blue line)
- SSS Sediment Types**
 - Type I Sediment (Light blue)
 - Type II Sediment (Yellow)
 - Type III Sediment (Orange)
 - Type IV Sediment (Dark orange)
 - Type V Sediment (Red)
- SSS Debris & Attributes** (Green line)
- Shoreline** (Blue line)
- River Miles** (Blue line)
- Dams and Locks** (Purple line)
- Habitat Delineation**
 - Backwater Wetland (Green hatched)
 - Fringe Wetland (Green hatched)
 - Trapa (Green hatched)
 - SAV (Green hatched)

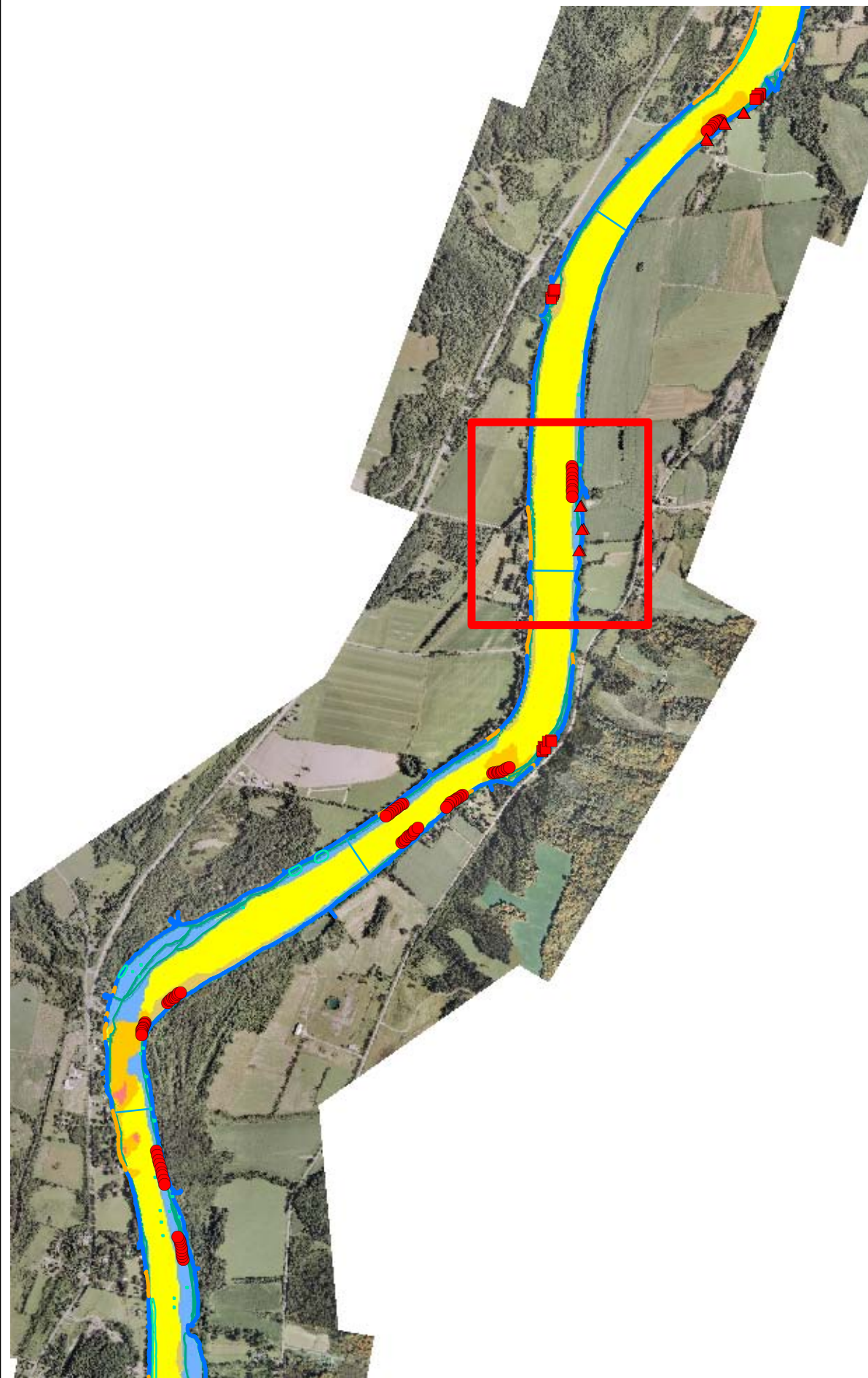
**General Electric Company
Hudson River Project**

Figure 30

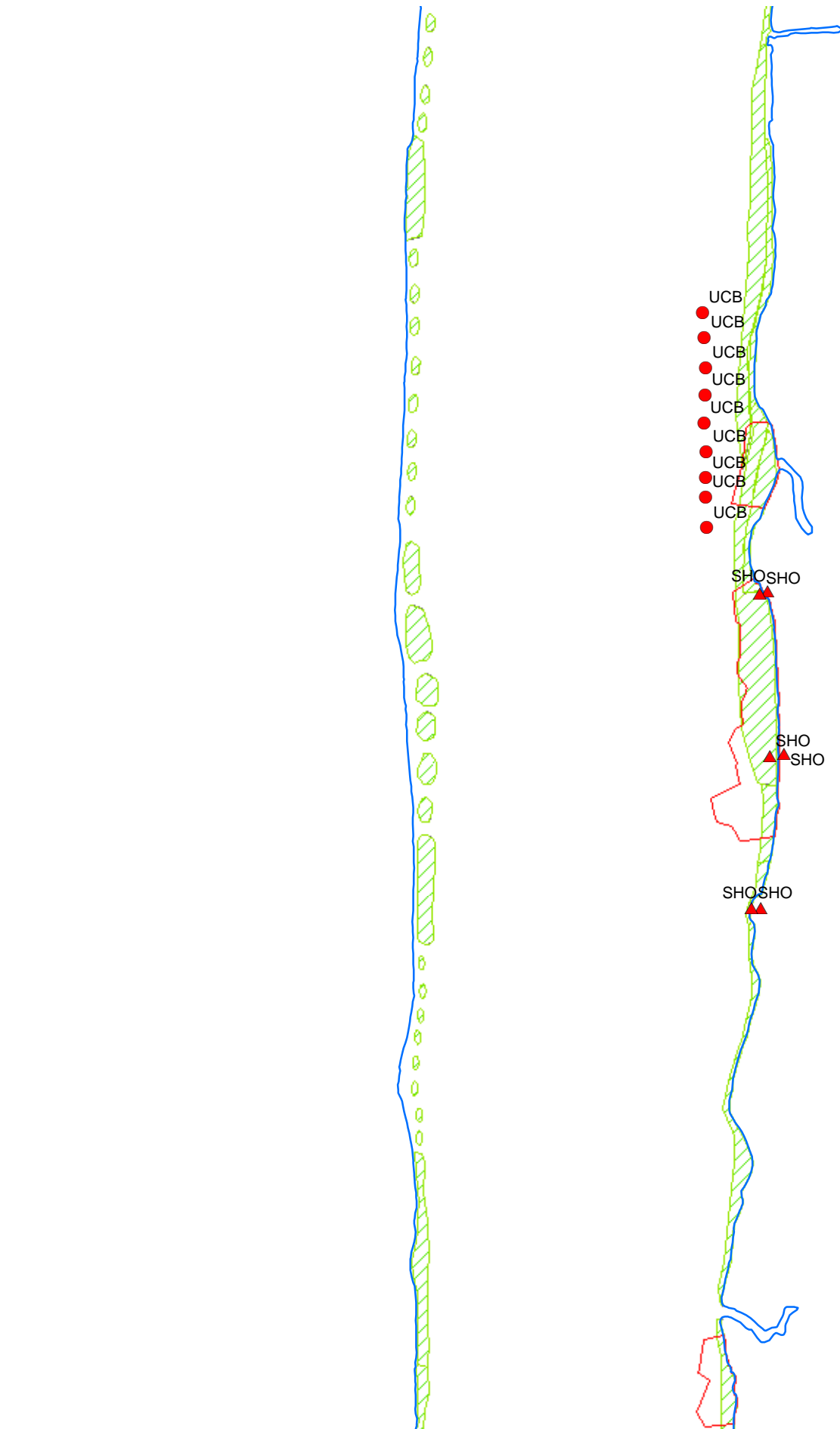
**Phase II Habitat
Assessment Stations**



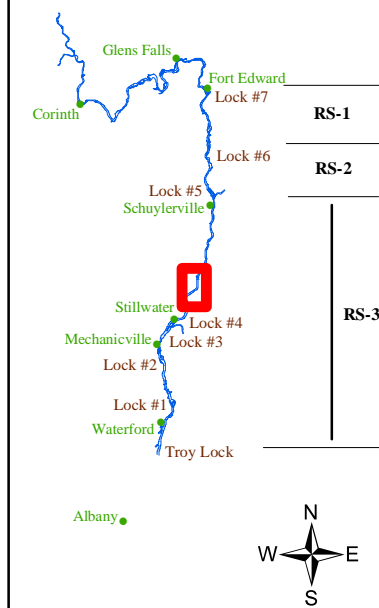
Overview



Focused Area



LOCATOR MAP OF THE HUDSON RIVER



LEGEND

Phase 1 Quadrat/Transect Stations

- SAV
- ▲ Shoreline
- Unconsolidated Bottom
- ◆ Wetland

- Phase 1 Dredge Areas
- Phase 2 Dredge Areas

Habitat Shoreline

- Maintained Shore
- Natural Shore

SSS Sediment Types

- Type I Sediment
- Type II Sediment
- Type III Sediment
- Type IV Sediment
- Type V Sediment

SSS Debris & Attributes

- Shoreline
- River Miles
- Dams and Locks

Habitat Delineation

- Backwater Wetland
- Fringe Wetland
- Trapa
- SAV

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Figure 31

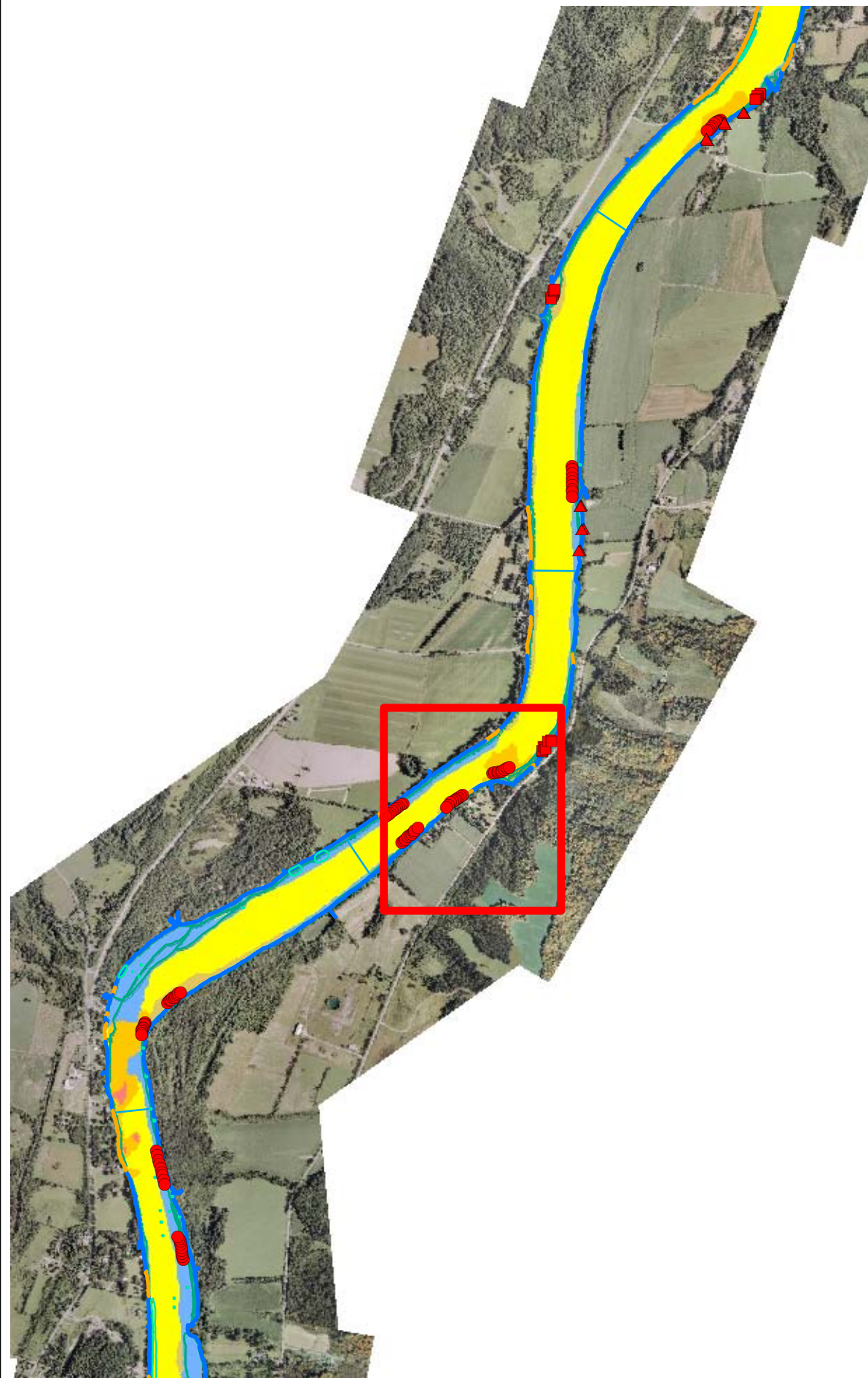
Phase II Habitat Assessment Stations



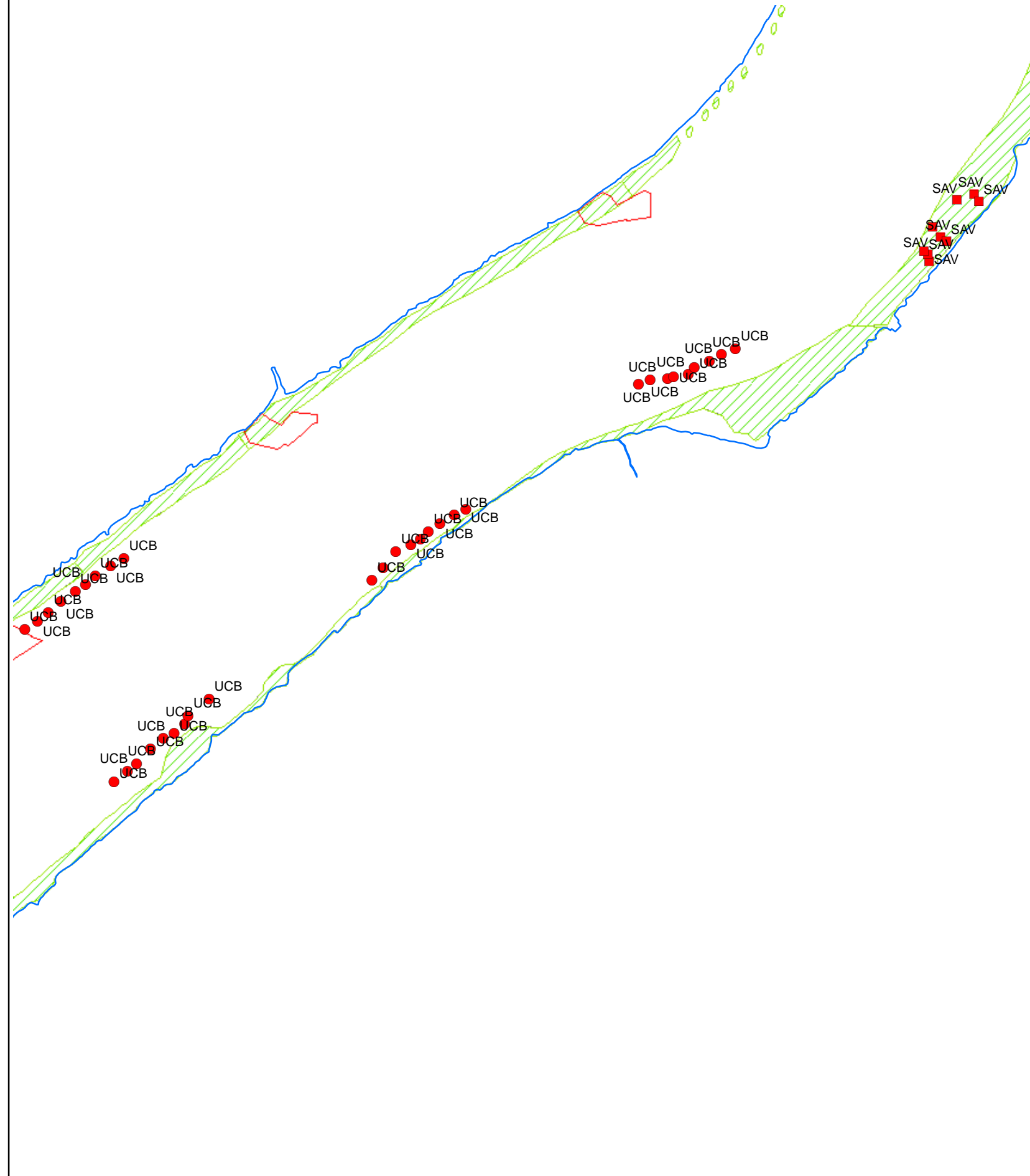
0 0.1 0.2 0.3 0.4 Miles

0 100 200 300 400 Feet

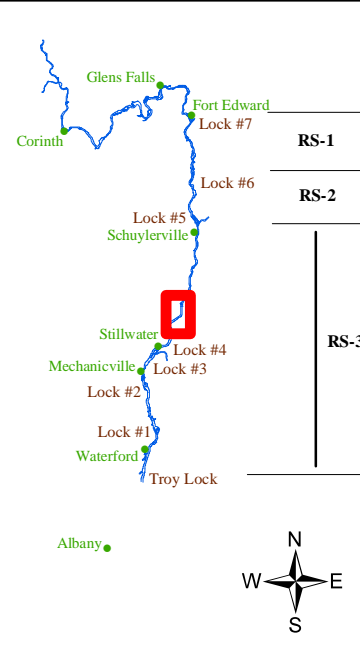
Overview



Focused Area



LOCATOR MAP OF THE HUDSON RIVER



LEGEND

- Phase 1 Quadrat/Transect Stations**
 - SAV
 - ▲ Shoreline
 - Unconsolidated Bottom
 - ◆ Wetland
- Phase 1 Dredge Areas** (White outline)
- Phase 2 Dredge Areas** (Red outline)
- Habitat Shoreline**
 - Maintained Shore (Orange line)
 - Natural Shore (Blue line)
- SSS Sediment Types**
 - Type I Sediment (Light Blue)
 - Type II Sediment (Yellow)
 - Type III Sediment (Orange)
 - Type IV Sediment (Dark Orange)
 - Type V Sediment (Red)
- SSS Debris & Attributes**
 - SSS Debris & Attributes (Green line)
 - Shoreline (Blue line)
 - River Miles (Blue line)
 - Dams and Locks (Purple line)
- Habitat Delineation**
 - Backwater Wetland (Green hatched)
 - Fringe Wetland (Green cross-hatched)
 - Trapa (Green dotted)
 - SAV (Green diagonal lines)

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Hudson River Project**

Figure 32

**Phase II Habitat
Assessment Stations**

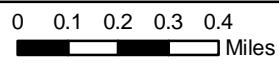
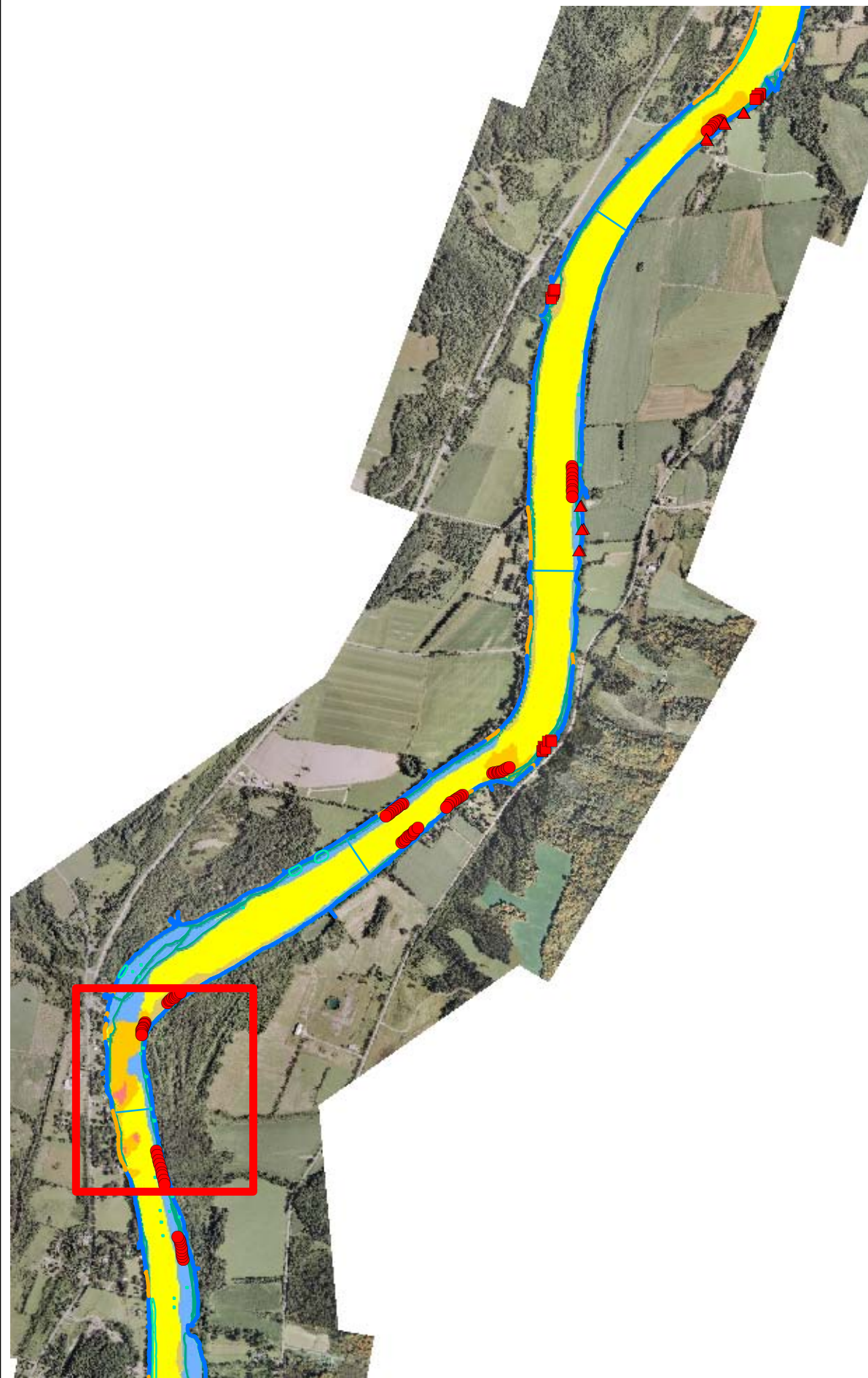


0 0.1 0.2 0.3 0.4 Miles

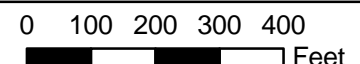
0 100 200 300 400 Feet

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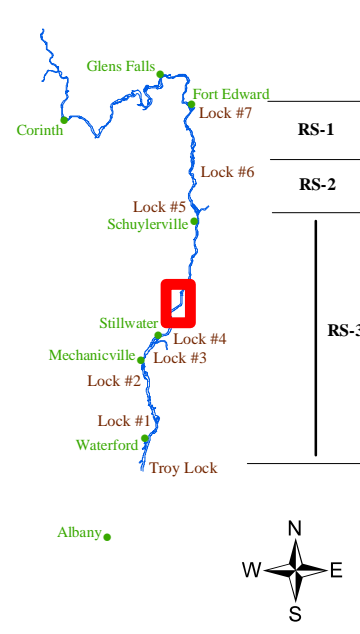
Overview



Focused Area



LOCATOR MAP OF THE HUDSON RIVER



LEGEND

- Phase 1 Quadrat/Transect Stations**
 - SAV
 - ▲ Shoreline
 - Unconsolidated Bottom
 - ◆ Wetland
- Phase 1 Dredge Areas** (Black outline)
- Phase 2 Dredge Areas** (Red outline)
- Habitat Shoreline**
 - Maintained Shore (Orange line)
 - Natural Shore (Blue line)
- SSS Sediment Types**
 - Type I Sediment (Blue)
 - Type II Sediment (Yellow)
 - Type III Sediment (Orange)
 - Type IV Sediment (Green)
 - Type V Sediment (Red)
- SSS Debris & Attributes**
 - Shoreline (Blue line)
 - River Miles (Blue line)
 - Dams and Locks (Purple line)
- Habitat Delineation**
 - Backwater Wetland (Green with dots)
 - Fringe Wetland (Green with cross-hatch)
 - Trapa (Green with vertical lines)
 - SAV (Green with diagonal lines)

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Figure 33

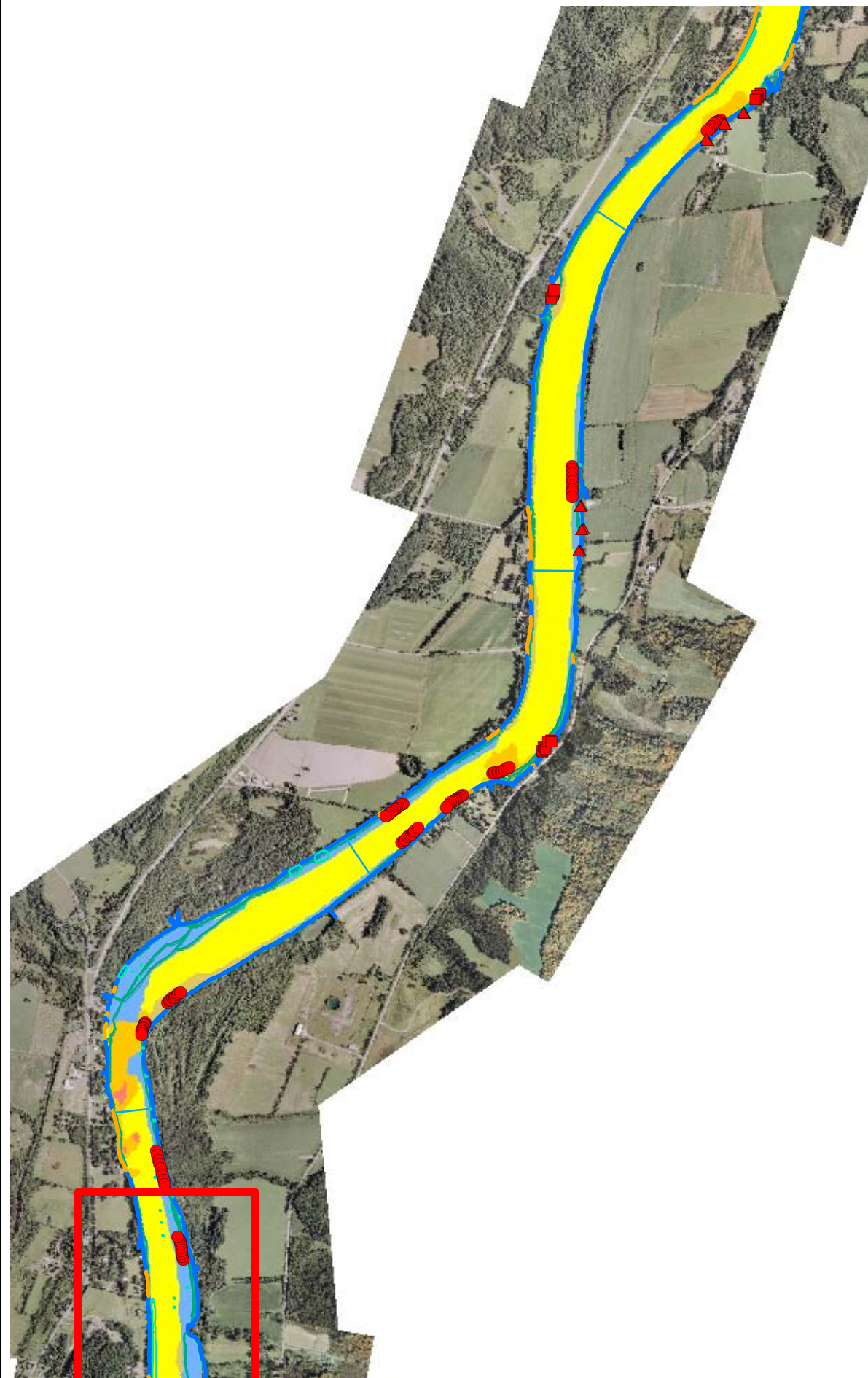
Phase II Habitat
Assessment Stations



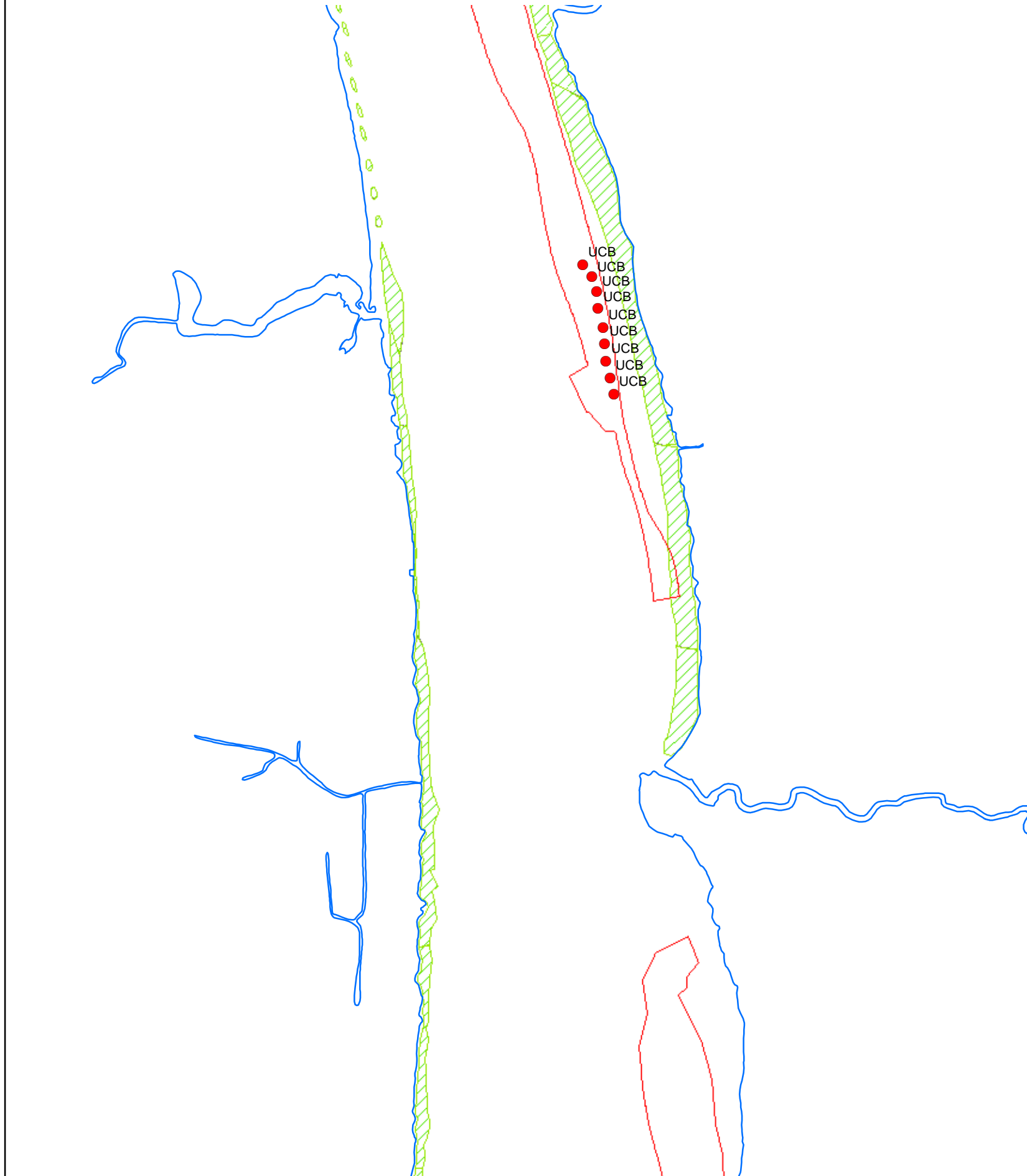
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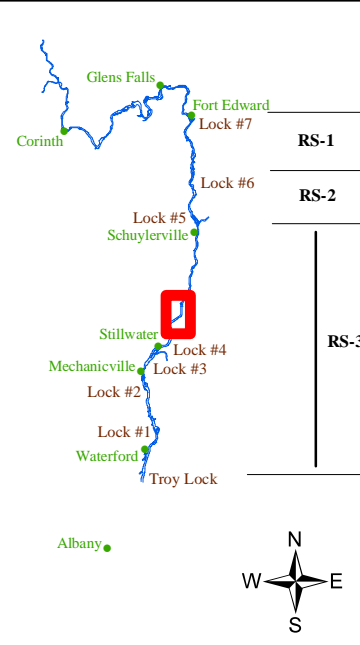
Overview



Focused Area



LOCATOR MAP OF THE HUDSON RIVER



LEGEND

- Phase 1 Quadrat/Transect Stations**
- SAV
- ▲ Shoreline
- Unconsolidated Bottom
- ◆ Wetland
- Phase 1 Dredge Areas
- Phase 2 Dredge Areas
- Habitat Shoreline**
- Maintained Shore
- Natural Shore
- SSS Sediment Types**
- Type I Sediment
- Type II Sediment
- Type III Sediment
- Type IV Sediment
- Type V Sediment
- SSS Debris & Attributes
- Shoreline
- River Miles
- Dams and Locks
- Habitat Delineation**
- Backwater Wetland
- Fringe Wetland
- Trapa
- SAV

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Hudson River Project**

Figure 34

**Phase II Habitat
Assessment Stations**

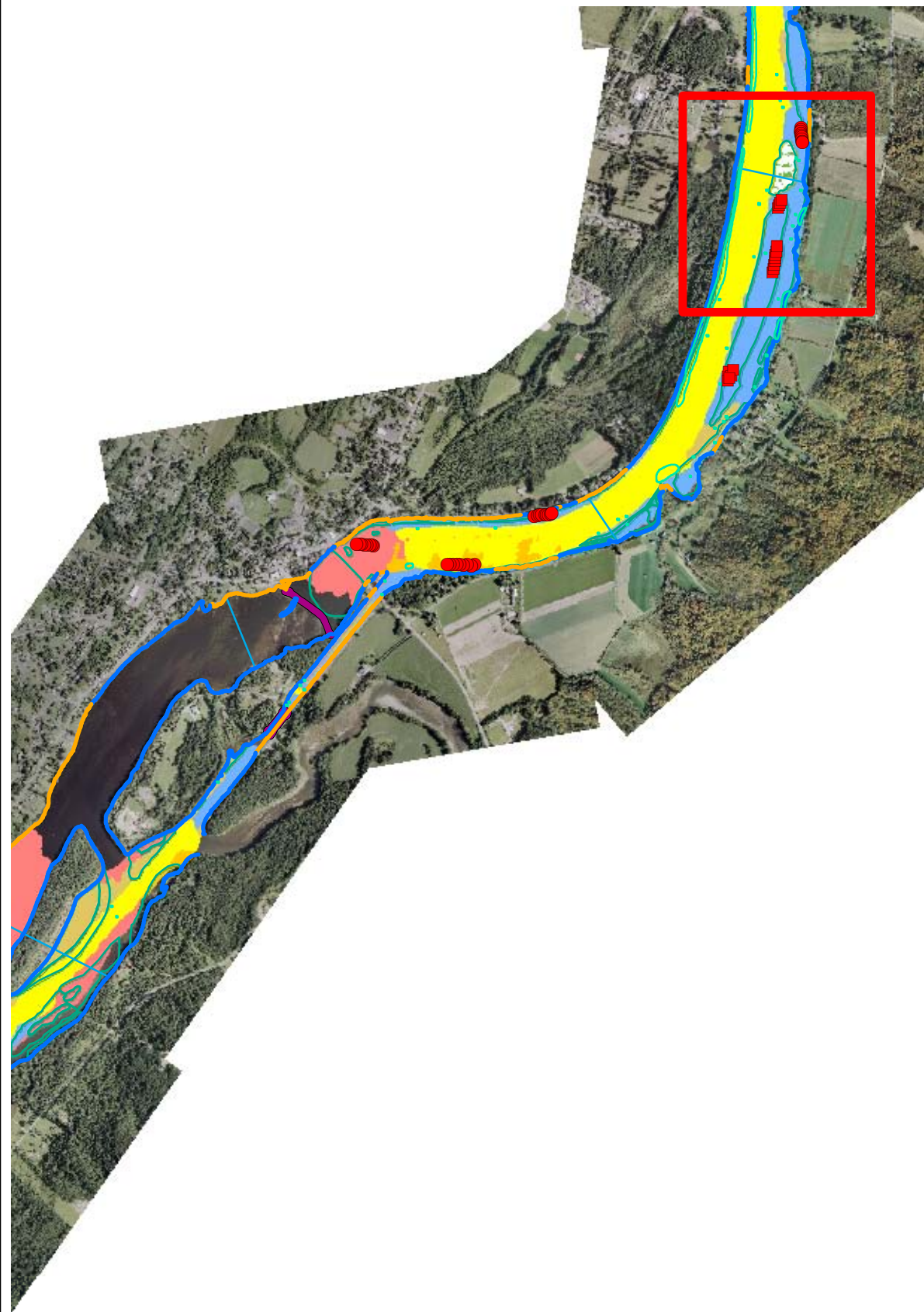


0 0.1 0.2 0.3 0.4 Miles

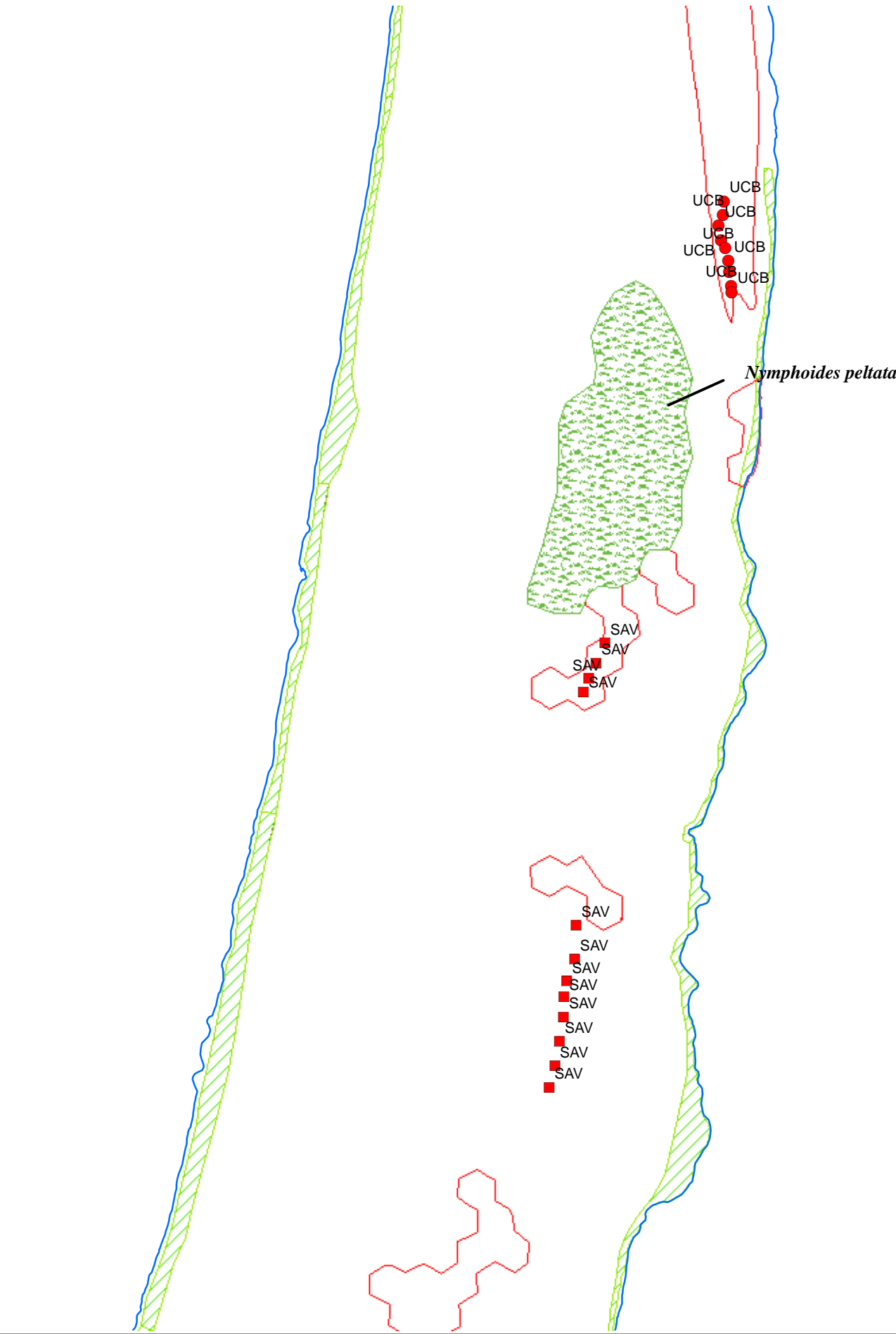
0 100 200 300 400 Feet

KS- \\ALGONQUINE_Drive\GENrem\WORKING\GIS\maps\ARCGIS8_maps\Habitat\Habitat_Delineation\11x17_Assessment_Maps_20091223

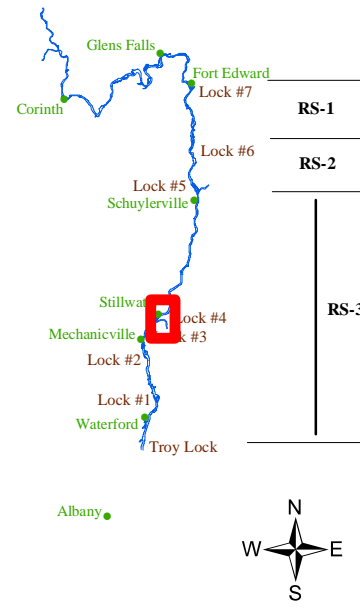
Overview



Focused Area



LOCATOR MAP OF THE HUDSON RIVER



LEGEND

- Phase 1 Quadrat/Transect Stations**
- SAV
- ▲ Shoreline
- Unconsolidated Bottom
- ◆ Wetland
- Phase 1 Dredge Areas
- Phase 2 Dredge Areas
- Habitat Shoreline**
- Maintained Shore
- Natural Shore
- SSS Sediment Types**
- Type I Sediment
- Type II Sediment
- Type III Sediment
- Type IV Sediment
- Type V Sediment
- SSS Debris & Attributes
- Shoreline
- River Miles
- Dams and Locks
- Habitat Delineation**
- Backwater Wetland
- Fringe Wetland
- Trapa
- SAV

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Hudson River Project**

Figure 35

**Phase II Habitat
Assessment Stations**

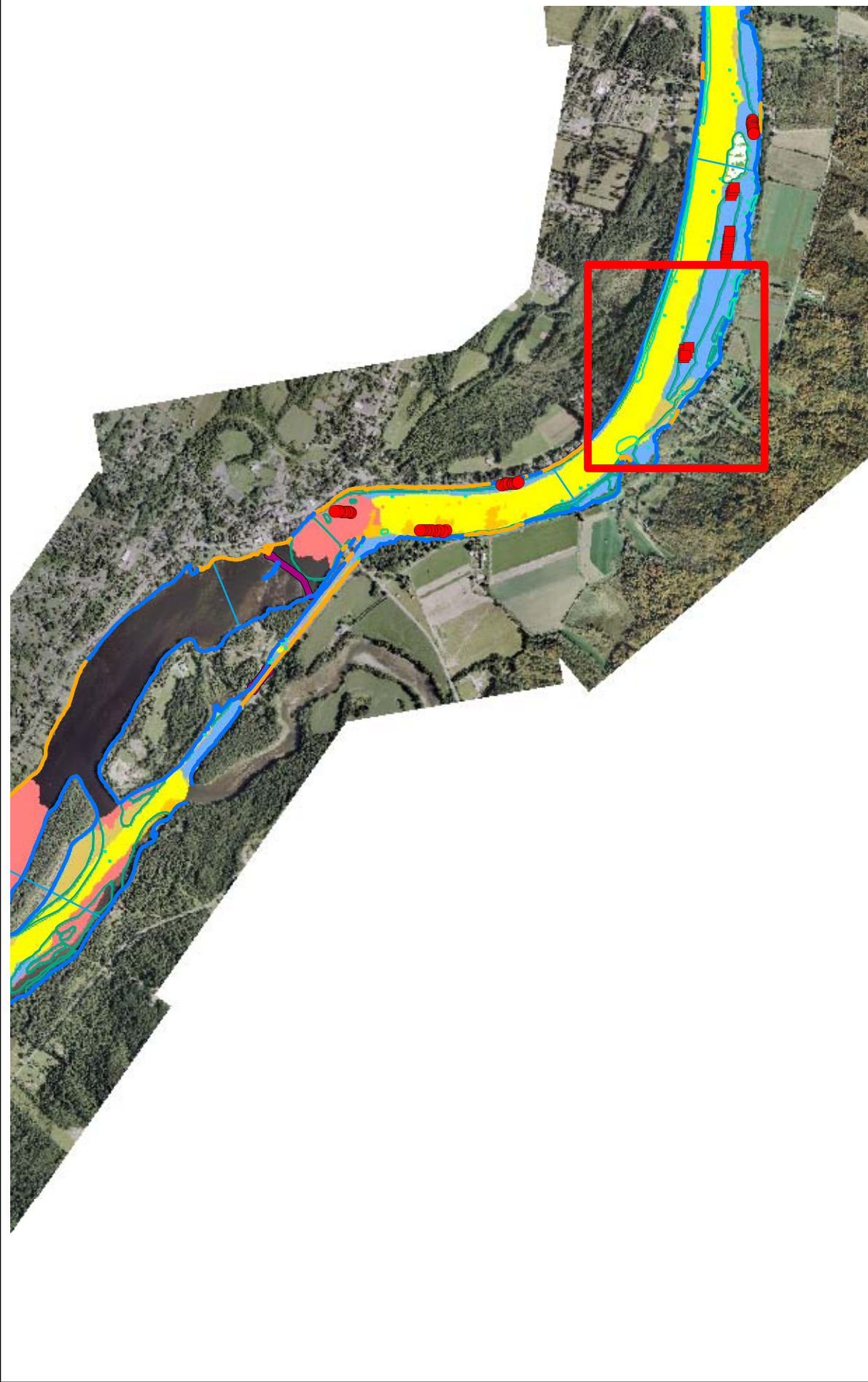


0 0.1 0.2 0.3 0.4 Miles

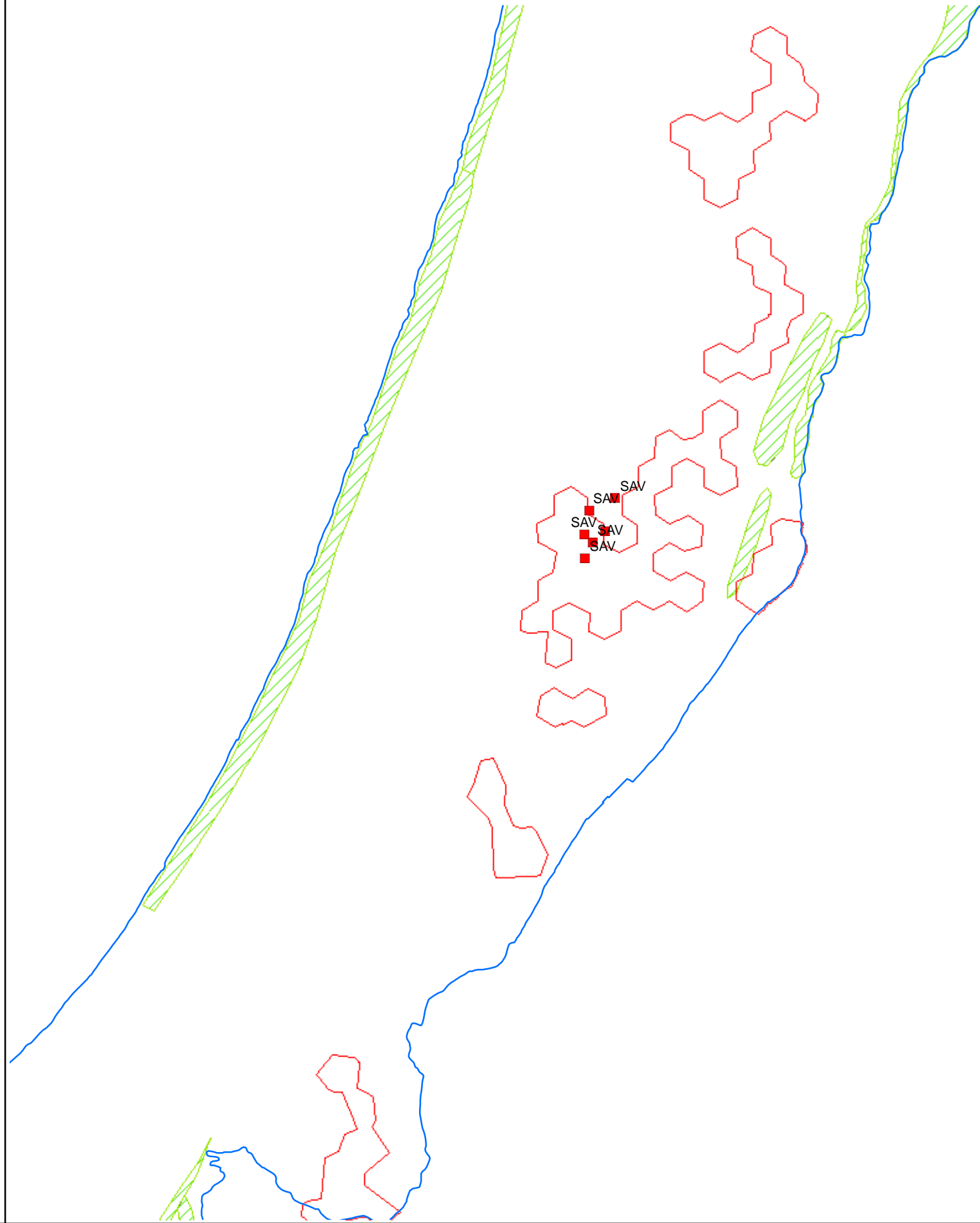
0 100 200 300 400 Feet

KS- \\ALGONQUINE_Drive\GENrem\WORKING\GIS\maps\ARCGIS8_maps\Habitat\Habitat_Delineation\11x17_Assessment_Maps_20091223

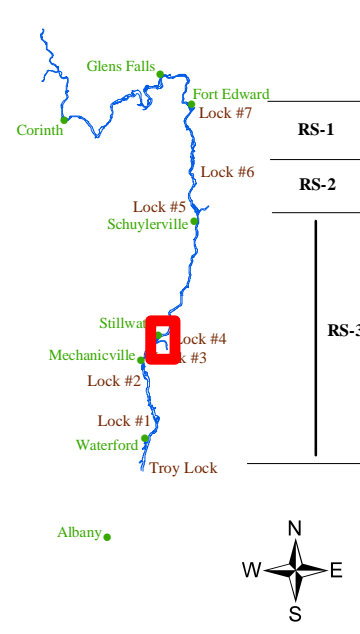
Overview



Focused Area



LOCATOR MAP OF THE HUDSON RIVER



LEGEND

- Phase 1 Quadrat/Transect Stations**
- SAV
- ▲ Shoreline
- Unconsolidated Bottom
- ◆ Wetland
- Phase 1 Dredge Areas
- Phase 2 Dredge Areas
- Habitat Shoreline**
- Maintained Shore
- Natural Shore
- SSS Sediment Types**
- Type I Sediment
- Type II Sediment
- Type III Sediment
- Type IV Sediment
- Type V Sediment
- SSS Debris & Attributes
- Shoreline
- River Miles
- Dams and Locks
- Habitat Delineation**
- Backwater Wetland
- Fringe Wetland
- Trapa
- SAV

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Figure 36

**Phase II Habitat
Assessment Stations**

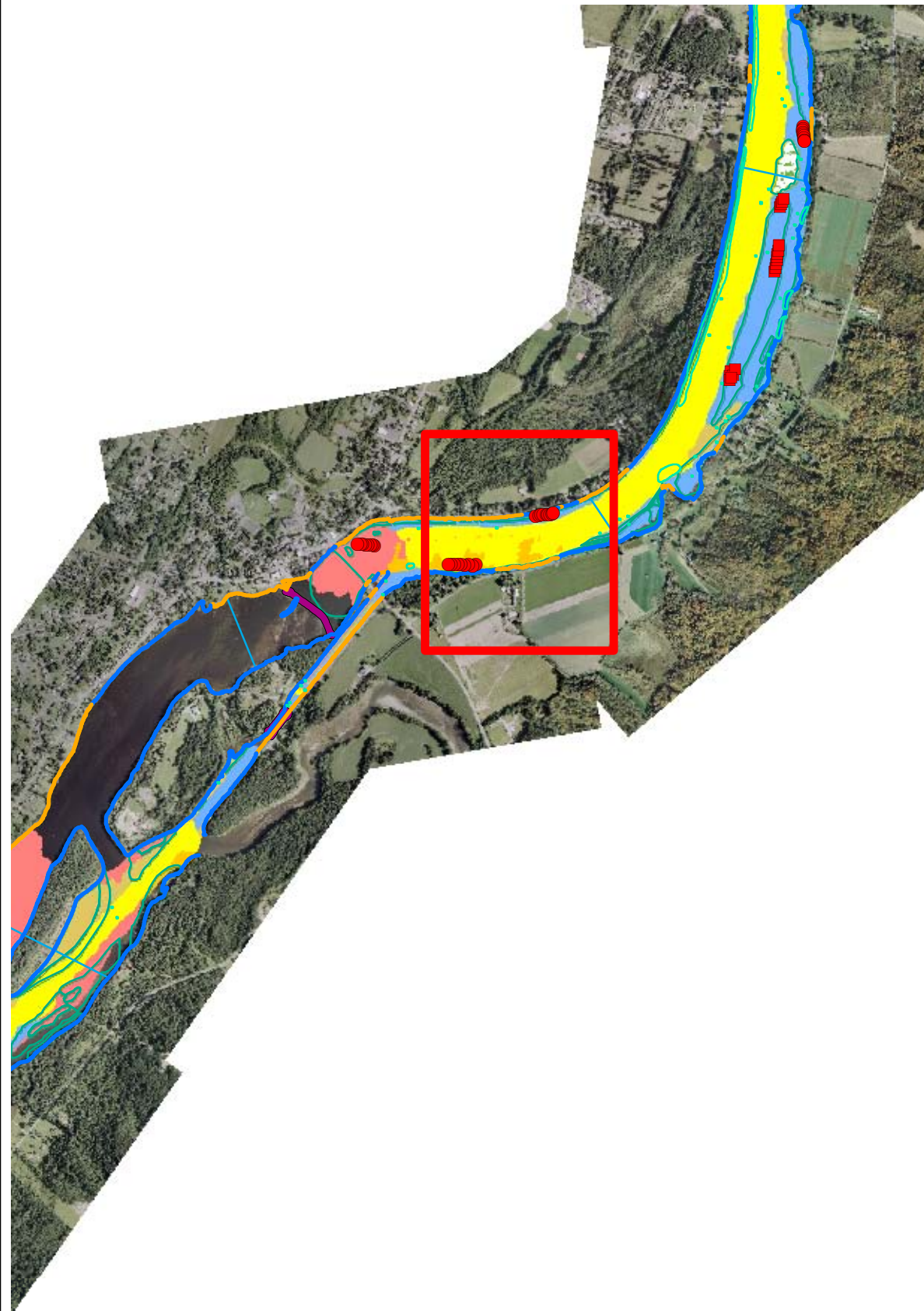


0 0.1 0.2 0.3 0.4 Miles

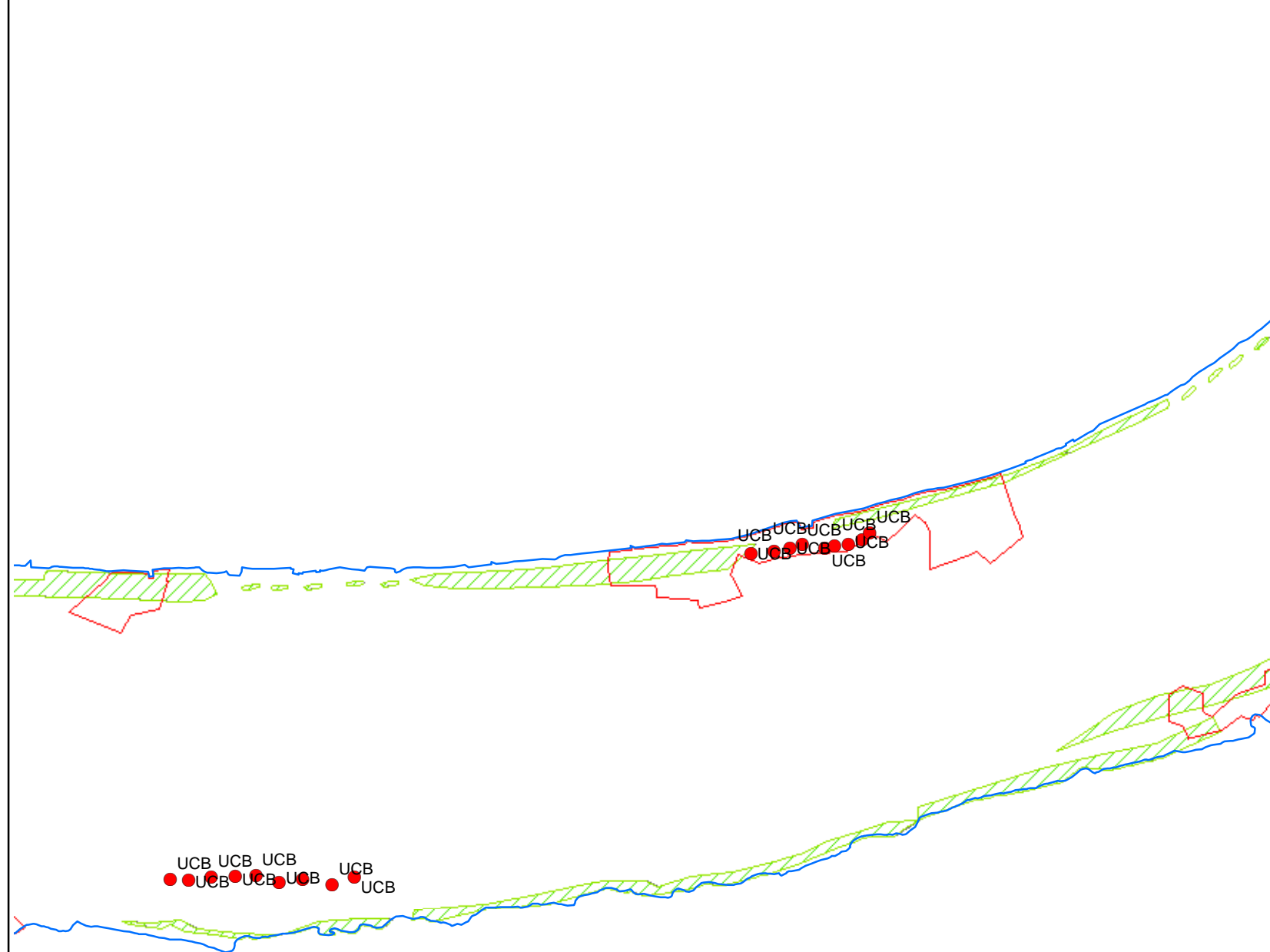
0 100 200 300 400 Feet

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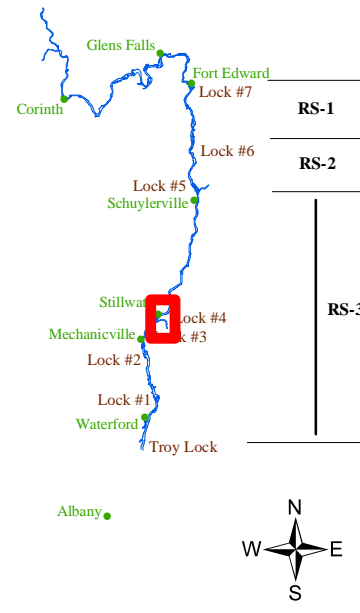
Overview



Focused Area



LOCATOR MAP OF THE HUDSON RIVER



LEGEND

- Phase 1 Quadrat/Transect Stations**
- SAV
 - ▲ Shoreline
 - Unconsolidated Bottom
 - ◆ Wetland
- Phase 1 Dredge Areas**
□ Phase 1 Dredge Areas
- Phase 2 Dredge Areas**
□ Phase 2 Dredge Areas
- Habitat Shoreline**
- Maintained Shore
 - Natural Shore
- SSS Sediment Types**
- Type I Sediment
 - Type II Sediment
 - Type III Sediment
 - Type IV Sediment
 - Type V Sediment
- SSS Debris & Attributes
- Shoreline
- River Miles
- Dams and Locks
- Habitat Delineation**
- Backwater Wetland
 - Fringe Wetland
 - Trapa
 - SAV

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Hudson River Project**

Figure 37

**Phase II Habitat
Assessment Stations**



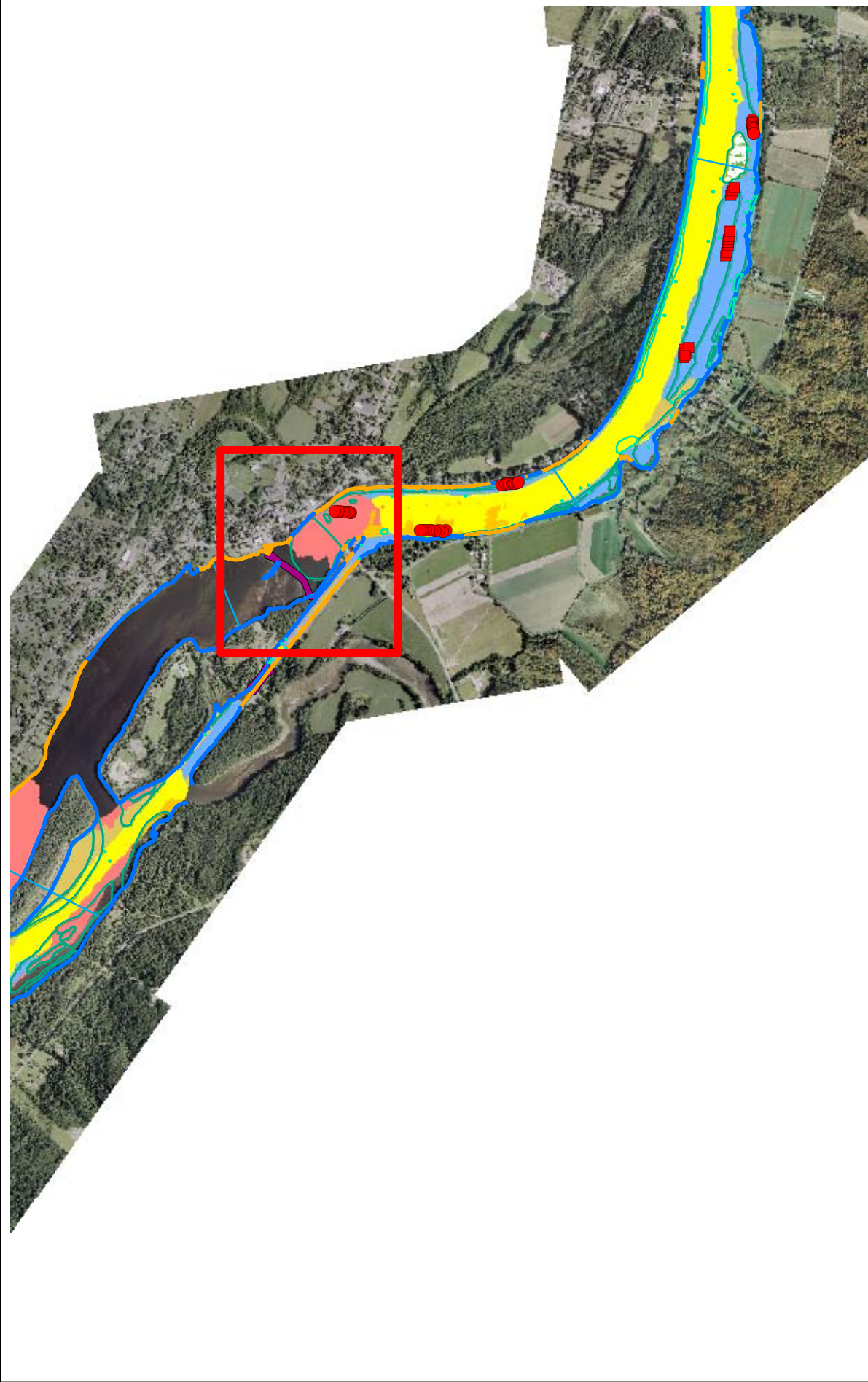
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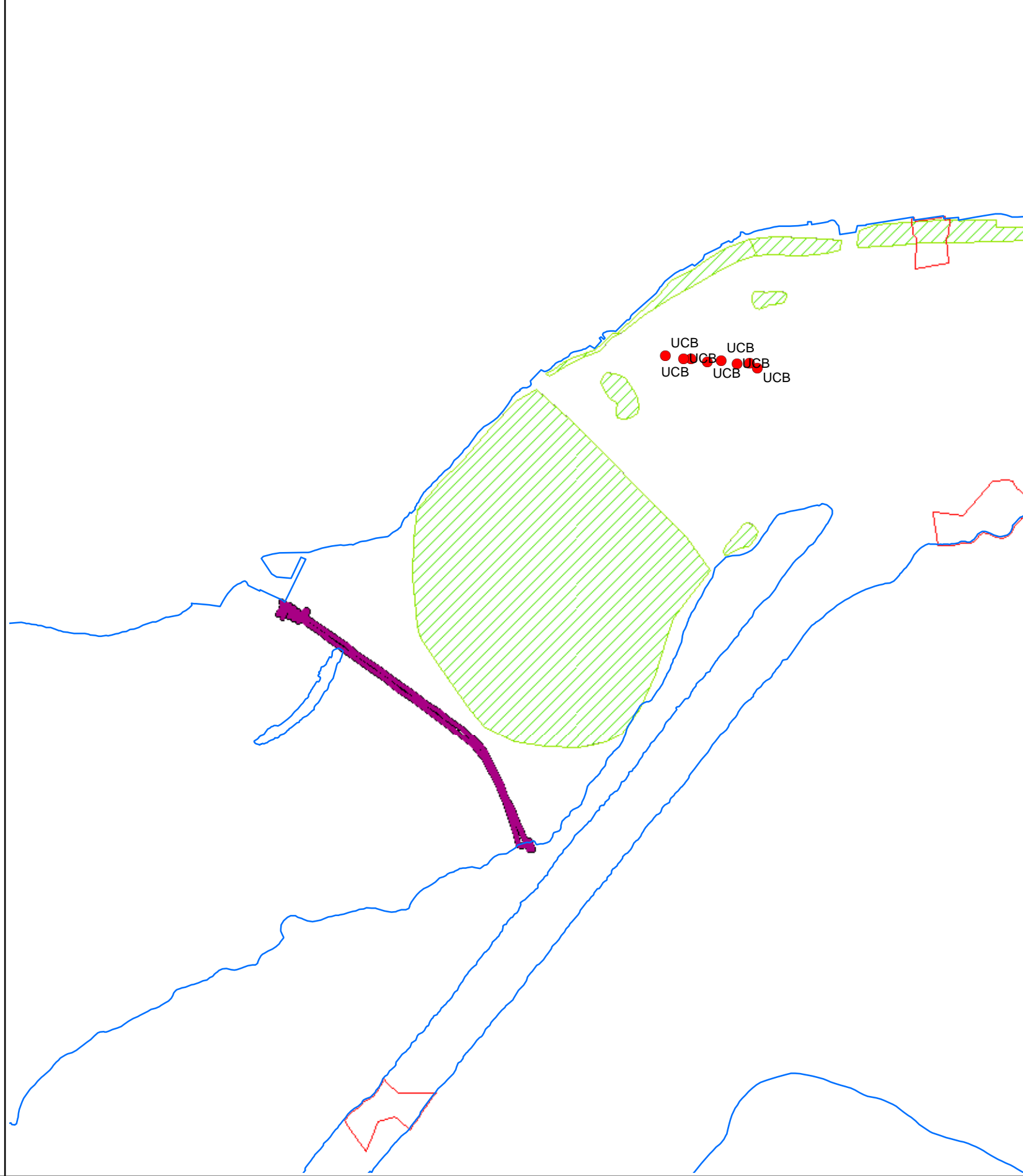
0 0.1 0.2 0.3 0.4
Miles

0 100 200 300 400
Feet

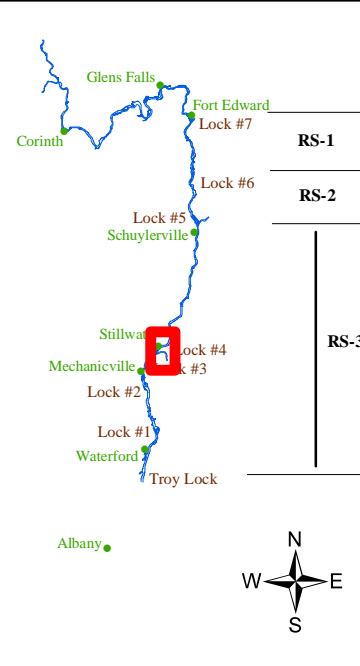
Overview



Focused Area



LOCATOR MAP OF THE HUDSON RIVER



- LEGEND**
- Phase 1 Quadrat/Transect Stations**
- SAV
 - ▲ Shoreline
 - Unconsolidated Bottom
 - ◆ Wetland
- Phase 1 Dredge Areas**
- Phase 1 Dredge Areas
 - Phase 2 Dredge Areas
- Habitat Shoreline**
- Maintained Shore
 - Natural Shore
- SSS Sediment Types**
- Type I Sediment
 - Type II Sediment
 - Type III Sediment
 - Type IV Sediment
 - Type V Sediment
- SSS Debris & Attributes**
- SSS Debris & Attributes
 - Shoreline
 - River Miles
 - Dams and Locks
- Habitat Delineation**
- Backwater Wetland
 - Fringe Wetland
 - Trapa
 - SAV

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Figure 38

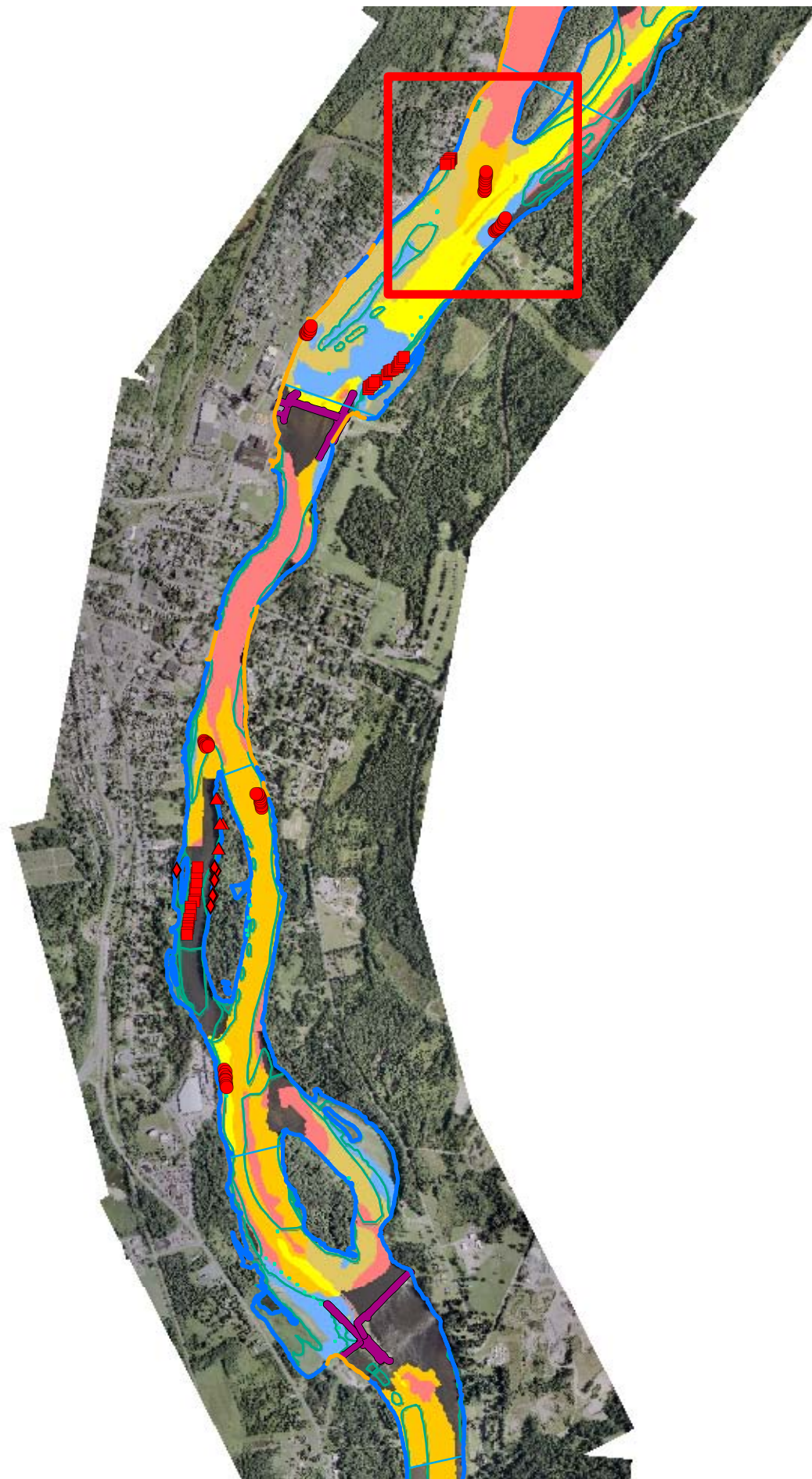
**Phase II Habitat
Assessment Stations**



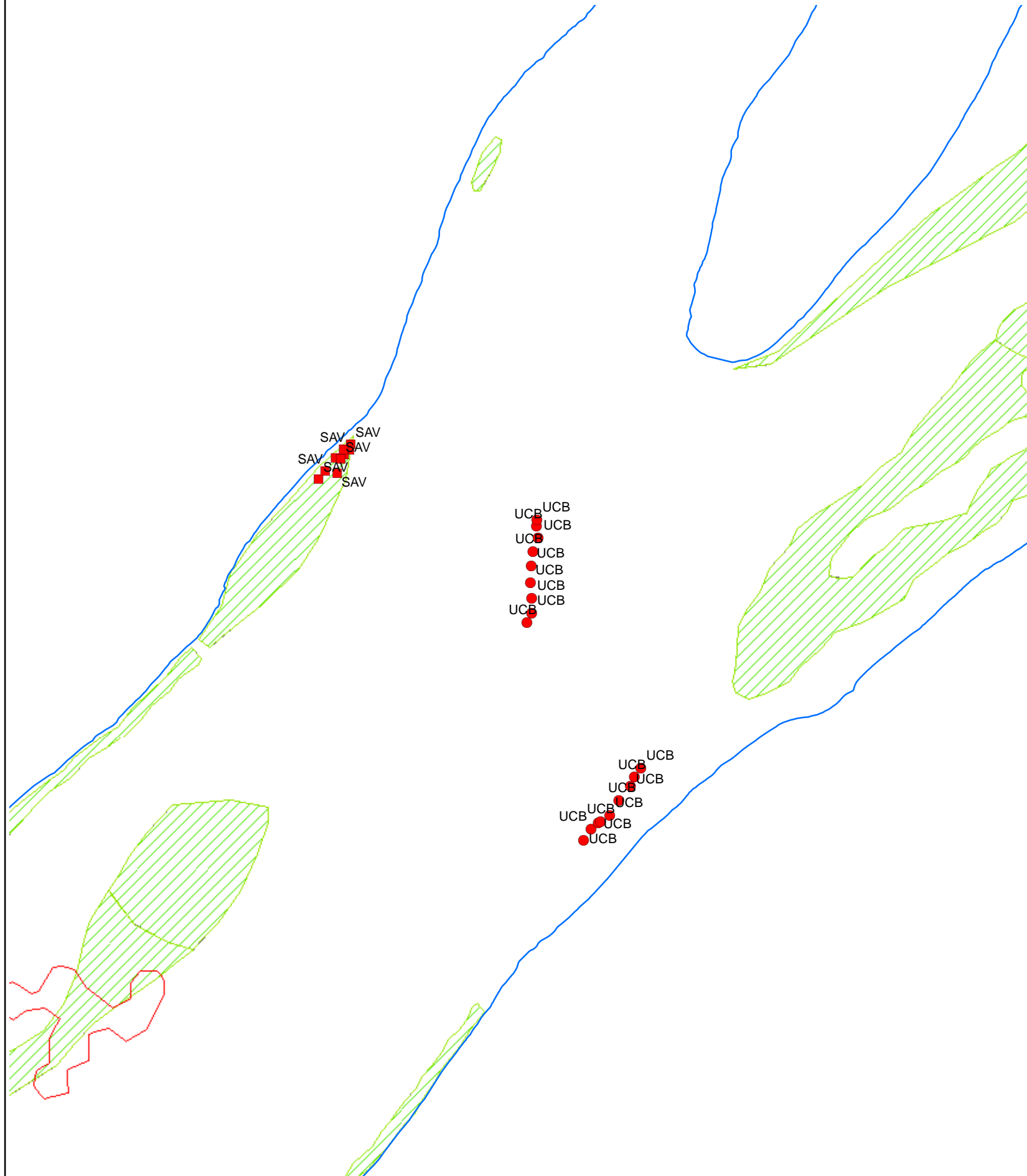
0 0.1 0.2 0.3 0.4 Miles

0 100 200 300 400 Feet

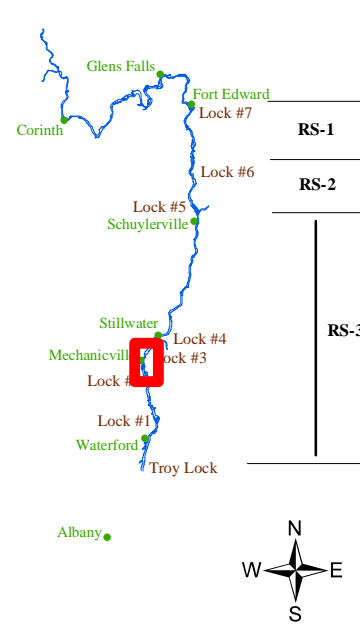
Overview



Focused Area



LOCATOR MAP OF THE HUDSON RIVER



LEGEND

- Phase 1 Quadrat/Transect Stations**
- SAV
- ▲ Shoreline
- Unconsolidated Bottom
- ◆ Wetland
- Phase 1 Dredge Areas
- Phase 2 Dredge Areas
- Habitat Shoreline**
- Maintained Shore
- Natural Shore
- SSS Sediment Types**
- Type I Sediment
- Type II Sediment
- Type III Sediment
- Type IV Sediment
- Type V Sediment
- SSS Debris & Attributes
- Shoreline
- River Miles
- Dams and Locks
- Habitat Delineation**
- Backwater Wetland
- Fringe Wetland
- Trapa
- SAV

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Figure 39

**Phase II Habitat
Assessment Stations**

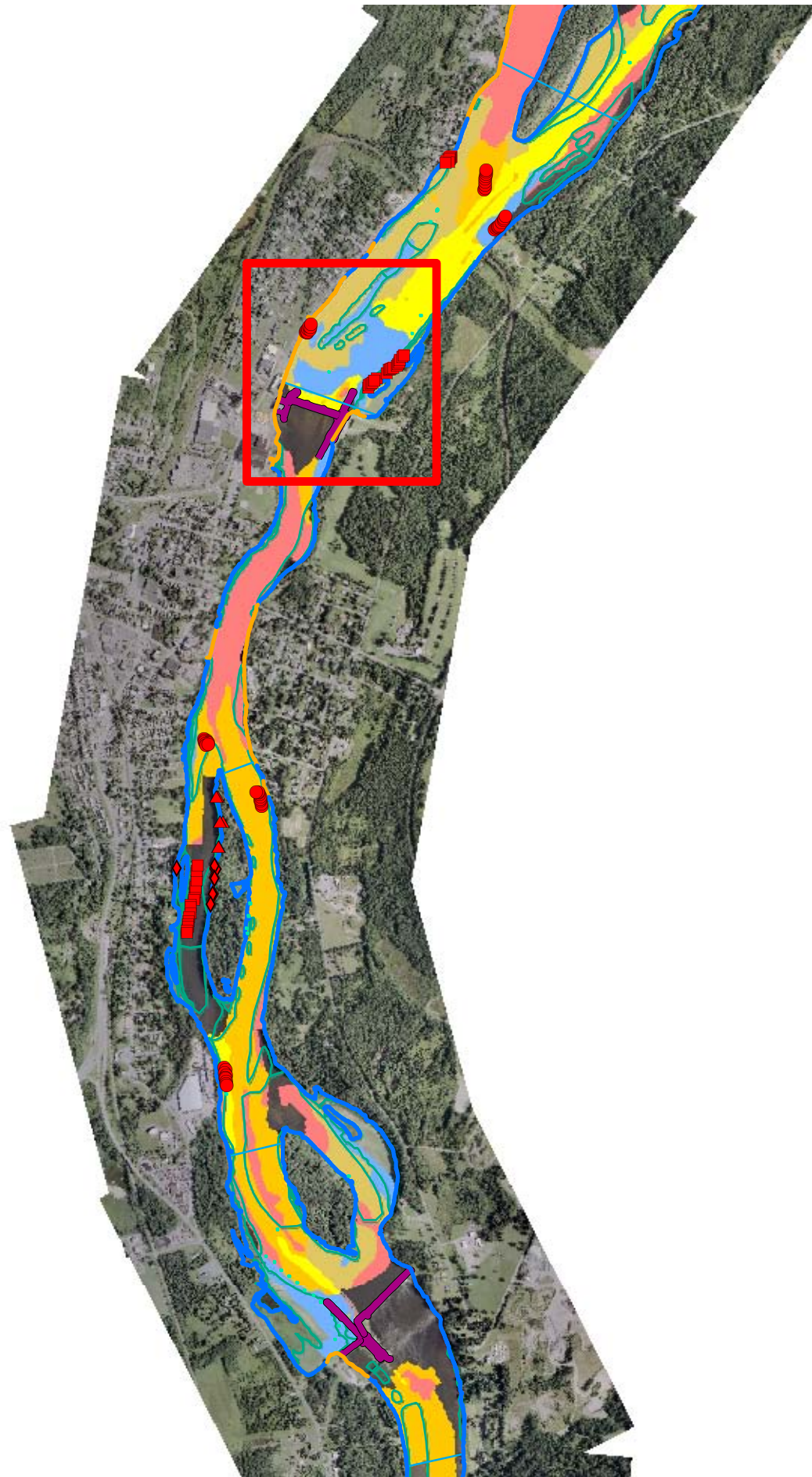


0 0.1 0.2 0.3 0.4 Miles

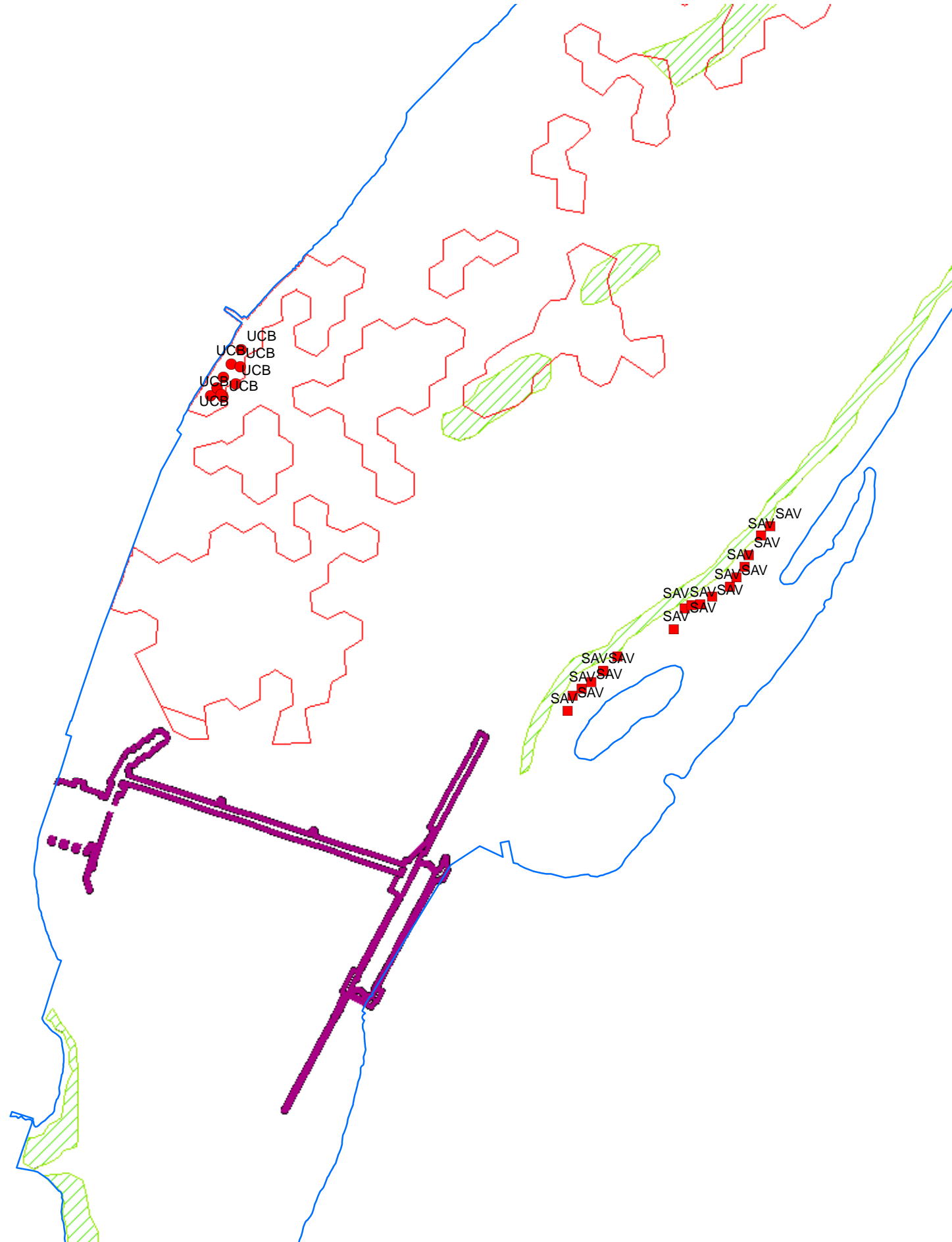
0 100 200 300 400 Feet

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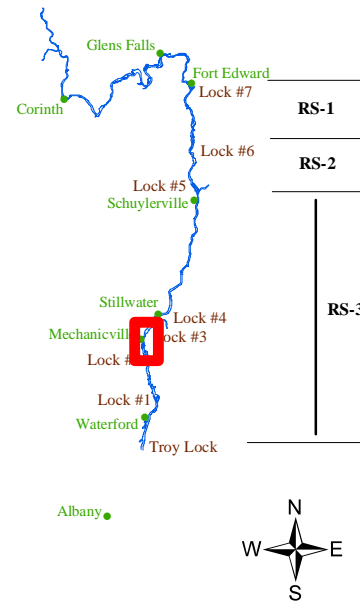
Overview



Focused Area



LOCATOR MAP OF THE HUDSON RIVER



LEGEND

- Phase 1 Quadrat/Transect Stations**
- SAV
- ▲ Shoreline
- Unconsolidated Bottom
- ◆ Wetland
- Phase 1 Dredge Areas
- Phase 2 Dredge Areas
- Habitat Shoreline**
- Maintained Shore
- Natural Shore
- SSS Sediment Types**
- Type I Sediment
- Type II Sediment
- Type III Sediment
- Type IV Sediment
- Type V Sediment
- SSS Debris & Attributes
- Shoreline
- River Miles
- Dams and Locks
- Habitat Delineation**
- Backwater Wetland
- Fringe Wetland
- Trapa
- SAV

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Figure 40

**Phase II Habitat
Assessment Stations**



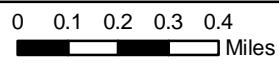
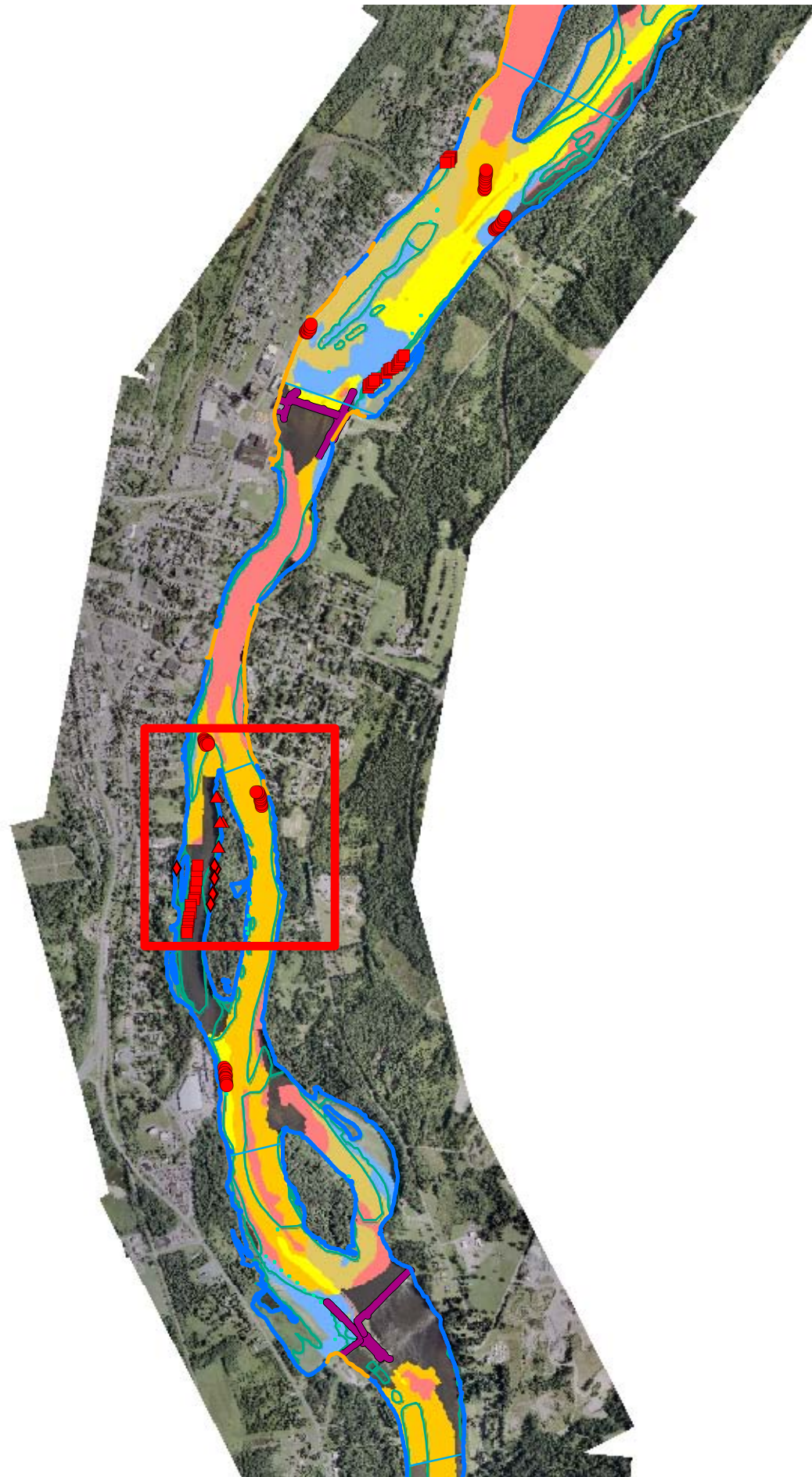
GENhab

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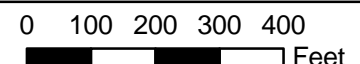
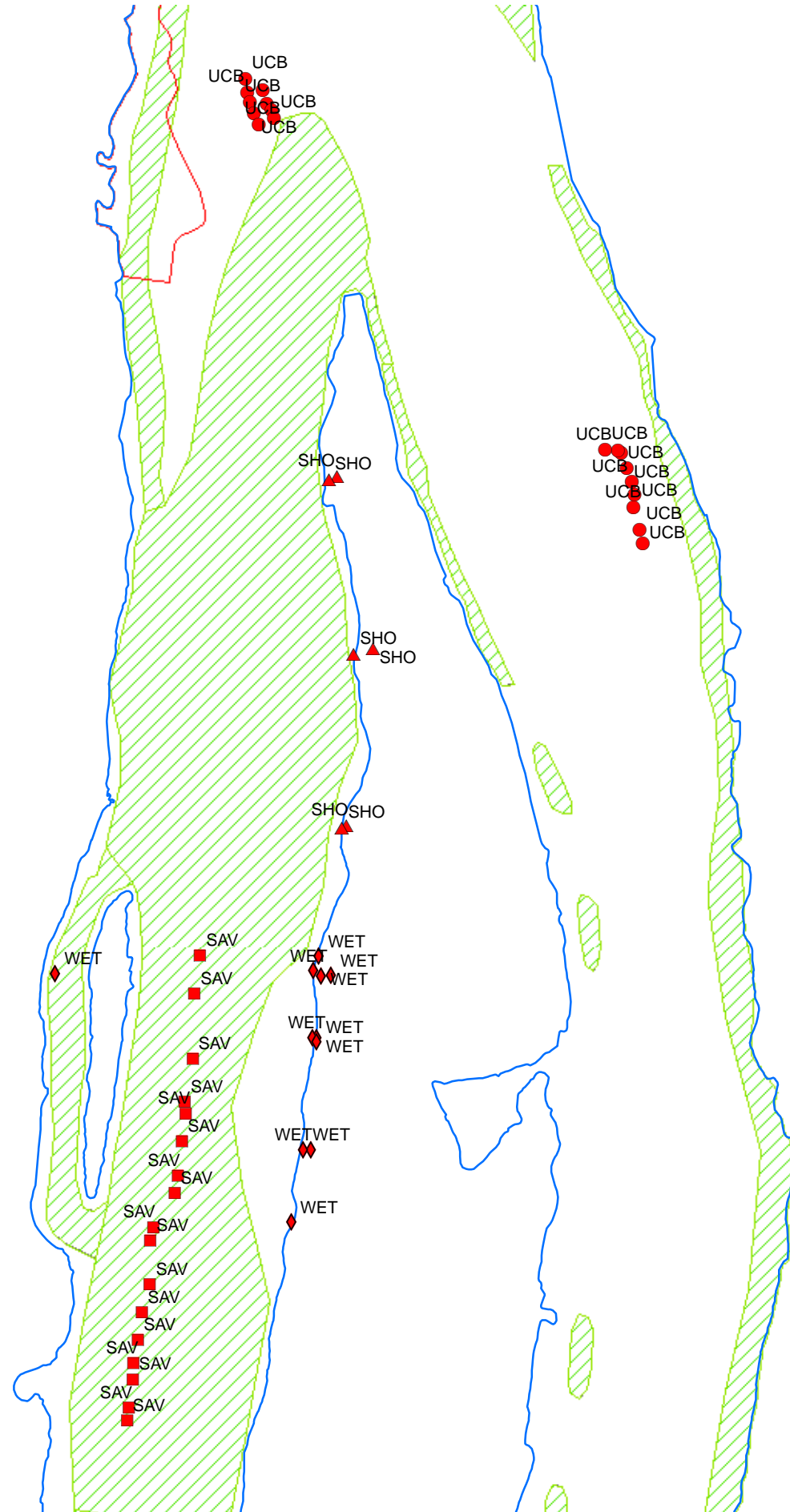
0 0.1 0.2 0.3 0.4
Miles

0 100 200 300 400
Feet

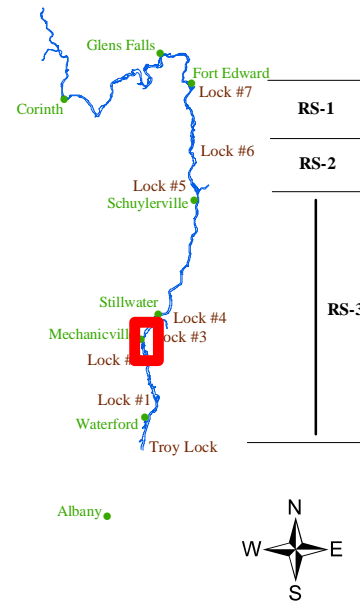
Overview



Focused Area



LOCATOR MAP OF THE HUDSON RIVER



LEGEND

- Phase I Quadrat/Transect Stations**
- SAV
- ▲ Shoreline
- Unconsolidated Bottom
- ◆ Wetland
- Phase I Dredge Areas
- Phase 2 Dredge Areas
- Habitat Shoreline**
- Maintained Shore
- Natural Shore
- SSS Sediment Types**
- Type I Sediment
- Type II Sediment
- Type III Sediment
- Type IV Sediment
- Type V Sediment
- SSS Debris & Attributes
- Shoreline
- River Miles
- Dams and Locks
- Habitat Delineation**
- Backwater Wetland
- Fringe Wetland
- Trapa
- SAV

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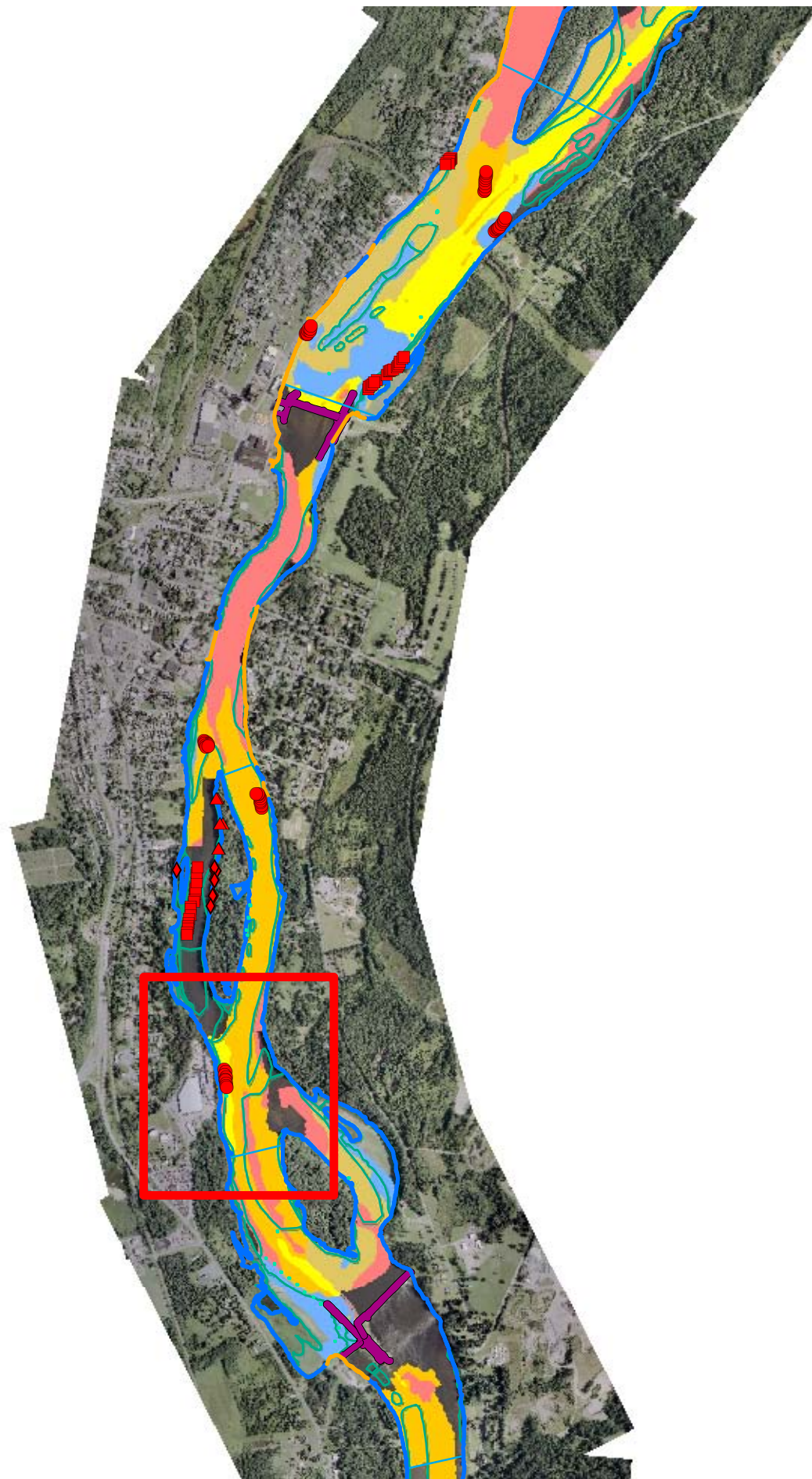
Figure 41

**Phase II Habitat
Assessment Stations**

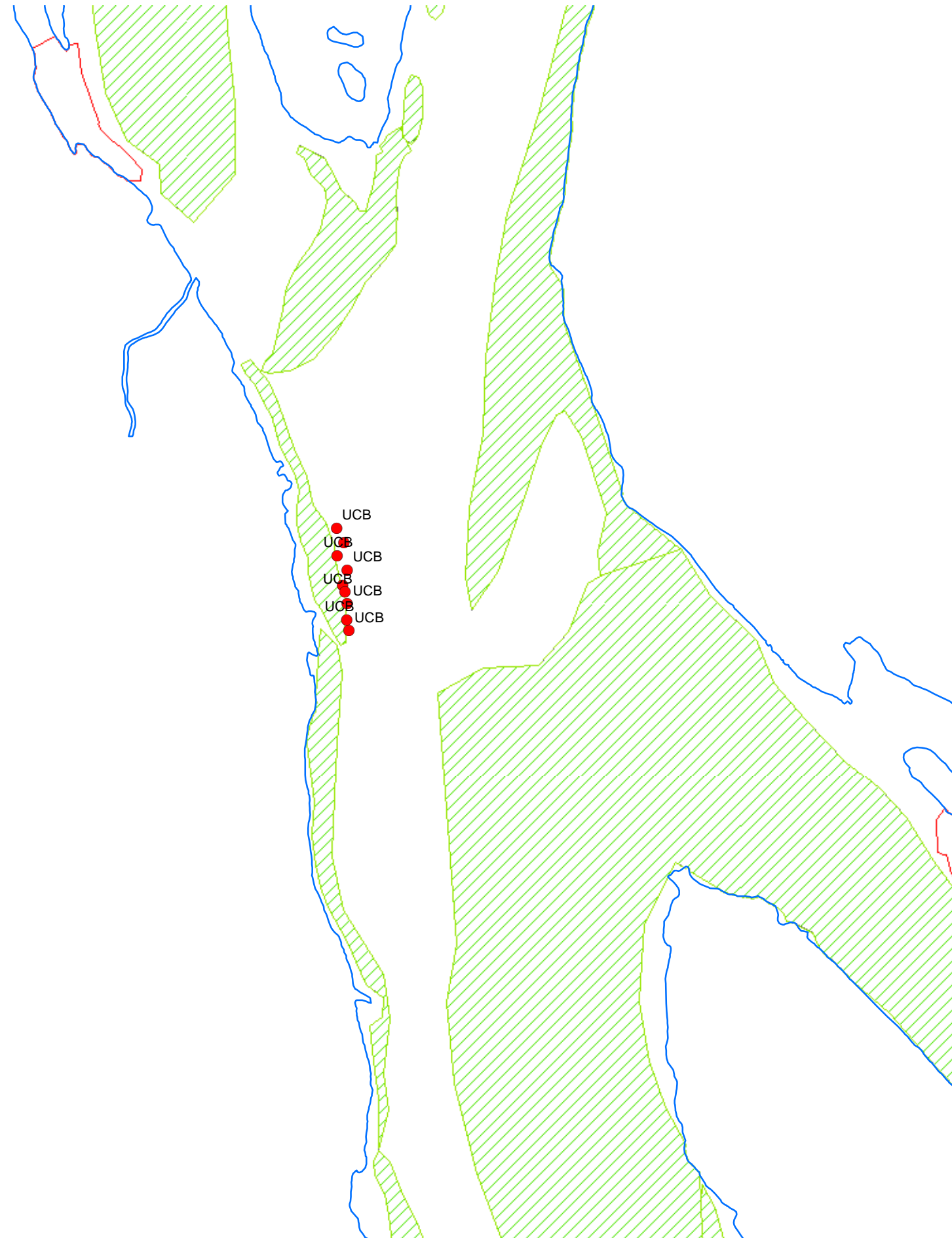


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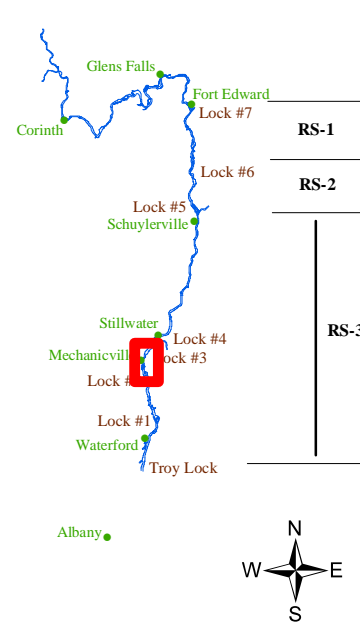
Overview



Focused Area



LOCATOR MAP OF THE HUDSON RIVER



LEGEND

- Phase 1 Quadrat/Transect Stations**
 - SAV
 - ▲ Shoreline
 - Unconsolidated Bottom
 - ◆ Wetland
- Phase 1 Dredge Areas** (White outline)
- Phase 2 Dredge Areas** (Red outline)
- Habitat Shoreline**
 - Maintained Shore (Orange line)
 - Natural Shore (Blue line)
- SSS Sediment Types**
 - Type I Sediment (Light Blue)
 - Type II Sediment (Yellow)
 - Type III Sediment (Orange)
 - Type IV Sediment (Dark Orange)
 - Type V Sediment (Red)
- SSS Debris & Attributes**
 - Shoreline (Blue line)
 - River Miles (Blue line)
 - Dams and Locks (Purple line)
- Habitat Delineation**
 - Backwater Wetland (Green cross-hatch)
 - Fringe Wetland (Green grid)
 - Trapa (Green square)
 - SAV (Green diagonal hatch)

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Figure 42

**Phase II Habitat
Assessment Stations**

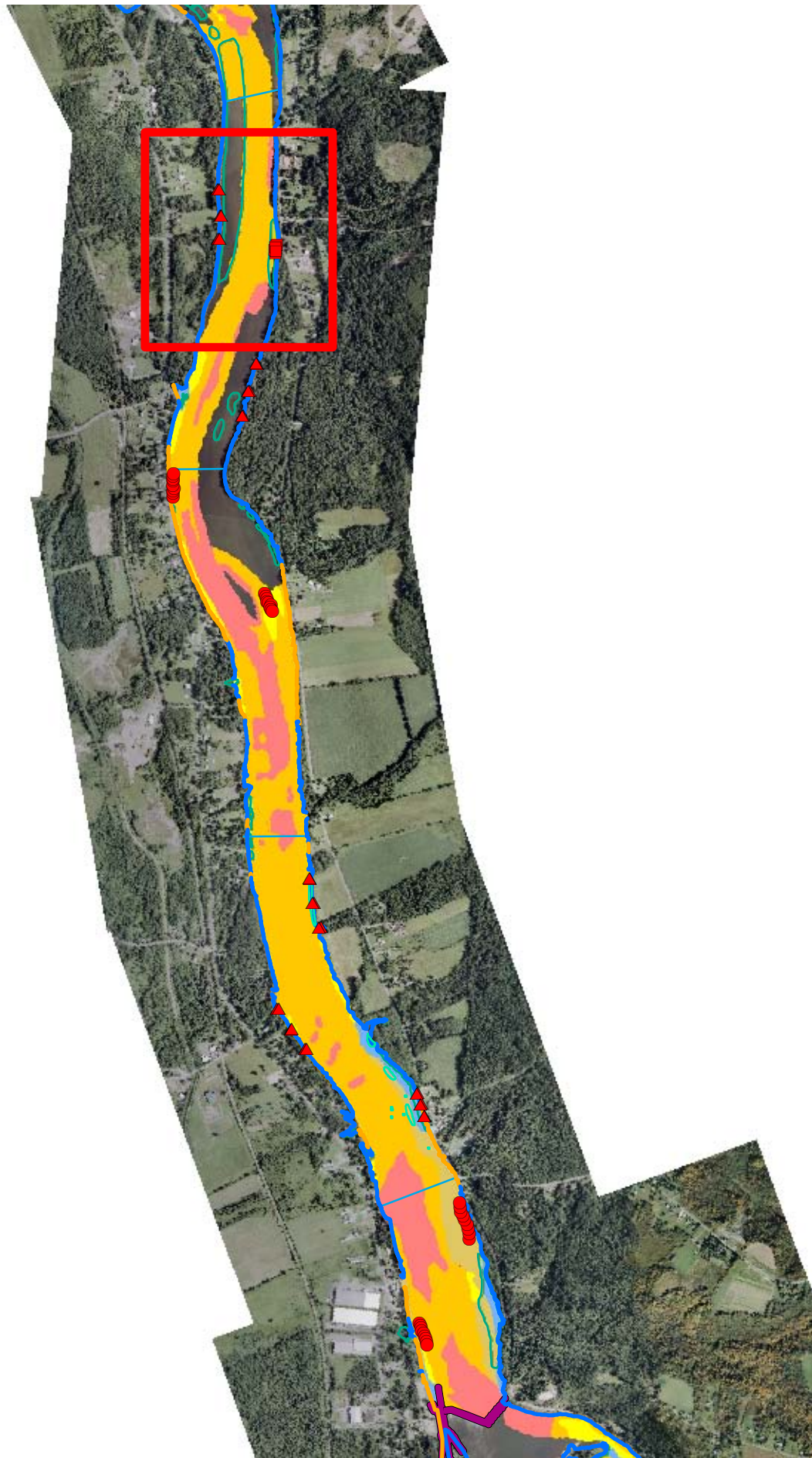


0 0.1 0.2 0.3 0.4 Miles

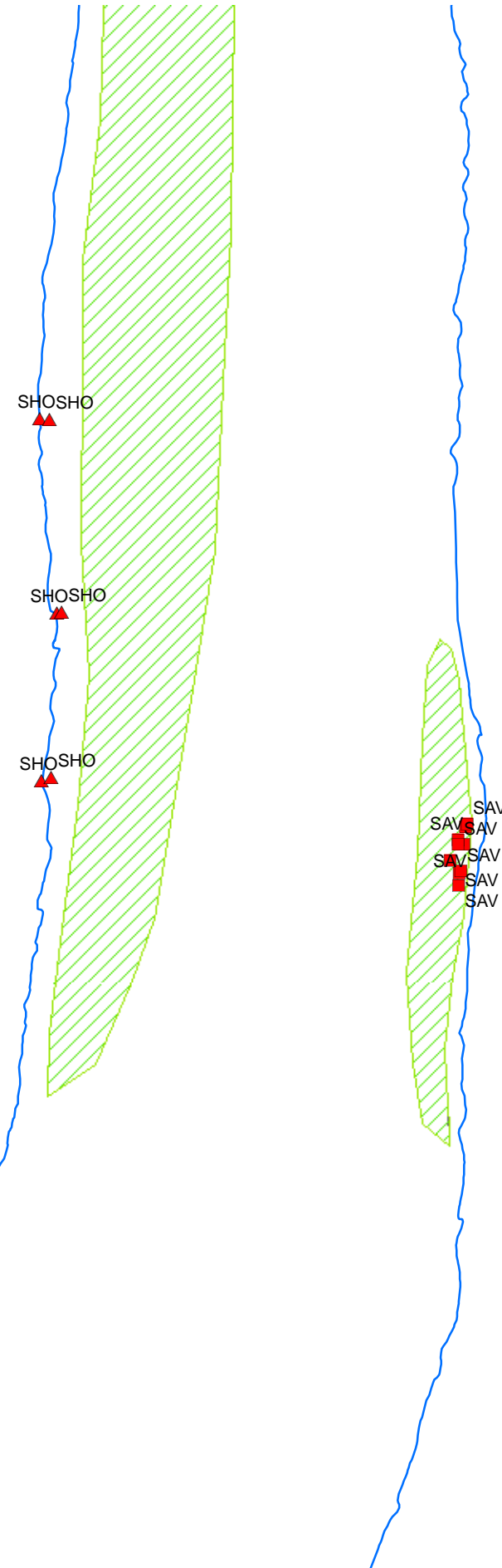
0 100 200 300 400 Feet

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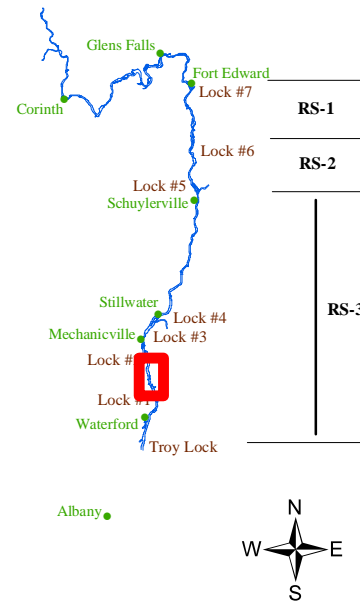
Overview



Focused Area



LOCATOR MAP OF THE HUDSON RIVER



LEGEND

- Phase 1 Quadrat/Transect Stations**
 - SAV
 - ▲ Shoreline
 - Unconsolidated Bottom
 - ◆ Wetland
- Phase 1 Dredge Areas** (White outline)
- Phase 2 Dredge Areas** (Red outline)
- Habitat Shoreline**
 - Maintained Shore (Orange line)
 - Natural Shore (Blue line)
- SSS Sediment Types**
 - Type I Sediment (Light Blue)
 - Type II Sediment (Yellow)
 - Type III Sediment (Orange)
 - Type IV Sediment (Dark Orange)
 - Type V Sediment (Red)
- SSS Debris & Attributes (Green line)
- Shoreline (Blue line)
- River Miles (Blue line)
- Dams and Locks (Purple line)
- Habitat Delineation**
 - Backwater Wetland (Green with dots)
 - Fringe Wetland (Green with cross-hatch)
 - Trapa (Green with 'v' symbols)
 - SAV (Green with diagonal lines)

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Hudson River Project**

Figure 43

**Phase II Habitat
Assessment Stations**

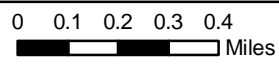
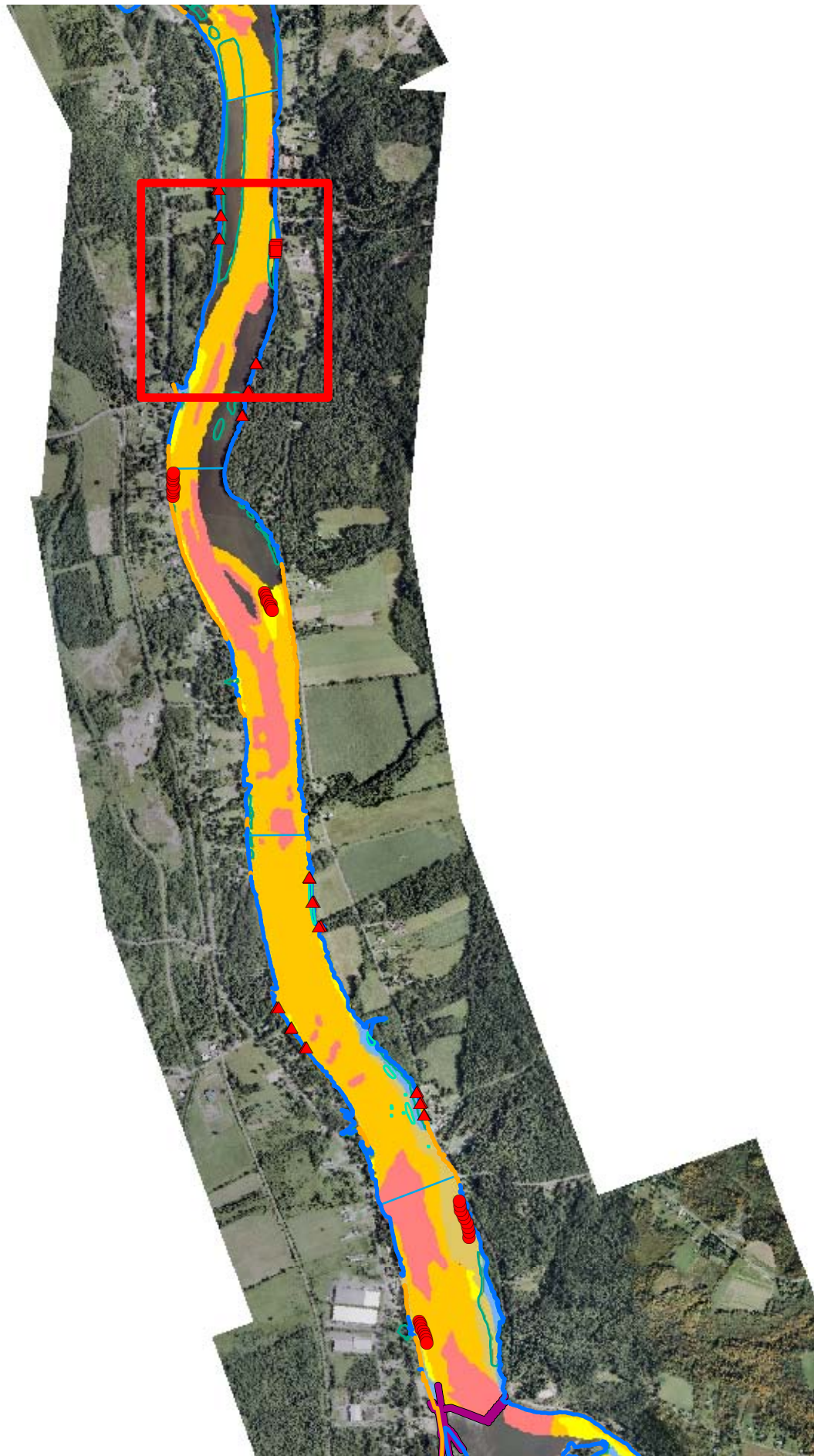


0 0.1 0.2 0.3 0.4 Miles

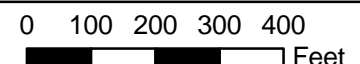
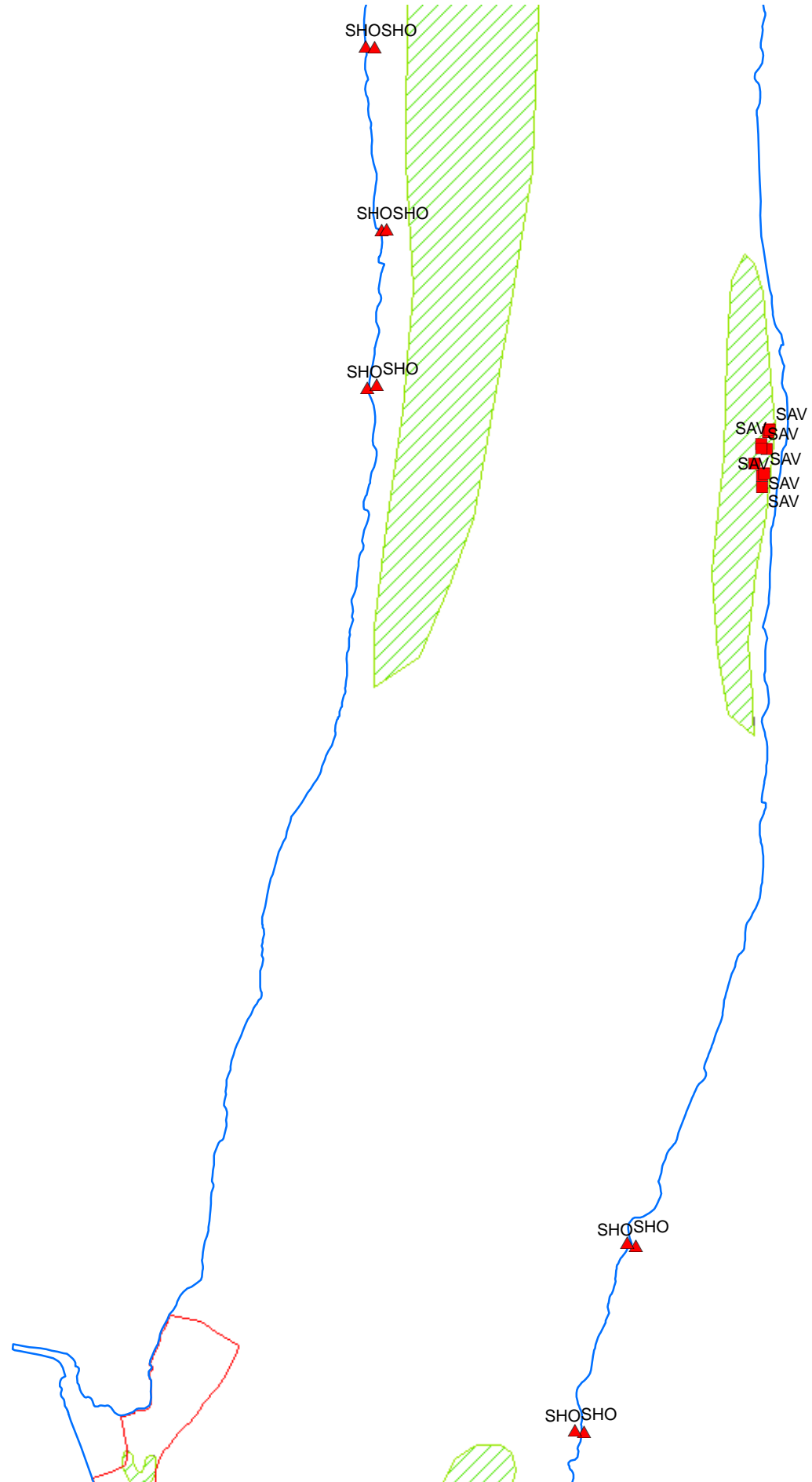
0 100 200 300 400 Feet

KS-\\ALGONQUINE_Drive\GENrem\WORKING\GIS\maps\ARCGIS8_maps\Habitat\Habitat_Delineation\11x17_Assessment_Maps_20091223

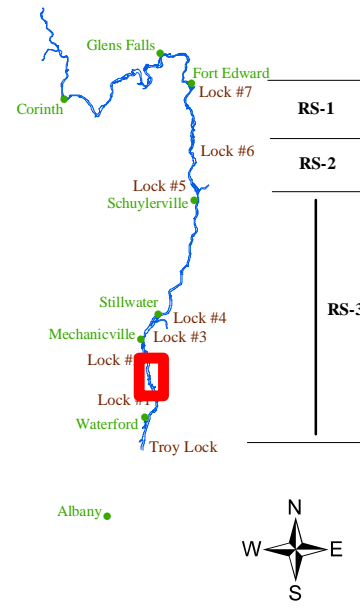
Overview



Focused Area



LOCATOR MAP OF THE HUDSON RIVER



LEGEND

- Phase 1 Quadrat/Transect Stations**
- SAV
- ▲ Shoreline
- Unconsolidated Bottom
- ◆ Wetland
- Phase 1 Dredge Areas
- Phase 2 Dredge Areas
- Habitat Shoreline**
- Maintained Shore
- Natural Shore
- SSS Sediment Types**
- Type I Sediment
- Type II Sediment
- Type III Sediment
- Type IV Sediment
- Type V Sediment
- SSS Debris & Attributes
- Shoreline
- River Miles
- Dams and Locks
- Habitat Delineation**
- Backwater Wetland
- Fringe Wetland
- Trapa
- SAV

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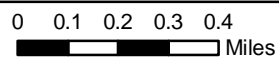
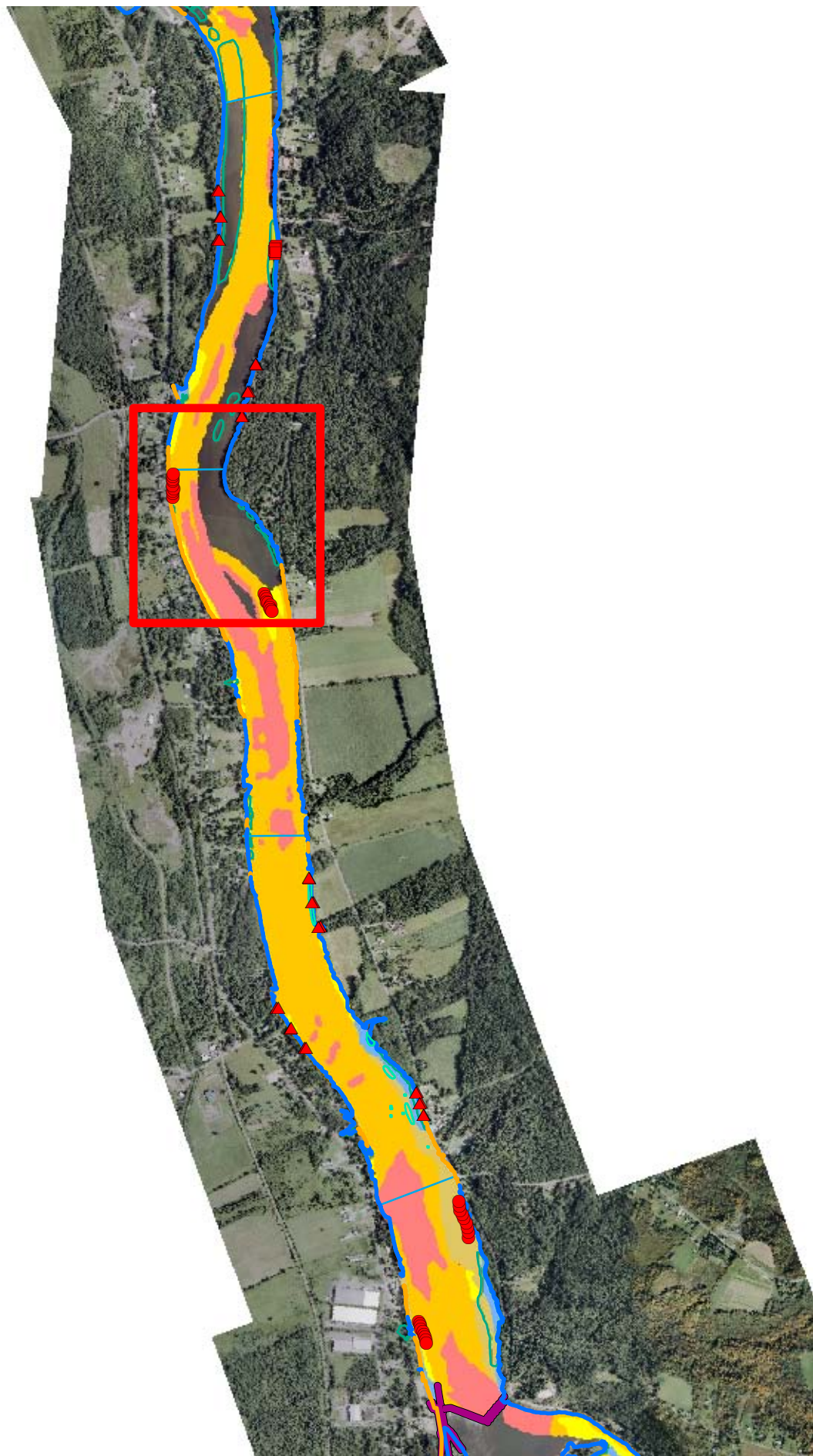
Figure 44

**Phase II Habitat
Assessment Stations**

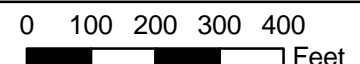
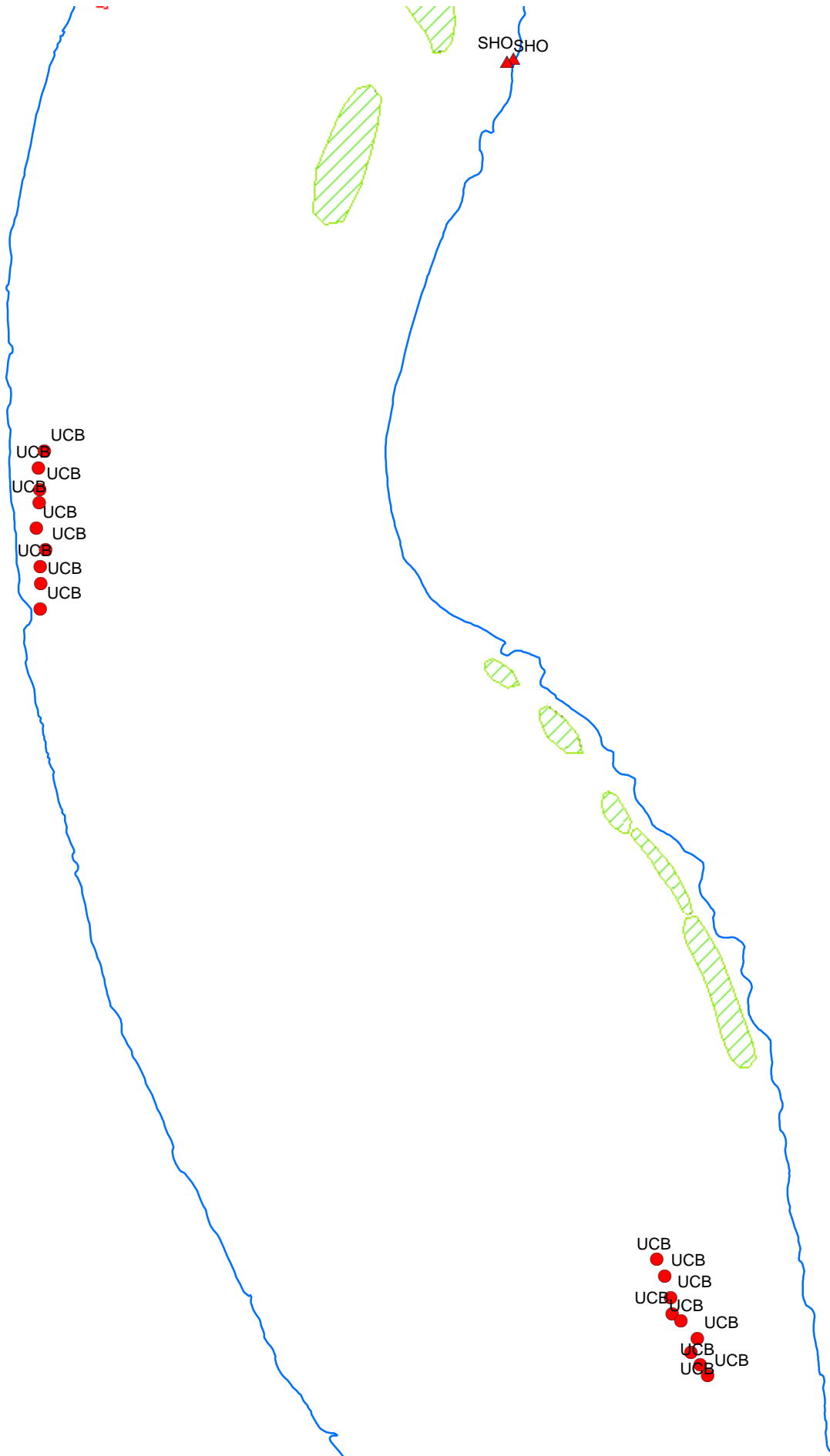


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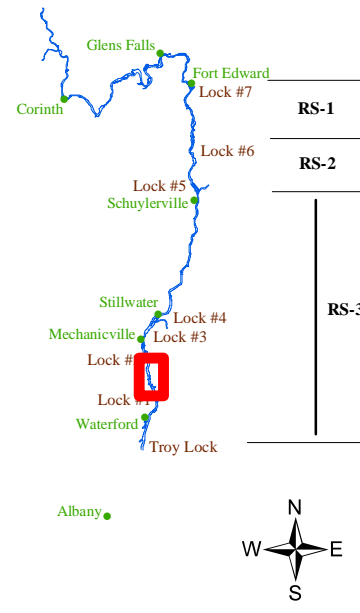
Overview



Focused Area



LOCATOR MAP OF THE HUDSON RIVER



LEGEND

- Phase 1 Quadrat/Transect Stations**
- SAV
- ▲ Shoreline
- Unconsolidated Bottom
- ◆ Wetland
- Phase 1 Dredge Areas
- Phase 2 Dredge Areas
- Habitat Shoreline**
- Maintained Shore
- Natural Shore
- SSS Sediment Types**
- Type I Sediment
- Type II Sediment
- Type III Sediment
- Type IV Sediment
- Type V Sediment
- SSS Debris & Attributes
- Shoreline
- River Miles
- Dams and Locks
- Habitat Delineation**
- Backwater Wetland
- Fringe Wetland
- Trapa
- SAV

**General Electric Company
Hudson River Project**

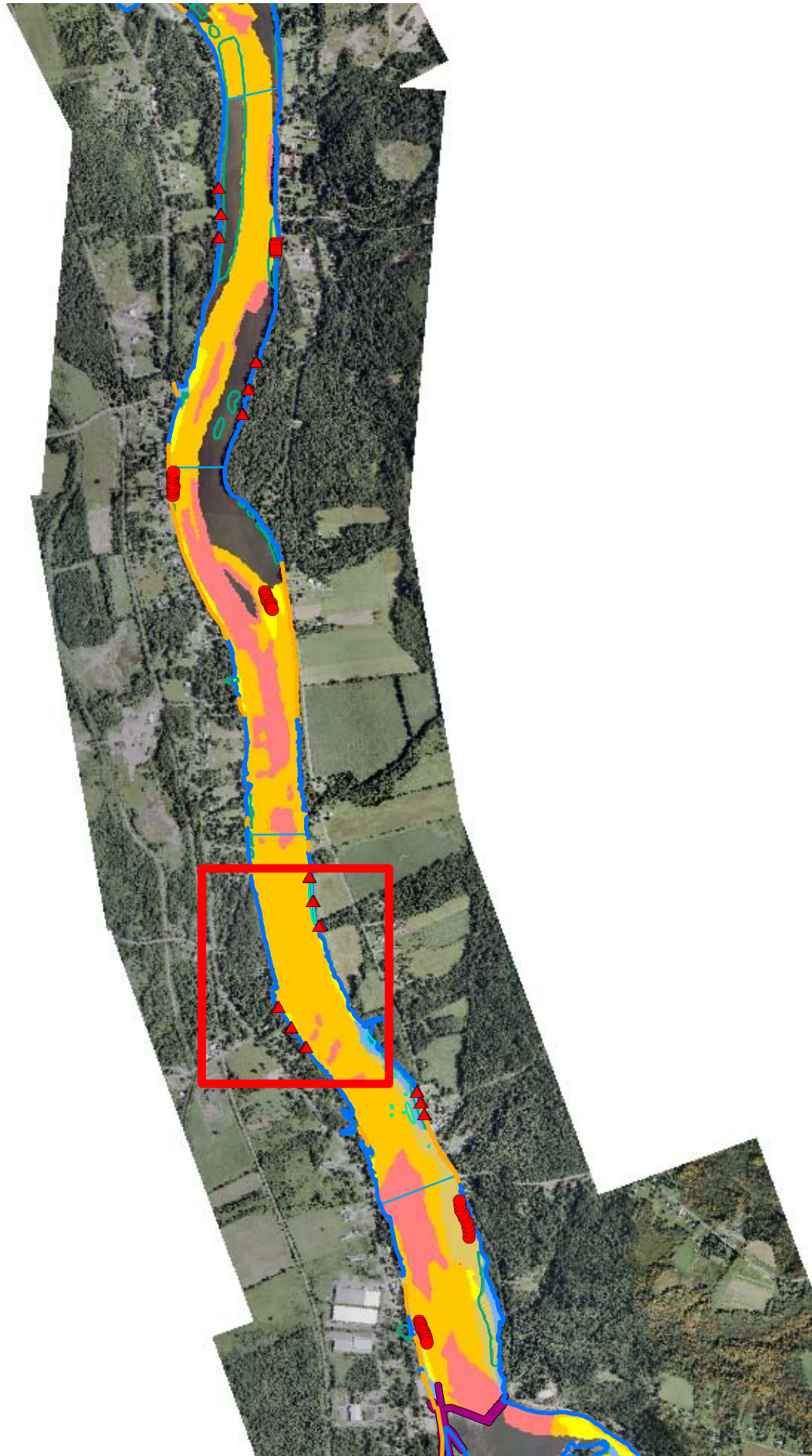
Figure 45

**Phase II Habitat
Assessment Stations**

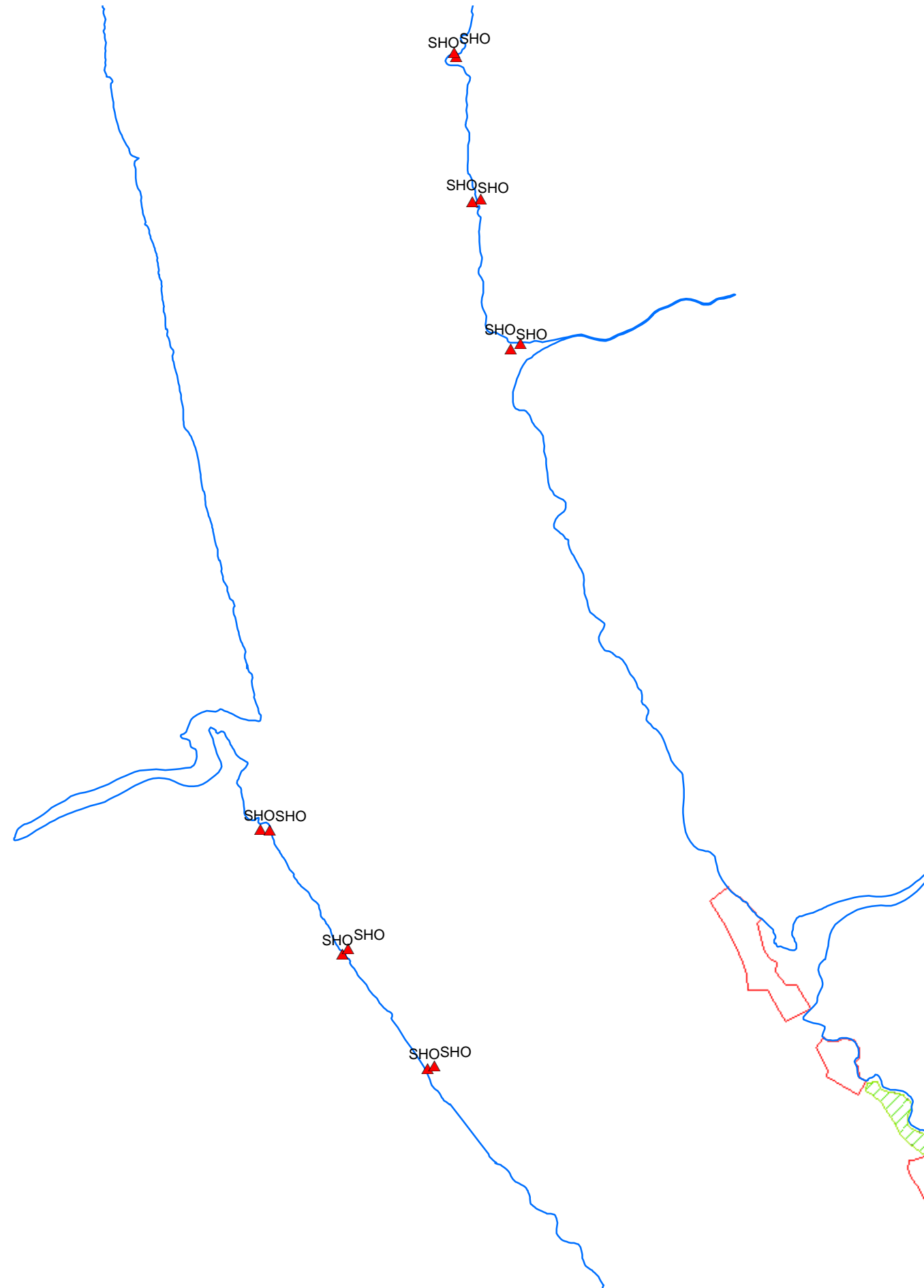


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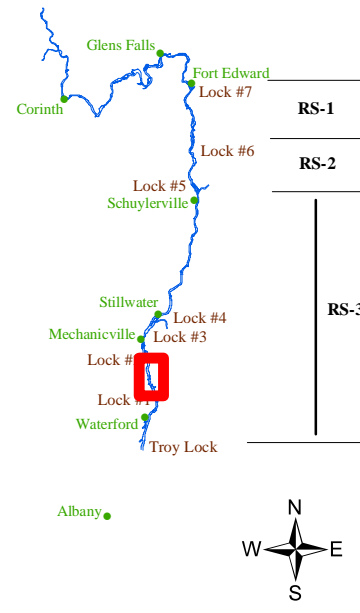
Overview



Focused Area



LOCATOR MAP OF THE HUDSON RIVER



LEGEND

- Phase 1 Quadrat/Transect Stations**
 - SAV
 - ▲ Shoreline
 - Unconsolidated Bottom
 - ◆ Wetland
- Phase 1 Dredge Areas** (White outline)
- Phase 2 Dredge Areas** (Red outline)
- Habitat Shoreline**
 - Maintained Shore (Orange line)
 - Natural Shore (Blue line)
- SSS Sediment Types**
 - Type I Sediment (Light Blue)
 - Type II Sediment (Yellow)
 - Type III Sediment (Orange)
 - Type IV Sediment (Light Green)
 - Type V Sediment (Pink)
- SSS Debris & Attributes (Green line)
- Shoreline (Blue line)
- River Miles (Blue line)
- Dams and Locks (Purple line)
- Habitat Delineation**
 - Backwater Wetland (Green with dots)
 - Fringe Wetland (Green with cross-hatch)
 - Trapa (Green with vertical lines)
 - SAV (Green with diagonal lines)

General Electric Company
Hudson River Project

Figure 46

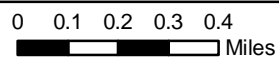
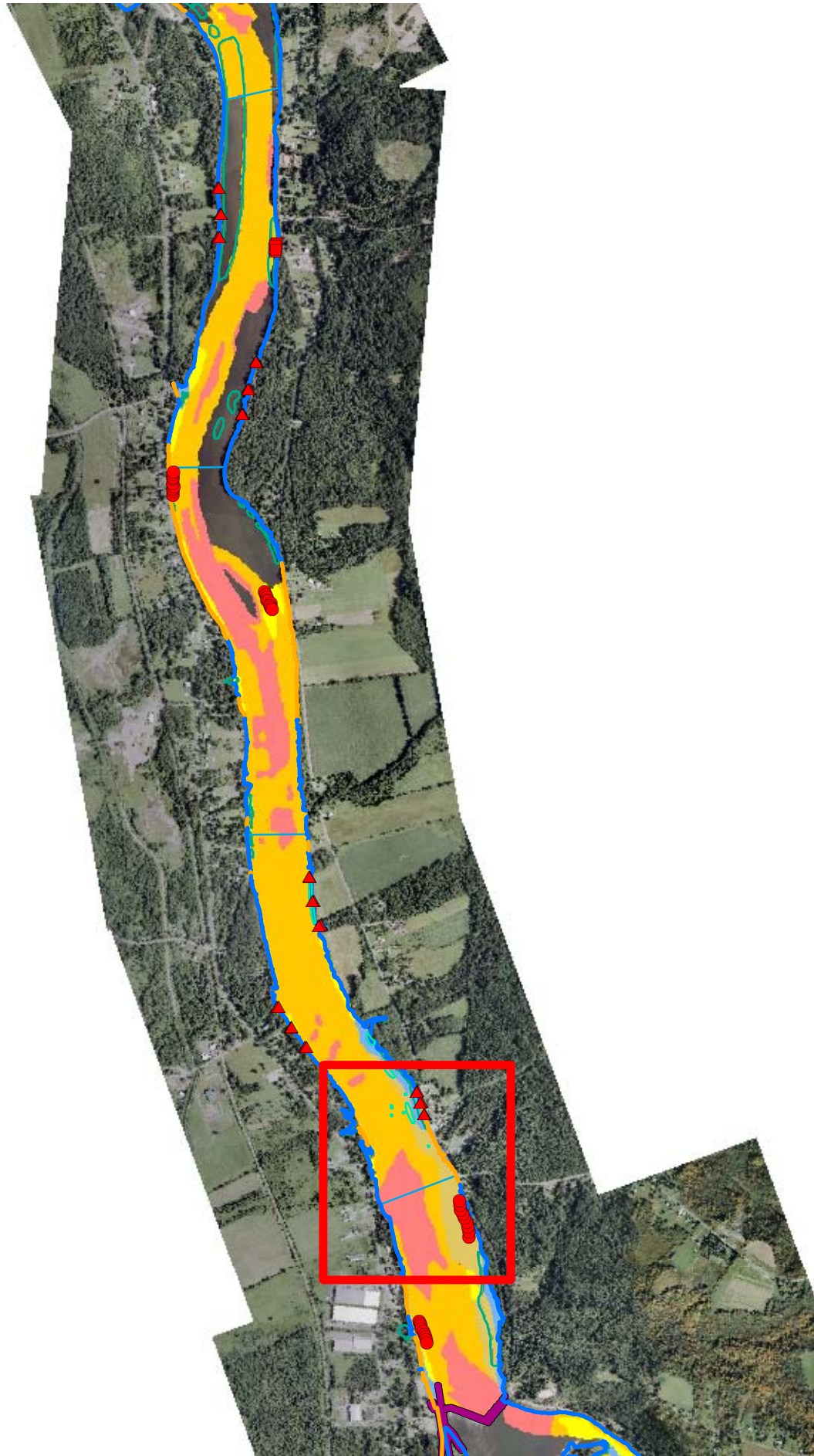
Phase II Habitat
Assessment Stations



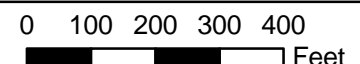
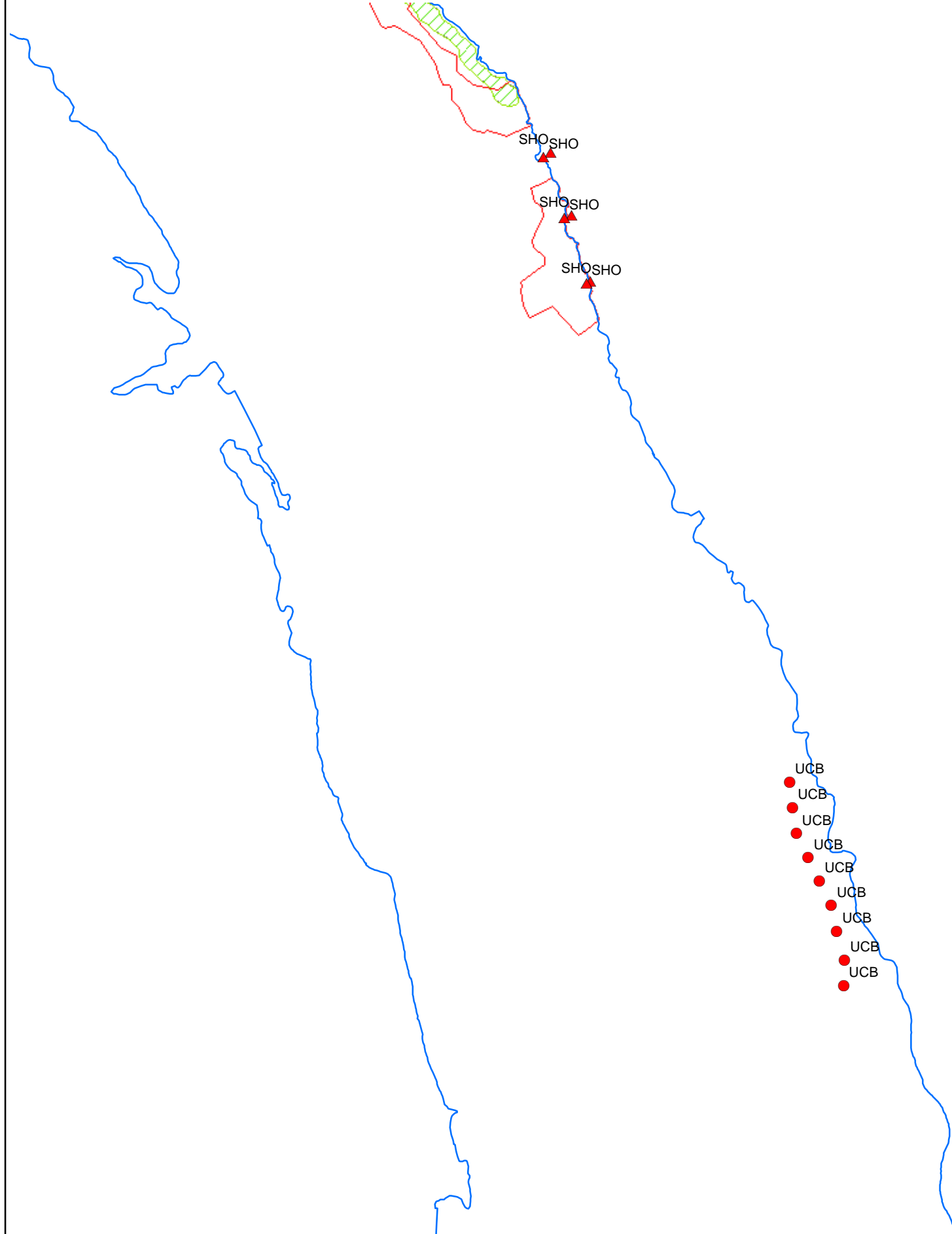
0 0.1 0.2 0.3 0.4 Miles

0 100 200 300 400 Feet

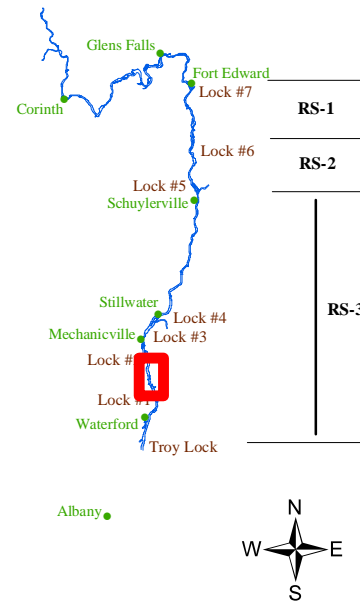
Overview



Focused Area



LOCATOR MAP OF THE HUDSON RIVER



LEGEND

- Phase 1 Quadrat/Transect Stations**
- SAV
 - ▲ Shoreline
 - Unconsolidated Bottom
 - ◆ Wetland
- Phase 1 Dredge Areas**
□
- Phase 2 Dredge Areas**
□
- Habitat Shoreline**
- Maintained Shore
 - Natural Shore
- SSS Sediment Types**
- Type I Sediment
 - Type II Sediment
 - Type III Sediment
 - Type IV Sediment
 - Type V Sediment
- SSS Debris & Attributes
- Shoreline
- River Miles
- Dams and Locks
- Habitat Delineation**
- Backwater Wetland
 - Fringe Wetland
 - Trapa
 - SAV

**General Electric Company
Hudson River Project**

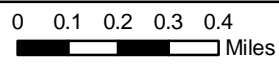
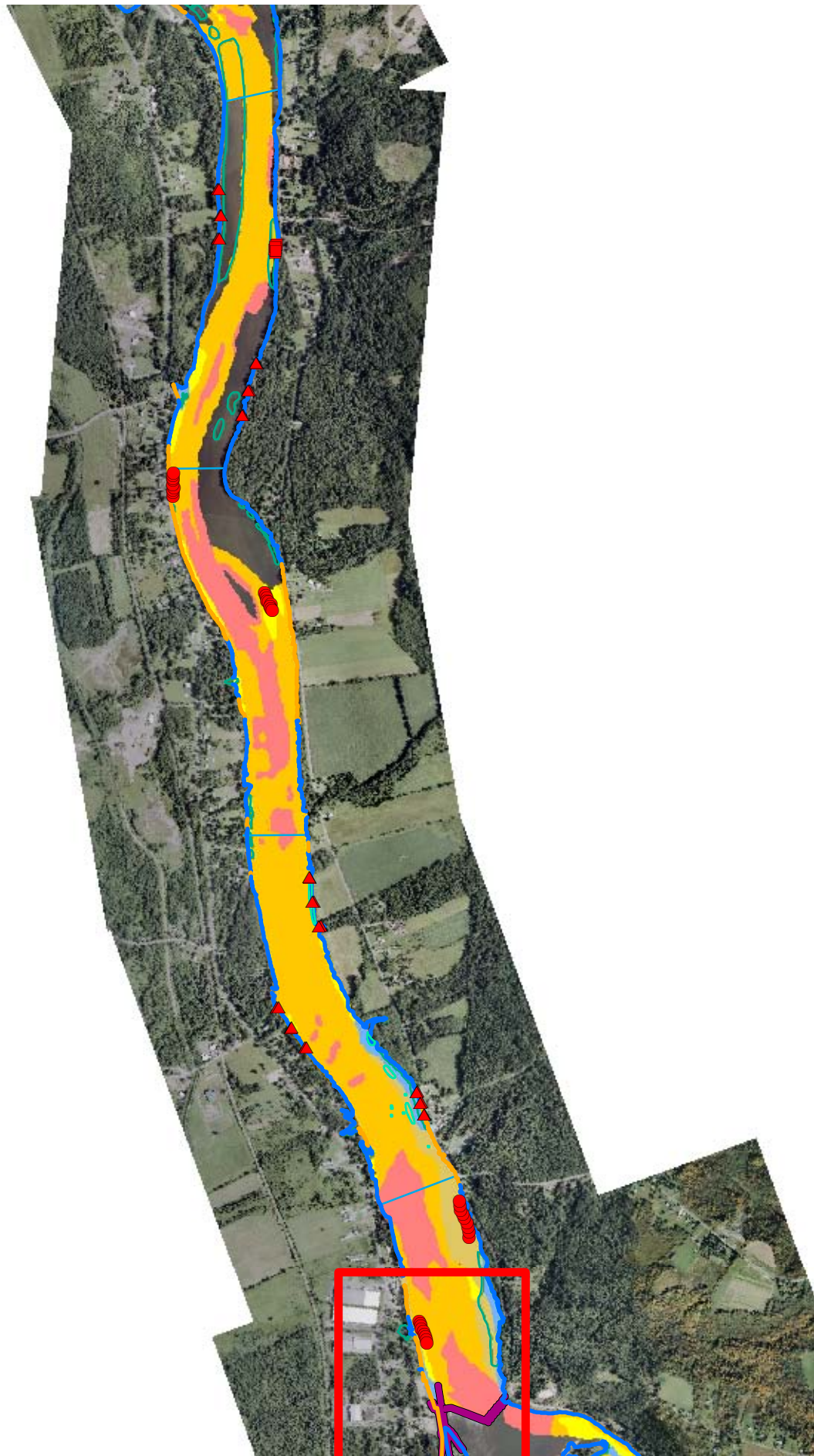
Figure 47

**Phase II Habitat
Assessment Stations**

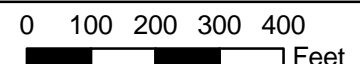
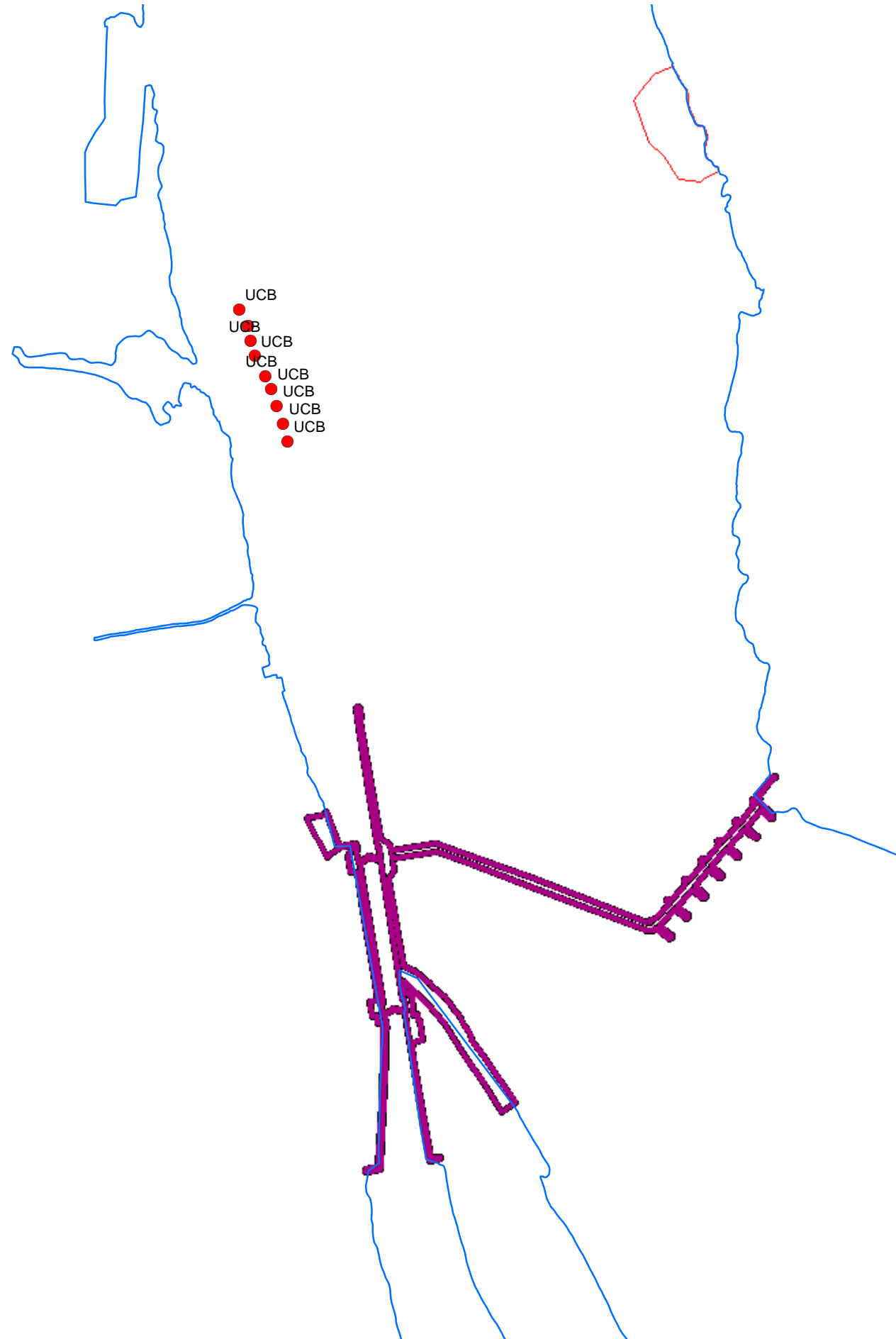


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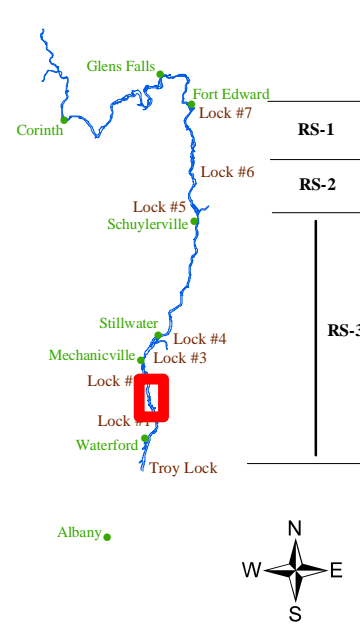
Overview



Focused Area



LOCATOR MAP OF THE HUDSON RIVER



LEGEND

- Phase 1 Quadrat/Transect Stations**
 - SAV
 - ▲ Shoreline
 - Unconsolidated Bottom
 - ◆ Wetland
- Phase 1 Dredge Areas** (White outline)
- Phase 2 Dredge Areas** (Red outline)
- Habitat Shoreline**
 - Maintained Shore (Yellow)
 - Natural Shore (Blue)
- SSS Sediment Types**
 - Type I Sediment (Light Blue)
 - Type II Sediment (Yellow)
 - Type III Sediment (Orange)
 - Type IV Sediment (Green)
 - Type V Sediment (Red)
- SSS Debris & Attributes (Green)
- Shoreline (Blue)
- River Miles (Light Blue)
- Dams and Locks (Purple)
- Habitat Delineation**
 - Backwater Wetland (Green with dots)
 - Fringe Wetland (Green with cross-hatch)
 - Trapa (Green with vertical lines)
 - SAV (Green with diagonal lines)

**General Electric Company
Hudson River Project**

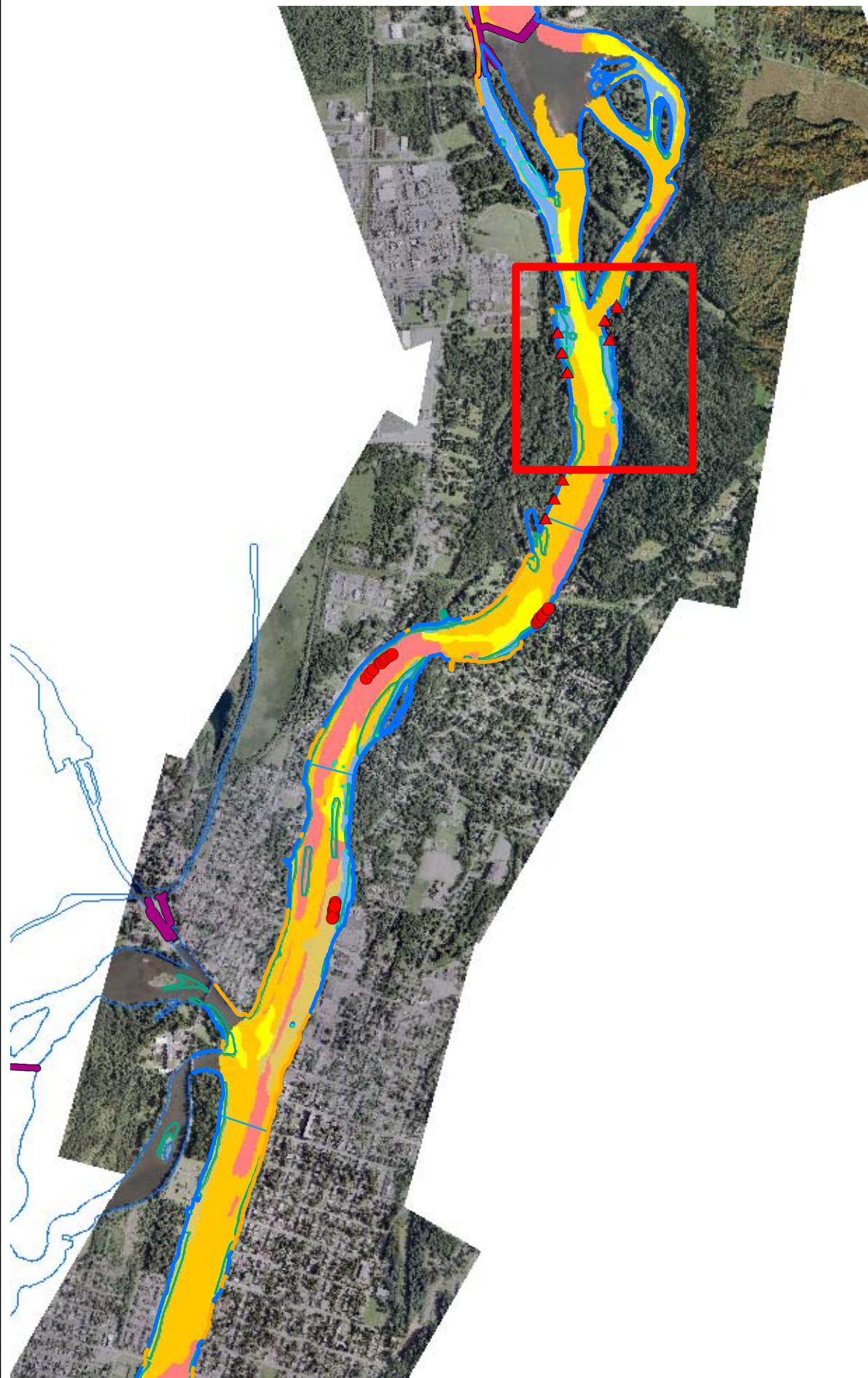
Figure 48

**Phase II Habitat
Assessment Stations**

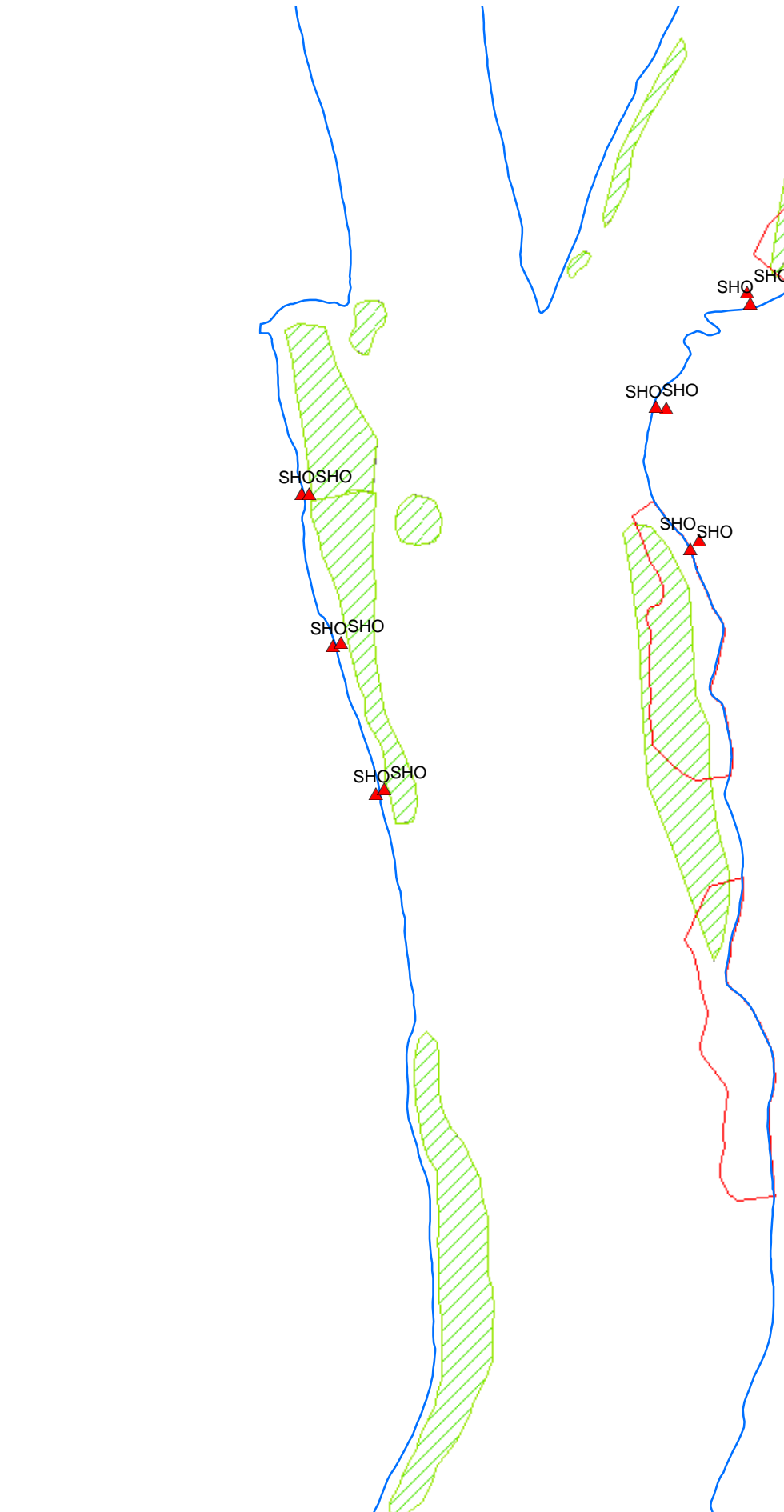


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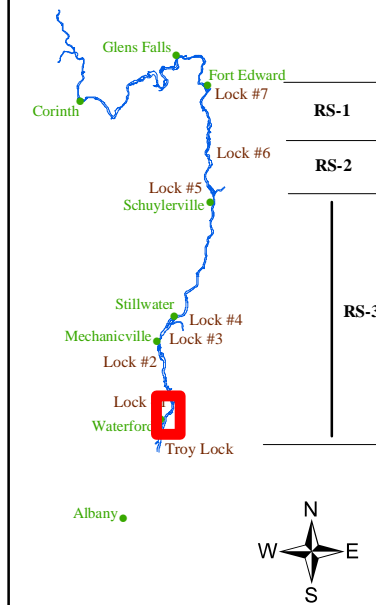
Overview



Focused Area



LOCATOR MAP OF THE HUDSON RIVER



LEGEND

- Phase 1 Quadrat/Transect Stations**
- SAV
 - ▲ Shoreline
 - Unconsolidated Bottom
 - ◆ Wetland
- Phase 1 Dredge Areas**
- Phase 1 Dredge Areas
 - Phase 2 Dredge Areas
- Habitat Shoreline**
- Maintained Shore
 - Natural Shore
- SSS Sediment Types**
- Type I Sediment
 - Type II Sediment
 - Type III Sediment
 - Type IV Sediment
 - Type V Sediment
- SSS Debris & Attributes**
- SSS Debris & Attributes
 - Shoreline
 - River Miles
 - Dams and Locks
- Habitat Delineation**
- Backwater Wetland
 - Fringe Wetland
 - Trapa
 - SAV

**General Electric Company
Hudson River Project**

Figure 49

**Phase II Habitat
Assessment Stations**



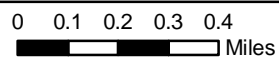
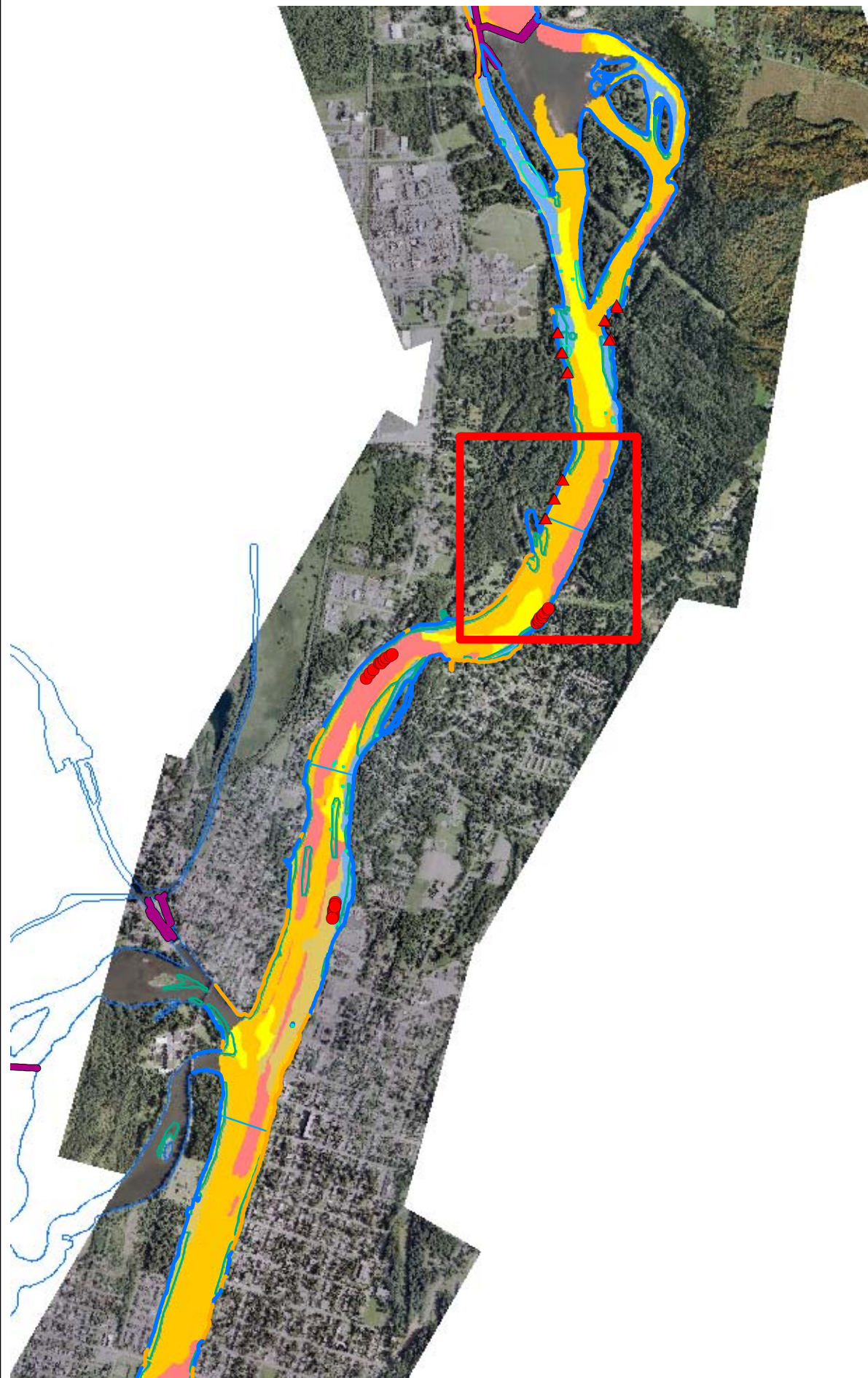
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June 2009

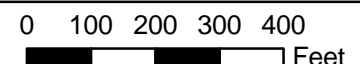
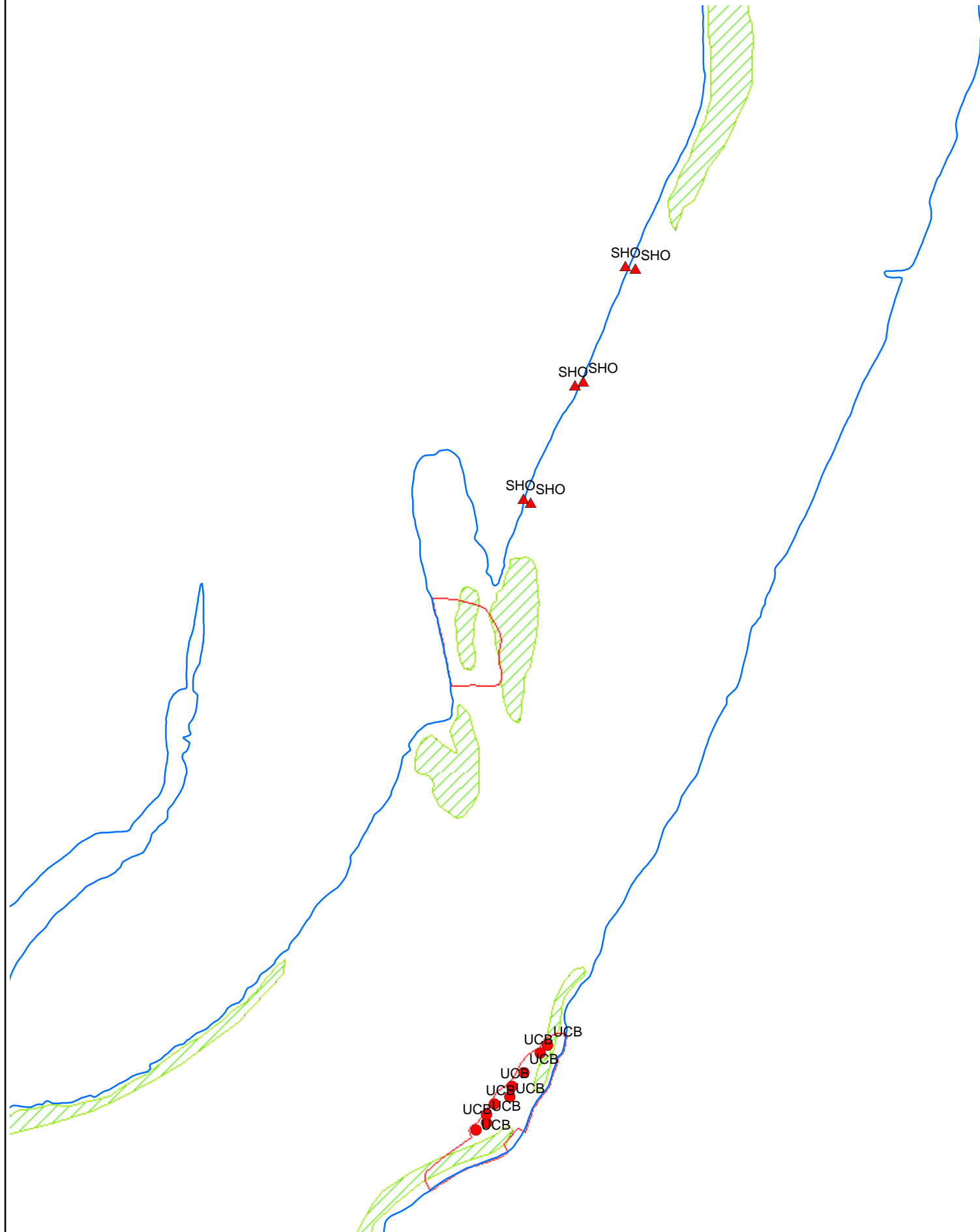
0 0.1 0.2 0.3 0.4
Miles

0 100 200 300 400
Feet

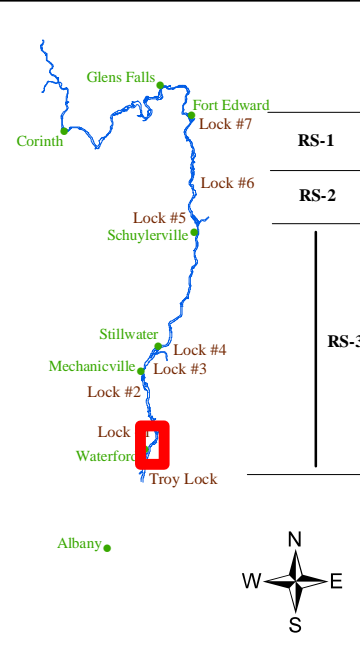
Overview



Focused Area



LOCATOR MAP OF THE HUDSON RIVER



LEGEND

- Phase 1 Quadrat/Transect Stations**
- SAV
 - ▲ Shoreline
 - Unconsolidated Bottom
 - ◆ Wetland
- Phase 1 Dredge Areas**
□
- Phase 2 Dredge Areas**
□
- Habitat Shoreline**
- Maintained Shore
 - Natural Shore
- SSS Sediment Types**
- Type I Sediment
 - Type II Sediment
 - Type III Sediment
 - Type IV Sediment
 - Type V Sediment
- SSS Debris & Attributes
- Shoreline
- River Miles
- Dams and Locks
- Habitat Delineation**
- Backwater Wetland
 - Fringe Wetland
 - Trapa
 - SAV

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Hudson River Project**

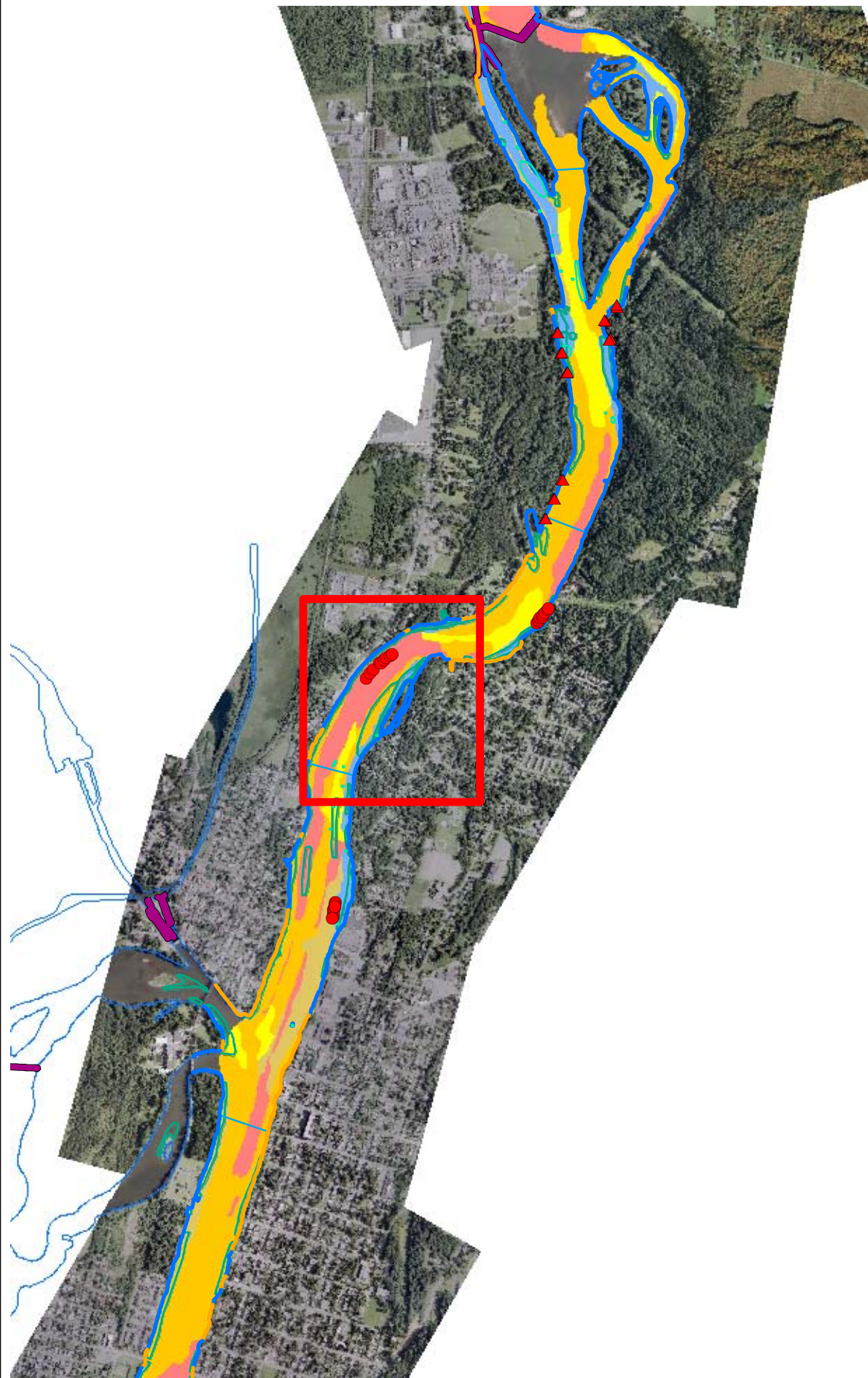
Figure 50

**Phase II Habitat
Assessment Stations**

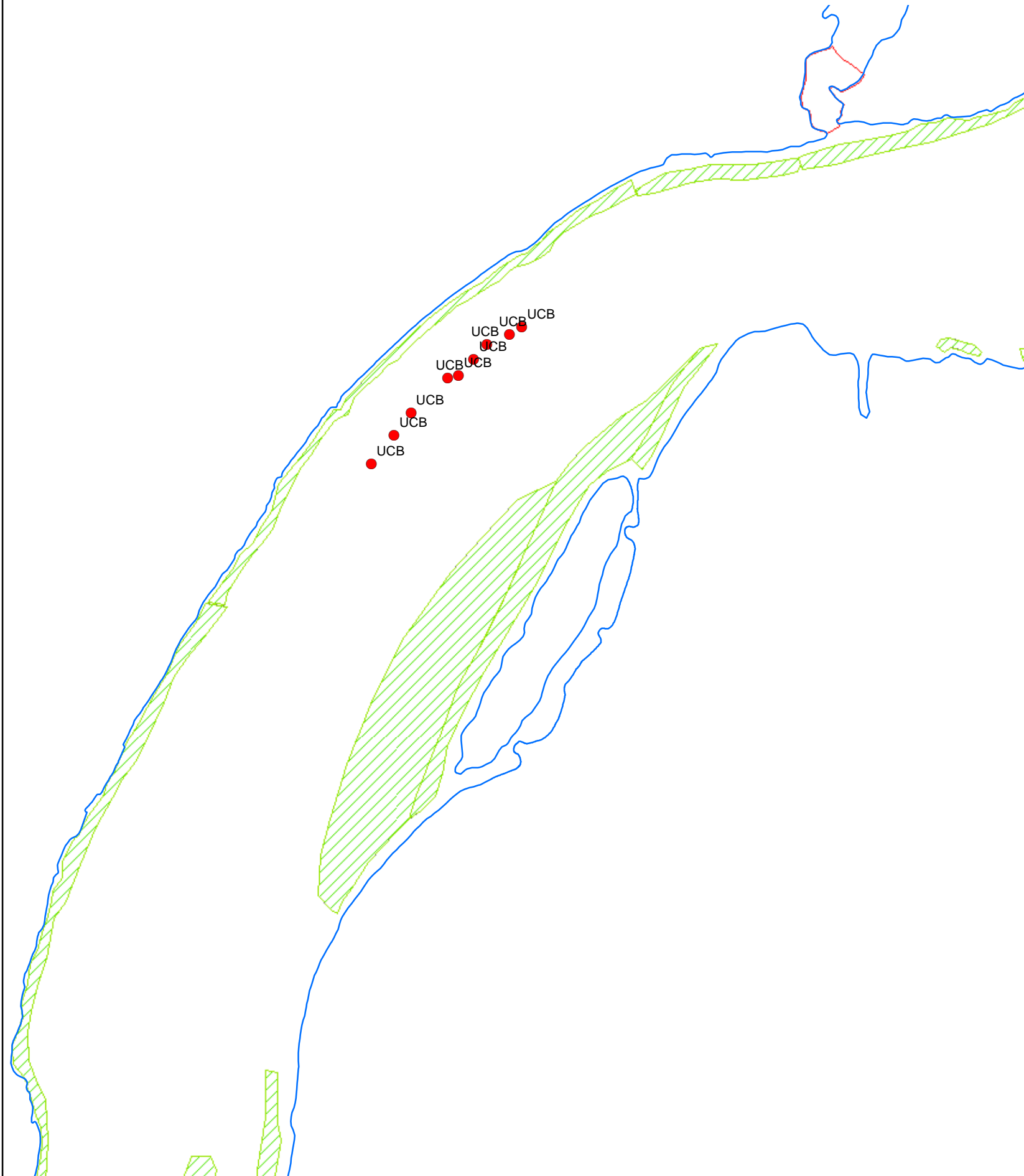


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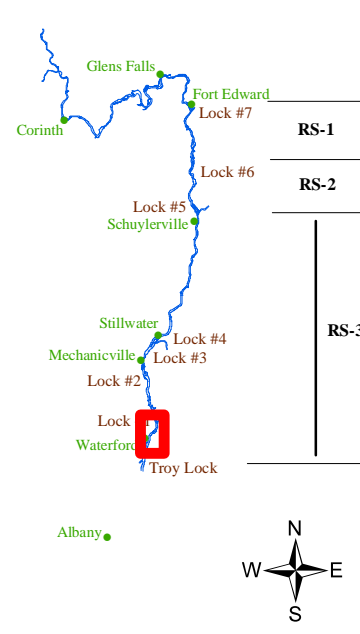
Overview



Focused Area



LOCATOR MAP OF THE HUDSON RIVER



LEGEND

- Phase 1 Quadrat/Transect Stations**
 - SAV
 - ▲ Shoreline
 - Unconsolidated Bottom
 - ◆ Wetland
- Phase 1 Dredge Areas** (White outline)
- Phase 2 Dredge Areas** (Red outline)
- Habitat Shoreline**
 - Maintained Shore (Orange line)
 - Natural Shore (Blue line)
- SSS Sediment Types**
 - Type I Sediment (Light Blue)
 - Type II Sediment (Yellow)
 - Type III Sediment (Orange)
 - Type IV Sediment (Dark Orange)
 - Type V Sediment (Red)
- SSS Debris & Attributes (Green line)
- Shoreline (Blue line)
- River Miles (Light Blue line)
- Dams and Locks (Purple line)
- Habitat Delineation**
 - Backwater Wetland (Green with dots)
 - Fringe Wetland (Green with cross-hatch)
 - Trapa (Green with vertical lines)
 - SAV (Green with diagonal lines)

**General Electric Company
Hudson River Project**

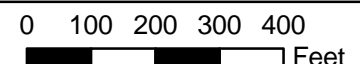
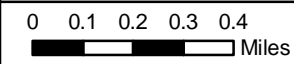
Figure 51

**Phase II Habitat
Assessment Stations**

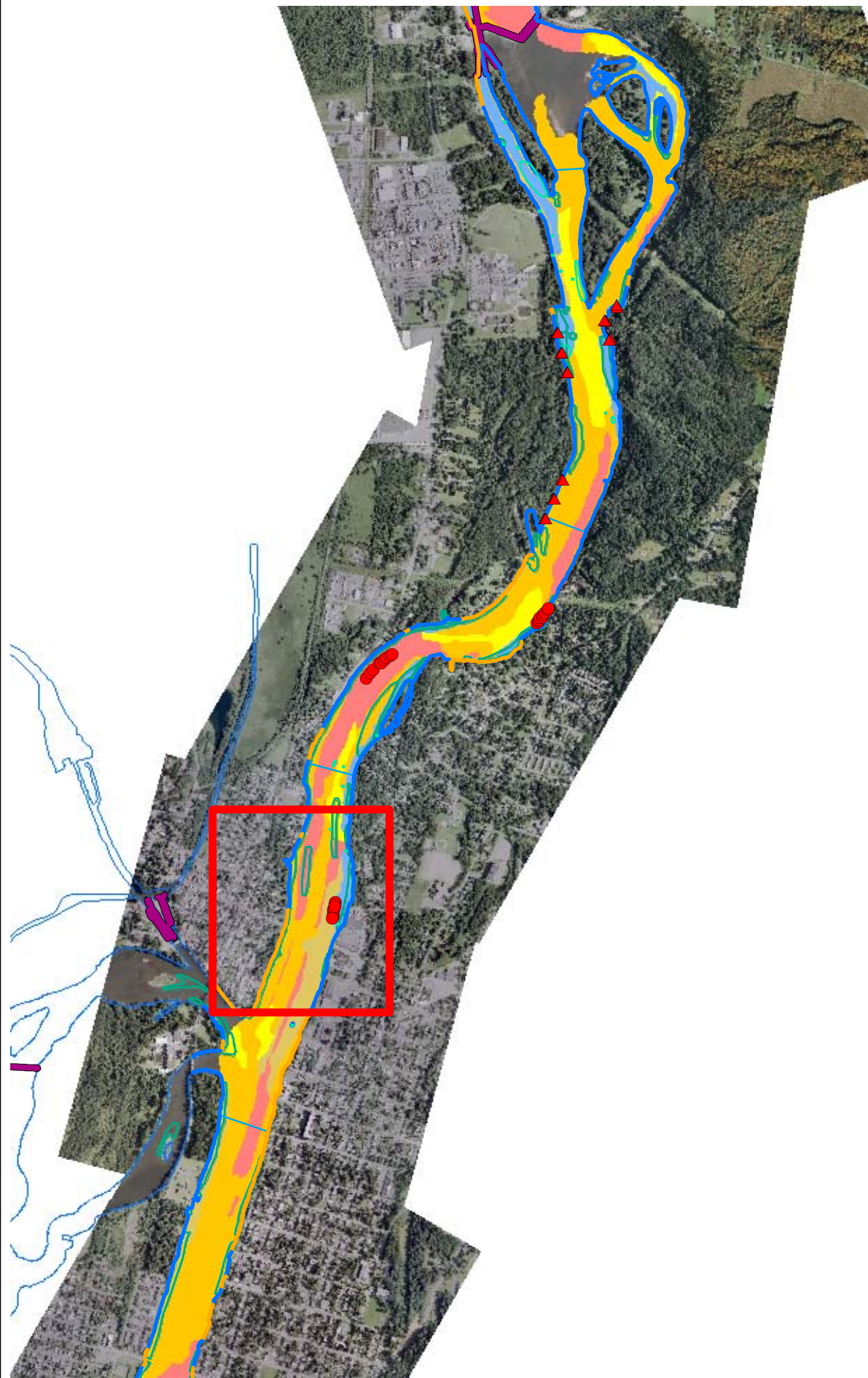


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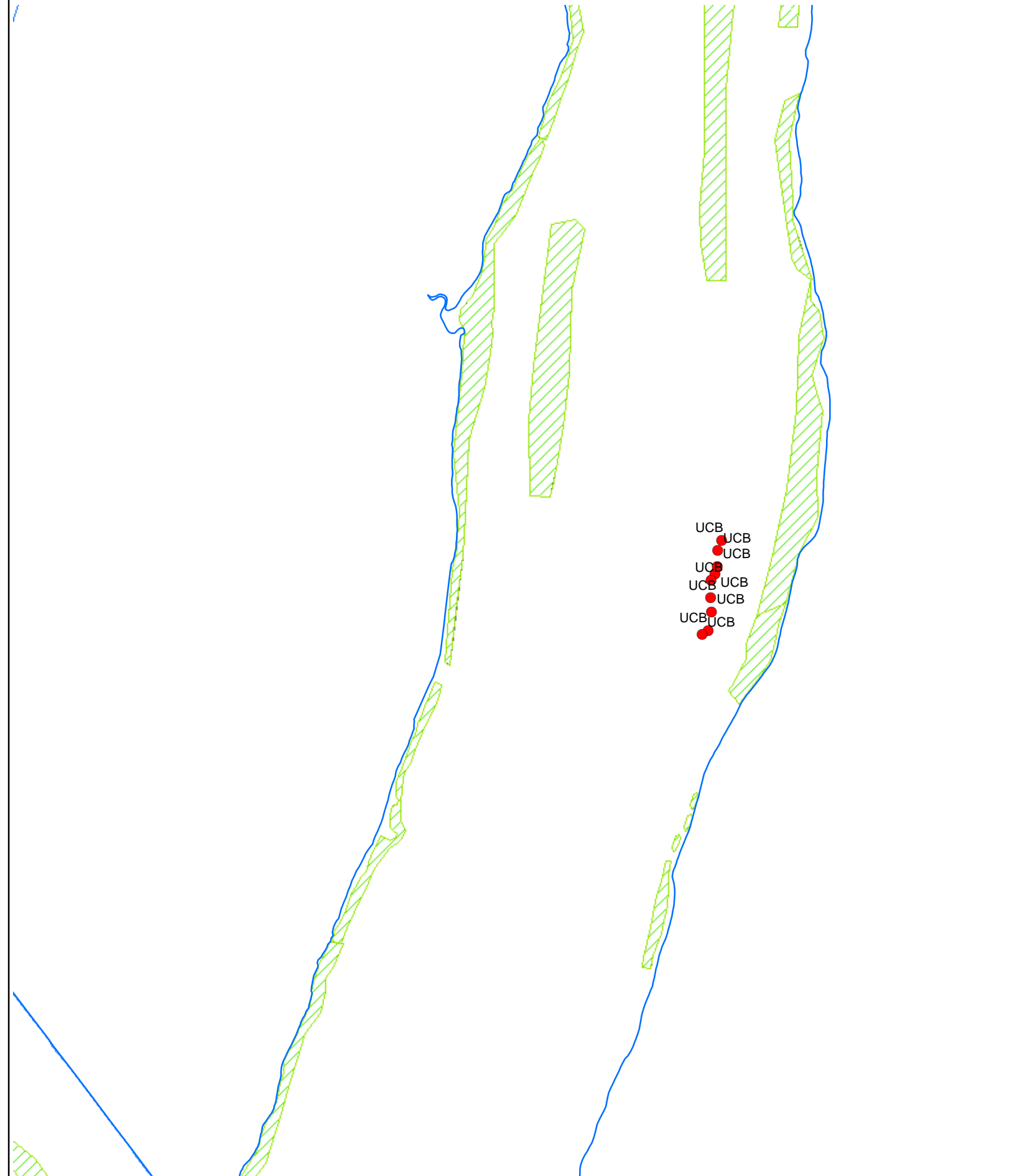
June 2009



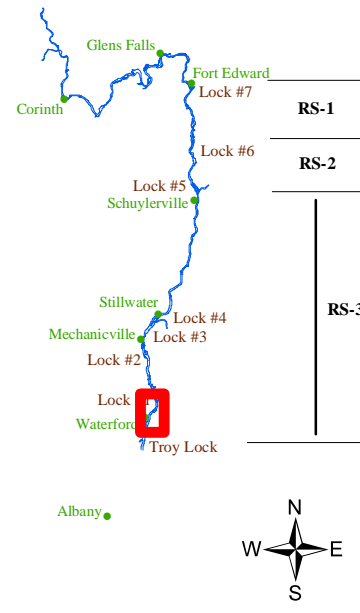
Overview



Focused Area



LOCATOR MAP OF THE HUDSON RIVER



LEGEND

- Phase 1 Quadrat/Transect Stations**
- SAV
- ▲ Shoreline
- Unconsolidated Bottom
- ◆ Wetland
- Phase 1 Dredge Areas
- Phase 2 Dredge Areas
- Habitat Shoreline**
- Maintained Shore
- Natural Shore
- SSS Sediment Types**
- Type I Sediment
- Type II Sediment
- Type III Sediment
- Type IV Sediment
- Type V Sediment
- SSS Debris & Attributes
- Shoreline
- River Miles
- Dams and Locks
- Habitat Delineation**
- Backwater Wetland
- Fringe Wetland
- Trapa
- SAV

**General Electric Company
Hudson River Project**

Figure 52

**Phase II Habitat
Assessment Stations**



0 0.1 0.2 0.3 0.4 Miles

0 100 200 300 400 Feet

APPENDIX A
OFF-SITE REFERENCE ASSESSMENT
STATIONS

APPENDIX A HABITAT ASSESSMENTS AT OFFSITE REFERENCE STATIONS

A.1 INTRODUCTION

As described in the *Habitat Delineation and Assessment Work Plan* (HDA Work Plan, BBL 2003), offsite reference locations will be used to evaluate the impacts (if any) of potential broad, watershed-wide or regional changes that may extend beyond the 40-mile project area, and to determine whether these changes have an effect on habitat replacement/reconstruction success. Offsite reference locations are not a substitute for the use of reference areas within River Sections 1, 2, and 3 in evaluating habitat replacement/reconstruction success. As described in the *Habitat Delineation Report* (BBL and Exponent 2005a), the Upstream Upper Hudson (Sherman Island Hydroelectric Plant to West City Limits of Glens Falls) and the Lower Mohawk River (Lock 7 to Route 9 Marina near Town of Colonie Landfill) were identified as suitable offsite reference areas because they appeared, based on a review of existing information, to have a range of physical habitat conditions that could fall within the range determined for habitats in the project area.

A.2 SAMPLING PROCEDURE

Representative samples were collected from each habitat type within the offsite reference stations using the SOPs described in the HDA Work Plan, as modified by the *Habitat Assessment Report for Candidate Phase 1 Areas* (Phase 1 HA Report, BBL and Exponent 2005b). The locations for the offsite reference stations were tentatively identified in the *Supplemental Habitat Assessment Work Plan* (SHAWP, BBL and Exponent 2005c). The final sampling locations were selected in early August 2006 based on field reconnaissance conducted of the offsite reference areas with USEPA oversight personnel. Figures A-1

through A-4 depict the locations of the sampling stations in the Upstream Upper Hudson River and the Lower Mohawk River.

A.3 RESULTS

Offsite assessment data are provided on the compact disk in Appendix I.

Upstream Upper Hudson

Offsite reference stations in the Upstream Upper Hudson were sampled between August 2 and August 22, 2006. There were two such stations in this area for each habitat type. The results are presented below. Original data from the Upstream Upper Hudson are provided at end of this appendix.

Unconsolidated River Bottom

The substrate at UCB-UH-01 consisted primarily of cobble and gravel, with some boulders present and sand. There was no silt, detritus or other debris present. Conversely, the substrate at station UCB-UH-2 was predominately sand and silts. The area in and around station UCB-UH-2 was covered by the remnants of logs (some still nearly intact) that likely accumulated in the area when logging was still common. The range of conditions at the unconsolidated river bottom stations in the Upstream Upper Hudson are shown in Table A-1.

Aquatic Vegetation Beds

SAV-UH-01 is a mixed species bed dominated by water bulrush (*Scirpus subterminalis*) and wild celery (*Vallisneria americana*), intermixed with muskgrass (*Chara* spp.). SAV-UH-02 is also a mixed species bed dominated by wild celery and water bulrush, intermixed with coontail (*Ceratophyllum demersum*). Water flow in the Upstream Upper Hudson was relatively low compared to flows in River Section 1 of the Upper Hudson during the same

period and water clarity was good. The range of conditions in the aquatic vegetation beds in the Upstream Upper Hudson are shown in Table A-2.

Natural Shorelines

The canopy layer at SHO-UH-01 was dominated by red oak (*Quercus rubra*), red maple (*Acer rubrum*), silver maple (*Acer saccharinum*), and white pine (*Pinus strobus*). The understory was dominated by meadowsweet (*Spiraea latifolia*), arrow-wood (*Viburnum dentatum*) and gray-stemmed dogwood (*Cornus racemosa*). Royal fern (*Osmunda regalis*), cardinal flower (*Lobelia cardinalis*) and golden rods (*Solidago* spp.) were common in the herbaceous layer. At SHO-UH-02, the canopy was dominated by red oak, red maple, green ash (*Fraxinus pennsylvanica*) and white pine. The understory and herbaceous layers were similar to those found at SHO-UH-1. The range of conditions at the shoreline stations in the Upstream Upper Hudson are shown in Table A-3.

Riverine Fringing Wetlands

WET-UH-01 was a relatively large flat wetland near the delta of a small unnamed tributary to the Upstream Upper Hudson. The emergent portion of the wetland was dominated by pickerel weed (*Pontederia cordata*), arrow-arum (*Peltandra virginica*) and sedges (*Carex* spp). WET-UH-02 was small wetland located on the outer edge of a small island. WET-UH-02 was also dominated by pickerel weed, arrow-arum and sedges. The range of conditions at the riverine fringing wetland stations in the Upstream Upper Hudson are shown in Table A-4.

Lower Mohawk River

Offsite reference stations in the Lower Mohawk River were sampled between August 1 and August 11, 2006. There were two such stations in this area for each habitat type. The results

are presented below. Original data from the Lower Mohawk River are provided at end of this appendix.

Unconsolidated River Bottom

The substrate at UCB-MO-01 consisted primarily of cobble and gravel, with some sand. There was a trace of detritus present at all locations. Live mussels and mussel shells were also present (10% through 20%). The substrate at UCB-MO-02 was primarily sand with some silt. There was a trace of detritus at most locations and no mussels (live or dead) were present. The range of conditions at the unconsolidated river bottom stations of the Lower Mohawk are shown in Table A-5.

Aquatic Vegetation Beds

The beds in the Lower Mohawk River were generally in very shallow water (often less than 0.5 meters deep) which precluded collection of light attenuation data. In general, water clarity in the Lower Mohawk was lower than that observed in the Hudson River during 2006. Both aquatic vegetation beds sampled were dominated by wild celery. Water milfoil (*Myriophyllum spicatum*) and water chestnut (*Trapa natans*) were present at both stations but were not within the sampling quadrats. Water chestnut formed large dense beds along the southern shoreline of the river. The range of conditions in the aquatic vegetation beds in the Lower Mohawk River are shown in Table A-6.

Natural Shorelines

The canopy at SHO-MO-01 was dominated by box elder (*Acer negundo*), Eastern cottonwood (*Populus deltoides*), green ash and silver maple. The understory was dominated by gray-stemmed dogwood, speckled alder and common buckthorn (*Rhamnus cathartica*). The herbaceous layer was dominated by golden rods and purple loosestrife (*Lythrum salicaria*). The canopy at SHO-MO-02 was dominated by Eastern cottonwood and box elder.

The understory was similar to that at SHO-MO-01. The herbaceous layer was dominated by common reed (*Phragmites australis*) and hedge false bindweed (*Calystegia sepium*). The range of conditions at the natural shoreline stations in the Lower Mohawk River are shown in Table A-7.

Riverine Fringing Wetlands

WET-MO-1 was located on the riverine edge of a large Phragmites marsh. The riverine edge was dominated by cattail (most likely *Typha x glauca*) and arrowhead (*Sagittaria latifolia*) and appeared similar to the riverine fringing wetlands found in the Upper Hudson. WET-MO-2 was a small pocket wetland dominated by arrowhead and purple loosestrife. The range of conditions in the riverine fringing wetland of the Lower Mohawk River are shown in Table A-8.

A.4 REFERENCES

- BBL, 2003. *Habitat Delineation and Assessment Work Plan* (HDA Work Plan). Hudson River PCBs Superfund Site. Prepared for General Electric Company, Albany, NY.
- BBL and Exponent, 2005a. *Habitat Delineation Report*. Hudson River PCBs Superfund Site. Prepared for General Electric Company, Albany, NY.
- BBL and Exponent, 2005b. *Habitat Assessment Report for Candidate Phase 1 Areas*. Hudson River PCBs Superfund Site. Prepared for General Electric Company, Albany, NY.
- BBL and Exponent, 2005c. *Supplemental Habitat Assessment Work Plan* (SHAWP). Hudson River PCBs Superfund Site. Prepared for General Electric Company, Albany, NY.

Table A-1
Range of Conditions Observed in Unconsolidated River Bottoms in the Upstream Upper Hudson River in 2006

Parameter	Units	Minimum	Maximum	Mean	Standard Deviation
<i>Inorganic Substrate</i>					
Bedrock	Percent	0	0	0.0	0.0
Boulder	Percent	0	20	6.3	7.2
Cobble	Percent	0	60	36.4	18.6
Gravel	Percent	10	30	22.9	8.5
Sand	Percent	10	50	22.2	13.1
Silt	Percent	10	50	21.2	41.7
Clay	Percent	0	30	5.6	8.9
<i>Organic Substrate</i>					
Detritus	Percent	0	100	60.8	41.0
Muck-Mud	Percent	0	0	0.0	0.0
Marl	Percent	0	0	0.0	0.0
Mussels	Percent	0	10	2.5	4.6
<i>Epifaunal Substrate</i>					
Pool Substrate	Percent	65	>80	71.3	9.0

Table A-2
Range of Conditions Observed in Aquatic Vegetation Beds in the Upstream Upper Hudson River in 2006

Parameter	Units	Minimum	Maximum	Mean	Standard Deviation
		UH	UH	UH	UH
River Flow	cfs	2178	3214	2898	341
Exchangeable phosphorus	mg/l	N/S	N/S	N/S	N/S
Exchangeable potassium	mg/l	N/S	N/S	N/S	N/S
Exchangeable ammonia	mg/l	N/S	N/S	N/S	N/S
Aboveground biomass	g/m ²	20.9	385	65.2	71.6
Shoot density	number/m ²	8	256	76	63
Percent cover	percent	10	60	33	14
Current - center of bed	cm/s	0.01	0.27	0.09	0.08
Current - outside edge	cm/s	0.04	0.54	0.29	0.19
Light availability - center of bed	Kd	0.21	1.16	0.47	0.96

Table A-3
Range of Conditions Observed at Shorelines Stations in the Upstream Upper Hudson in 2006

Parameter	Units	Minimum	Maximum	Mean	Standard Deviation
<i>Inorganic Substrate</i>					
Bedrock	Percent	0	0	--	--
Boulder	Percent	5	5	5.0	--
Cobble	Percent	30	30	30.0	0.0
Gravel	Percent	10	10	10.0	--
Sand	Percent	55	100	81.7	17.5
Silt	Percent	5	10	8.8	2.5
Clay	Percent	0	0	--	--
<i>Organic Substrate</i>					
Detritus	Percent	30	50	40.0	10.0
Muck-Mud	Percent	0	0	--	--
Marl	Percent	0	0	--	--
Vegetated	Percent	50	100	80.0	22.8
Woody Debris	Feet	45	400	177.5	129.7
<i>Bank Assessment</i>					
Stable	Percent	40	85	60.8	22.9
Moderately Stable	Percent	15	60	39.2	22.9
Moderately Unstable	Percent	0	0	--	--
Unstable	Percent	0	0	--	--
<i>Bank Vegetation</i>					
Optimal	Percent	100	100	100.0	0.0
Suboptimal	Percent	0	0	--	--
Marginal	Percent	0	0	--	--
Poor	Percent	0	0	--	--
<i>Riparian Edge</i>					
Canopy	Percent	40	95	69.2	25.8
Understory	Percent	60	80	66.7	8.2
Herbacious	Percent	15	60	35.0	16.7
Adjacent Landuse	None	Shrub-scrub	Forested		

Table A-4
Range of Conditions Observed in Riverine Fringing Wetlands in the Upstream Upper Hudson River in 2006

Parameter	Units	Minimum	Maximum	Mean	Standard Deviation
<i>Upper Hudson</i>					
Size	Acre	0.08	0.38	0.23	0.15
Slope	Percent				
Biomass	g/m ²	19	3796	422	758
Stem Density	number/m ²	8	6896	495	1184
Percent Contiguous	Percent	100	100	100	--
Wetland Edge	Feet	216	378	297	81

Table A-5
Range of Conditions Observed in Unconsolidated River Bottoms in the Lower Mohawk River in 2006

Parameter	Units	Minimum	Maximum	Mean	Standard Deviation
<i>Inorganic Substrate</i>					
Bedrock	Percent	0	0	0.0	0.0
Boulder	Percent	0	60	8.1	16.1
Cobble	Percent	0	40	15.3	18.0
Gravel	Percent	0	60	16.7	19.7
Sand	Percent	10	80	47.2	34.1
Silt	Percent	5	20	14.4	5.9
Clay	Percent	0	0	0.0	0.0
<i>Organic Substrate</i>					
Detritus	Percent	0	5	4.4	1.6
Muck-Mud	Percent	0	0	0.0	0.0
Marl	Percent	5	40	19.4	9.8
Mussels	Percent	0	30	7.2	9.4
<i>Epifaunal Substrate</i>					
Pool Substrate	Percent	40	>80	60.0	20.6

Table A-6
Range of Conditions Observed in Aquatic Vegetation Beds in the Lower Mohawk River in 2006

Parameter	Units	Minimum	Maximum	Mean	Standard Deviation
Exchangeable phosphorus	mg/l	26.2	26.7	26.5	0.35
Exchangeable potassium	mg/l	15.5	18.1	16.8	1.84
Exchangeable ammonia	mg/l	14.6	17.1	15.85	1.77
Aboveground biomass	g/m ²	35.4	494	285.5	152.4
Shoot density	number/m ²	32	176	105	45
Percent cover	percent	10	60	30	13
Current - center of bed	cm/s	0.00	0.06	0.02	0.02
Current - outside edge	cm/s	0.01	0.14	0.07	0.04
Light availability - center of bed	Kd	-- ¹	-- ¹	-- ¹	-- ¹

Notes:

¹ Location too shallow for reading.

Table A-7

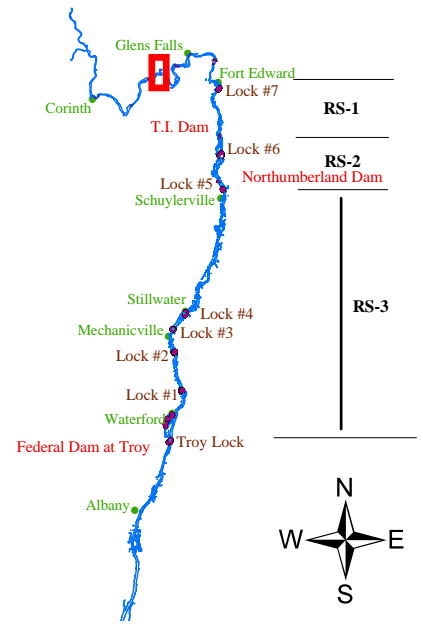
Range of Conditions Observed at Shorelines Stations in the Lower Mohawk River in 2006

Parameter	Units	Minimum	Maximum	Mean	Standard Deviation
<i>Inorganic Substrate</i>					
Bedrock	Percent	0	0	--	--
Boulder	Percent	15	30	21.7	7.6
Cobble	Percent	5	10	6.7	2.9
Gravel	Percent	5	5	5.0	0.0
Sand	Percent	10	90	58.0	43.8
Silt	Percent	10	65	35.0	27.6
Clay	Percent	0	0	--	--
<i>Organic Substrate</i>					
Detritus	Percent	0	0	--	--
Muck-Mud	Percent	0	0	--	--
Marl	Percent	0	0	--	--
Vegetated	Percent	100	100	100.0	0.0
Woody Debris	Feet	7	28	17.7	9.0
<i>Bank Assessment</i>					
Stable	Percent	70	100	88.3	11.3
Moderately Stable	Percent	0	30	11.7	11.3
Moderately Unstable	Percent	0	0	--	--
Unstable	Percent	0	0	--	--
<i>Bank Vegetation</i>					
Optimal	Percent	100	100	100.0	0.0
Suboptimal	Percent	0	0	--	--
Marginal	Percent	0	0	--	--
Poor	Percent	0	0	--	--
<i>Riparian Edge</i>					
Canopy	Percent	40	80	58.3	13.3
Understory	Percent	10	65	35.8	25.4
Herbacious	Percent	50	70	61.7	8.2
Adjacent Landuse	None	Forested	Forested		

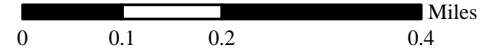
Table A-8
Range of Conditions Observed in Riverine Fringing Wetlands in the Lower Mohawk River in 2006

Parameter	Units	Minimum	Maximum	Mean	Standard Deviation
<i>Mohawk River</i>					
Size	Acre	0.12	0.72	0.42	0.30
Slope	Percent				
Biomass	g/m ²	84	6726	2644	1752
Stem Density	Number/m ²	16	1336	300	307
Percent Contiguous	Percent	100	100	100	--
Wetland Edge	Feet	269	1081	675	405

LOCATOR MAP OF THE UPPER HUDSON RIVER



GRAPHIC SCALE



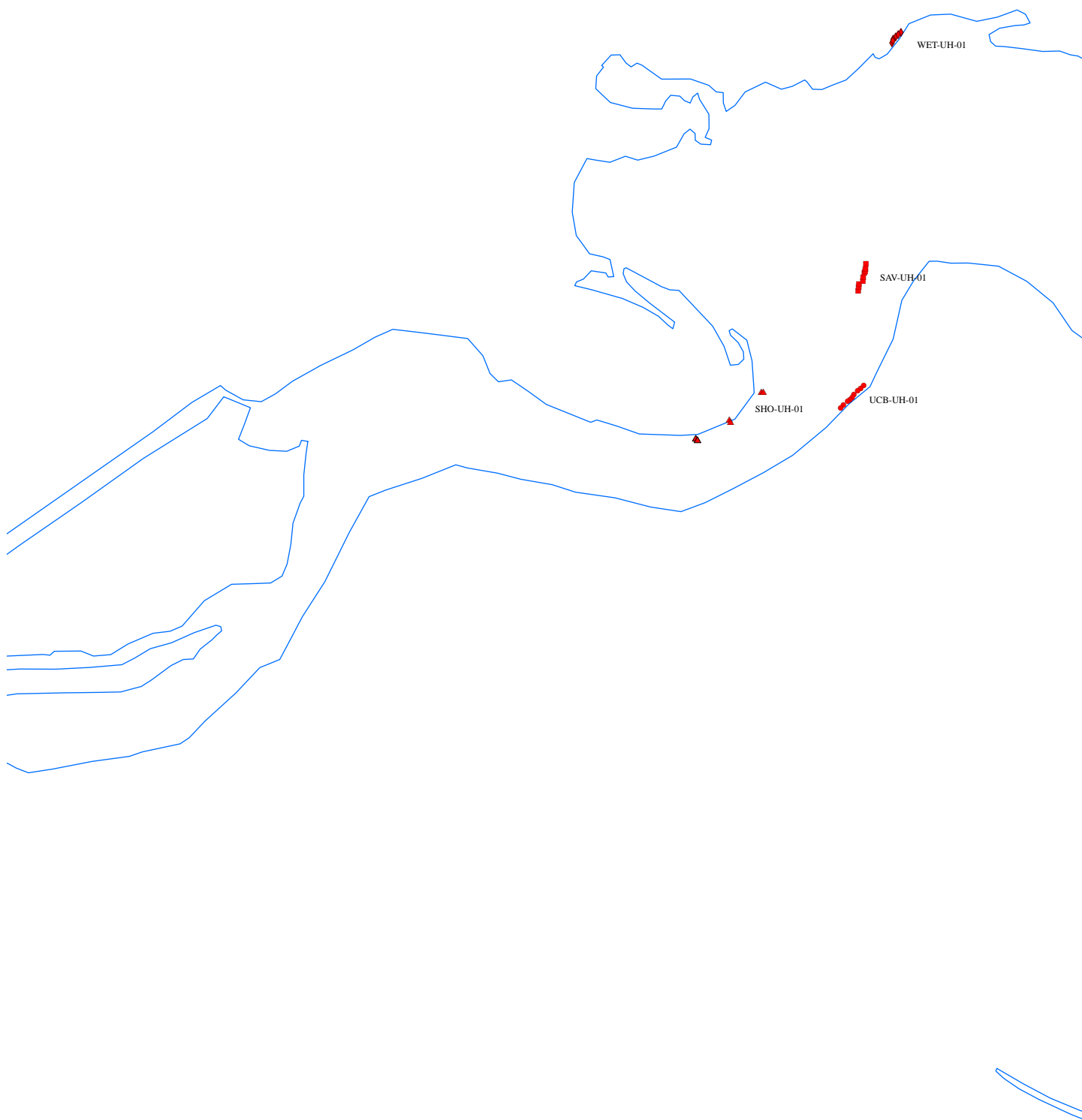
LEGEND

Off-Site Quadrat/Transect Stations

- SAV
- ▲ Shoreline
- UCB
- ◆ Wetland
- Phase 1 Dredge Areas
- Phase 2 Dredge Areas
- Shoreline
- River Miles
- Dams and Locks

Habitat Delineation

- Wetland
- SAV



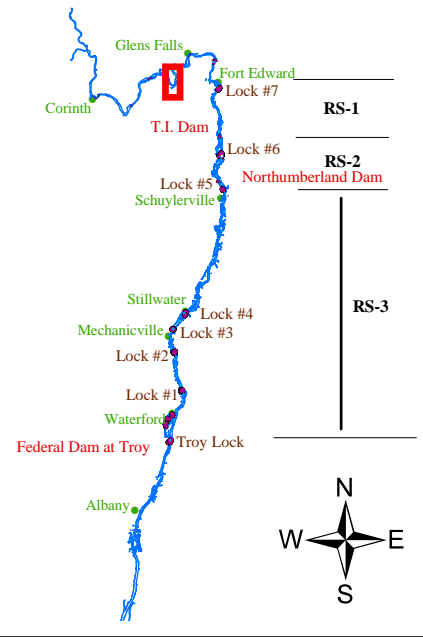
**General Electric Company
Hudson River Project**

Figure A-1

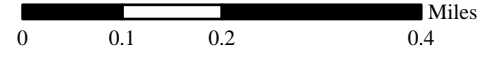
**Off-site Reference Habitat Assessment
Stations Upstream Upper Hudson,
West of I-87**



LOCATOR MAP OF THE UPPER HUDSON RIVER



GRAPHIC SCALE



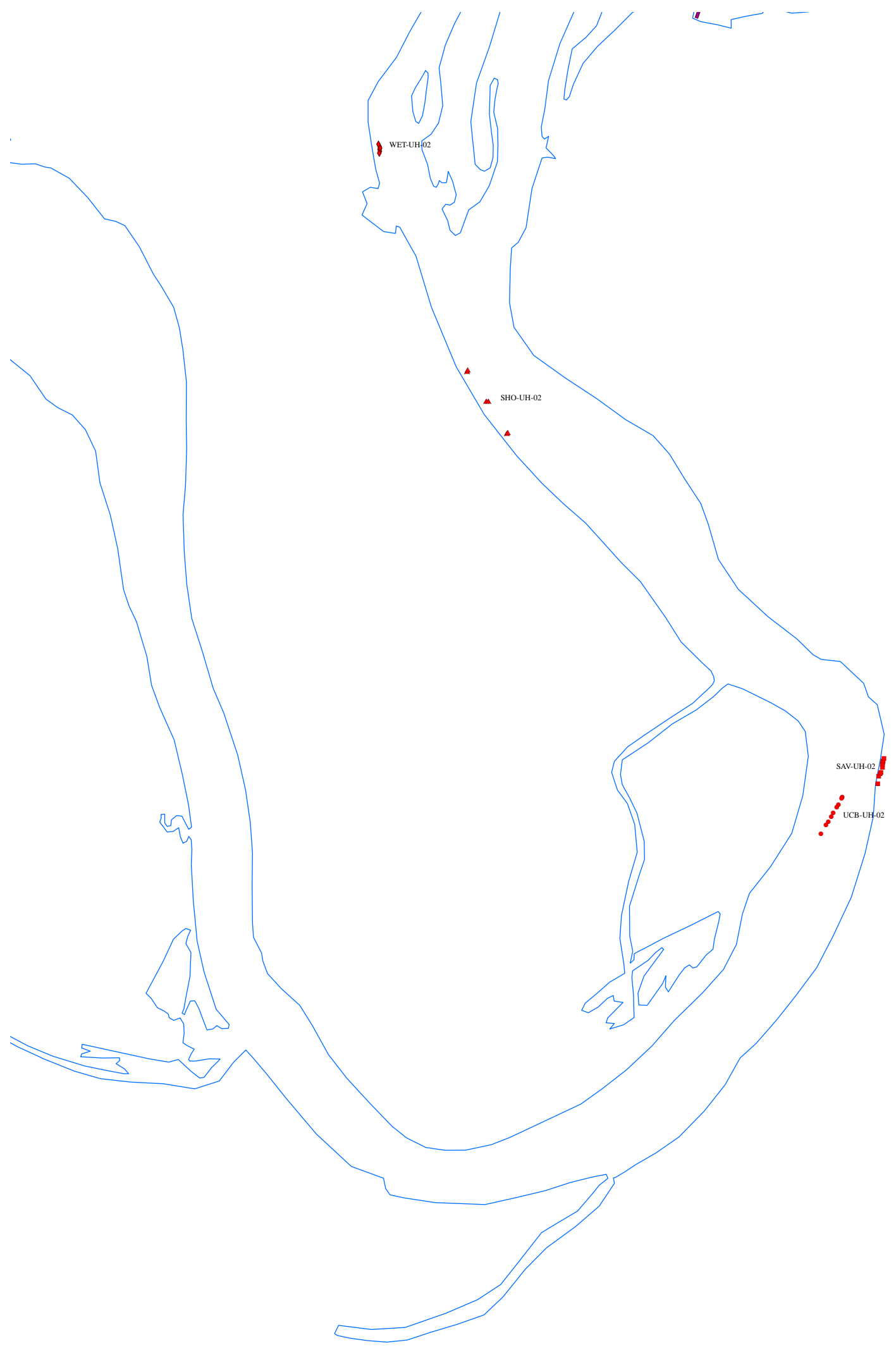
LEGEND

Off-Site Quadrat/Transect Stations

- SAV
- ▲ Shoreline
- UCB
- ◆ Wetland
- Phase 1 Dredge Areas
- Phase 2 Dredge Areas
- Shoreline
- River Miles
- Dams and Locks

Habitat Delineation

- Wetland
- SAV



**General Electric Company
Hudson River Project**

Figure A-2

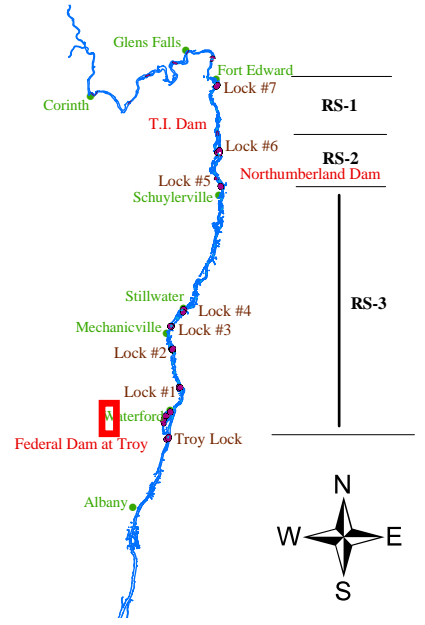
**Off-site Reference Habitat Assessment
Stations Upstream Upper Hudson,
East of I-87**



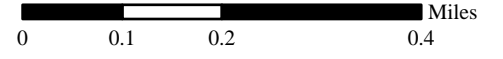
GENHab

July 2008

LOCATOR MAP OF THE UPPER HUDSON RIVER



GRAPHIC SCALE



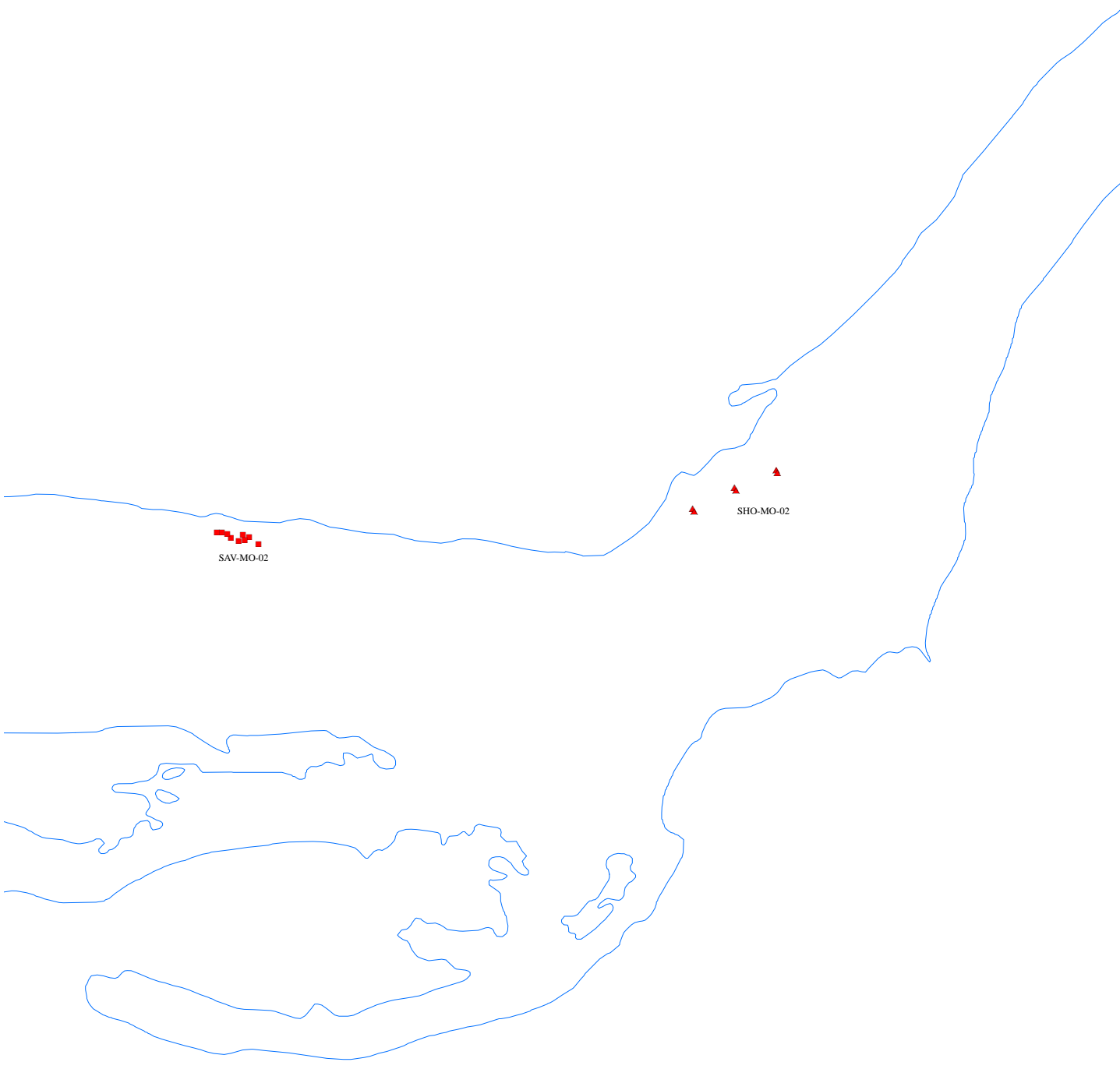
LEGEND

Off-Site Quadrat/Transect Stations

- SAV
- ▲ Shoreline
- UCB
- ◆ Wetland
- Phase 1 Dredge Areas
- Phase 2 Dredge Areas
- Shoreline
- River Miles
- Dams and Locks

Habitat Delineation

- Wetland
- SAV



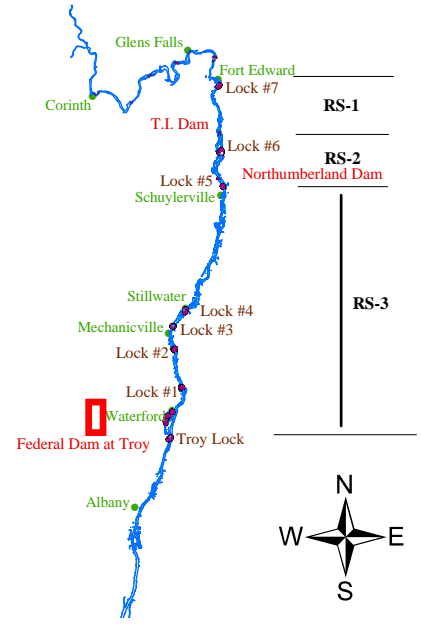
**General Electric Company
Hudson River Project**

Figure A-3

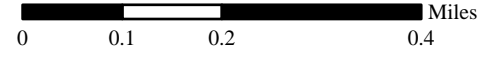
**Off-site Reference Habitat Assessment
Stations, Lower Mohawk River
east**



**LOCATOR MAP OF THE
UPPER HUDSON RIVER**



GRAPHIC SCALE



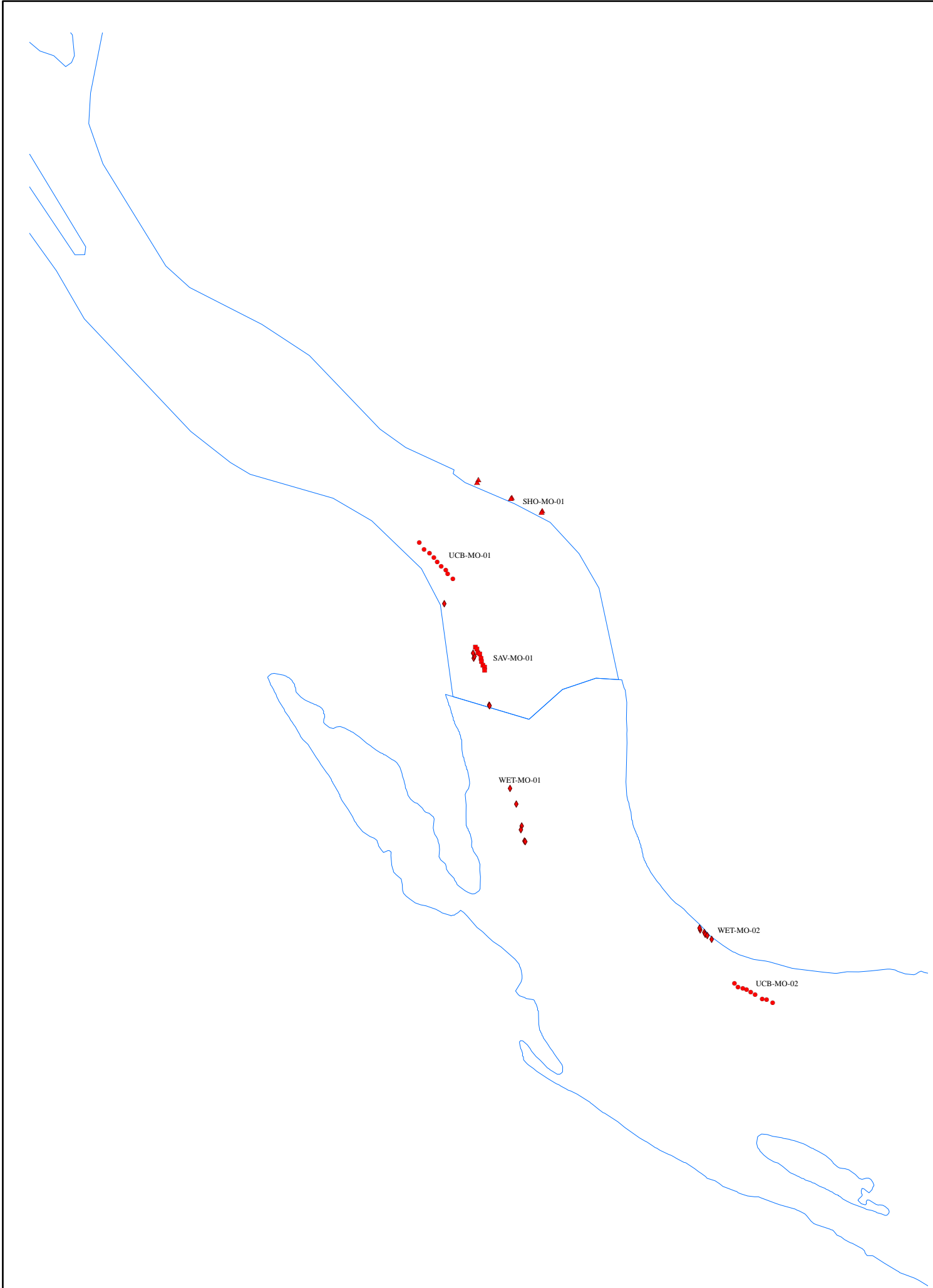
LEGEND

Off-Site Quadrat/Transect Stations

- SAV
- ▲ Shoreline
- UCB
- ◆ Wetland
- Phase 1 Dredge Areas
- Phase 2 Dredge Areas
- Shoreline
- River Miles
- Dams and Locks

Habitat Delineation

- Wetland
- SAV



**General Electric Company
Hudson River Project**

Figure A-4

**Off-site Reference Habitat Assessment
Stations, Lower Mohawk River
west**



APPENDIX B
STANDARD OPERATING PROCEDURES
FOR UNCONSOLIDATED (NON-
VEGETATED) RIVER BOTTOM
ASSESSMENT

Appendix B. Revised Standard Operating Procedure for Unconsolidated (Non-Vegetated) River Bottom Assessment

I. Introduction

The Standard Operating Procedure (SOP) for measuring the range of existing conditions of unconsolidated (non-vegetated) river bottom habitats within River Sections 1, 2, and 3 of the Upper Hudson River was provided as Attachment A of the *Habitat Delineation and Assessment Work Plan* (HDA Work Plan; Blasland, Bouck & Lee, Inc. [BBL], 2003) for the Upper Hudson River. This revised SOP provides methods for the collection of additional data in the unconsolidated river bottom habitats that have been added to the program since the approval of the HDA Work Plan.

II. Necessary Materials and Equipment

- Small boat with standard water safety gear (e.g., personal flotation device [PFD]; first aid kit)
- Protective gear for working in water (e.g., hip waders, wetsuit, drysuit)
- Foul weather gear
- Rapid Bioassessment Protocols (RBP) guidance document
- Differential Global Positioning System (DGPS) unit
- Dive equipment (diving flag, SCUBA and/or snorkel)
- Camera
- Binoculars
- Field guide(s)
- Field log book

II. Sampling Design

The HDA Work Plan stated that assessments would be completed at 135 unconsolidated river bottom habitat locations (stations). Subsequent to the approval of the HDA Work Plan, based on discussions with EPA, this number was reduced to 100 stations to offset increased sampling of aquatic vegetation beds and riverine fringing wetlands.

The locations for all UCB assessment stations were identified in the Supplemental Habitat Assessment Work Plan (SHAHP; BBL and Exponent, 2005). The rationale for the selection of those stations was described in the HDA Work Plan.

III. Methods

The methods used for assessing unconsolidated river bottom habitat are provided in their entirety, including the data collection protocols from the approved HDA Work Plan and methods for collecting water quality and current velocity data that have been added after the approval of that document. The protocols described in this SOP for assessing unconsolidated river bottom habitat are adapted from the USEPA Rapid Bioassessment Protocols (Barbour et al., 1999). Sampling will be conducted by trained, experienced personnel (per Barbour et al., 1999) using SCUBA, snorkeling gear, or wading. Sample locations will not be disturbed by sampling personnel prior to making habitat parameter estimates.

Sampling will be conducted between June 1 and September 30 as described below.

A. Data Collected At Each Quadrat

1. Establish the nine sampling points at each station. The sampling points will be located such that replicate measurements are taken randomly from within each stratum at the station. Record locations with DGPS. Also record weather conditions on and prior to the day of the survey, as well as watershed and in-stream features, in the field log book.
2. As described by Barbour et al. (1999), estimate and record percent composition of inorganic features of the substrate observed in the sampling area (approximately 2.0 m²), using Table A-1, by visual and/or tactile evaluation.

Table A-1. Inorganic Substrate Components		
Substrate Type	Diameter (millimeters [mm])	Percent Composition (0-100%)
Bedrock		
Boulder	> 256 mm (10 inches)	
Cobble	64 – 256 mm (2.5 – 10 inches)	
Gravel	2 – 64 mm (0.1 – 2.5 inches)	
Sand	0.06 – 2 mm (gritty)	
Silt	0.004 – 0.06 mm	
Clay	<0.004 mm (slick)	

(Adapted from Barbour et al., 1999)

3. As described by Barbour et al. (1999), estimate and record percent composition of organic features of the substrate, using Table A-2, in the same area and by the same techniques as described in Step 2.

Table A-2. Organic Substrate Components		
Substrate Type	Characteristic	Percent Composition (0-100%)
Detritus	Sticks, wood, coarse plant material (CPOM)	
Muck-Mud	Black, very fine organic (FPOM)	
Marl	Grey, shell fragments	

(Adapted from Barbour et al., 1999)

4. As described by Barbour et al. (1999), estimate and record the presence and character of structural substrate/habitat cover, using Table A-3, in the same area and by the same techniques as described in Step 2.

Table A-3. Epifaunal Substrate / Available Cover		
Category	Stable Habitat (For Low Gradient Conditions)	Stable Habitat (For High Gradient Conditions)
Optimal – mix of snags, submerged logs,	> 50%	> 70%

cobble, or other stable habitat		
Suboptimal – mix of stable habitat well-suited for colonization and new fall	30 – 50%	40 – 70%
Marginal – habitat availability less than desirable; substrate frequently disturbed or removed	10 – 30%	20 – 40%
Poor – lack of habitat obvious; substrate unstable or lacking	< 10%	< 20%

(Adapted from Barbour et al., 1999)

- As described by Barbour et al. (1999), estimate and record the level of embeddedness of large-diameter material, using Table A-4, in the same area by the same techniques as described in Step 2. Do not complete this step if the substrate is greater than 75% sand, silt, or clay. Complete this step only for high gradient areas.

Table A-4. Embeddedness	
Category	Surrounded by Fine Sediment
Optimal – gravel, cobble and boulder particles largely uncovered; layer of cobble provides diversity of niche space	0 – 25%
Suboptimal – gravel, cobble and boulder particles partially covered	25 - 50%
Marginal – gravel, cobble and boulder particles more than 50% covered	50 – 75%
Poor – gravel, cobble and boulder particles mostly covered and difficult to discern	> 75%

(Adapted from Barbour et al., 1999)

- As described by Barbour et al. (1999), estimate and record the level of optimal pool substrate characteristics using Table A-5 in the same area by the same techniques as described in Step 2. Complete this step only for low gradient areas.

Table A-5. Pool Substrate Characterization	
Category	Stable Habitat¹
Optimal – mix of substrate materials, with gravel and firm sand prevalent; root mats and SAV common	> 80%
Suboptimal – mix of soft sand, mud or clay; mud may be dominant; some root mats and SAV present	55 – 75%
Marginal – all mud or clay or sand bottom; little or no root mat; no SAV	30 – 50%
Poor – hard-pan clay or bedrock; no root mat or SAV	< 25%

(Adapted from Barbour et al., 1999)

1. Values of percent derived from scores associated with each category (Barbour et al, 1999)

- As described by Barbour et al. (1999), estimate and record the channel flow status using Table A-6 in the same area by the same techniques as described in Step 2.

Table A-6. Channel Flow Status	
Category	Percent Channel Filled with Water
Optimal – water reaches base of both lower banks and minimal amount of channel substrate is exposed.	100%
Suboptimal – water fills > 75% of available channel; or < 25% of channel substrate is exposed.	> 75%
Marginal – water fills between 25-75% of channel and/or riffle substrates are mostly exposed.	25 – 75%
Poor – very little water in channel and mostly standing pools.	< 25%

(Adapted from Barbour et al., 1999)

- Repeat the observations at one sampling point per station using different crew member and compare observations on percent composition. Stations where repeated observations deviate from original estimates by 20% or more will be reassessed.
- Move to the next sampling point and repeat Steps 2 through 9.

B. Data Collected at Each Station

Current velocity

- Collect velocity data from the approximate center of the UCB station using an electromagnetic velocity meter. The instrument will be maintained and calibrated in accordance with the manufacturer's instructions. This equipment will be operated from the boat. The meter will be secured to a long metal or PVC pole to allow raising and lowering of the meter in the water. The pole will be marked at 10 cm and 1 m intervals from the bottom.
- Orient the meter head directly parallel with the flow. Flagging or streamers (e.g., from cassette tape material) should be tied to the vertical rod to assist with orientation of the meter.
- Place the meter 10 cm above the substrate. Record velocity.
- Raise the meter to 80% water column depth. Wait 30 seconds for the readings to stabilize. Record velocity.
- Raise the meter to 60% water column depth. Wait 30 seconds for the readings to stabilize. Record velocity.
- Raise the meter to 20% water column depth. Wait 30 seconds for the readings to stabilize. Record velocity.
- Place the meter 1 m above the substrate. Wait 30 seconds for the readings to stabilize. Record velocity.

Water Quality

- Collect water quality data (temperature, dissolved oxygen [DO], pH, specific-conductivity, and turbidity) from the approximate center of the UCB station using a multiparameter probe (YSI 6920

- or equivalent). The instrument will be calibrated at the beginning of each day in accordance with the manufacturer's calibration procedures. This equipment will be operated from the boat.
2. Lower the probe to 1 m below the water surface. Wait 30 seconds for the readings to stabilize. Record temperature, DO, pH, specific-conductivity and turbidity.
 3. Lower the probe to 10 cm above the sediment surface. Wait 30 seconds for the readings to stabilize. Record temperature, DO, pH, specific-conductivity and turbidity.

Light Availability and Water Depth

1. Collect light availability data from the approximate center of the UCB station using handheld equipment for measuring photosynthetically active radiation (e.g., Licor 1400 photometer). This equipment will be maintained and calibrated in accordance with the manufacturer's instructions. This equipment will be operated from the boat. The air (surface light) and underwater sensors will be attached to the data logger in accordance with the manufacturer's instructions. The underwater sensor will be attached to the sensor platform in accordance with the manufacturer's instructions.
2. Place air sensor on level surface in full sunlight.
3. Lower the sensor platform into the water to a depth of 0.5 m. Record air (surface) and underwater light readings.
4. Lower the sensor platform to a depth of 1 m. Record air (surface) and underwater light readings.
5. Lower the calibrated sounding line or survey rod to the bottom. Record water depth to the nearest centimeter.

V. References

Barbour, M.T., J. Gerritsen, B.D. Snyder, and J.B. Stribling. 1999. *Rapid Bioassessment Protocols for Use in Streams and Wadeable Rivers: Periphyton, Benthic Macroinvertebrates, and Fish*, Second Edition. EPA 841-B-99-002. USEPA, Office of Water, Washington, DC.

BBL. 2003. *Habitat Delineation and Assessment Work Plan*. Hudson River PCBs Superfund Site. Prepared for General Electric Company, Albany, NY.

USEPA. 2002. *Hudson River PCBs Site – Record of Decision and ROD Responsiveness Summary*. New York, NY.

Date: ____/____/____

Personnel (initials): ____/____/____

Time: ____ AM / PM (Circle one)

Station Identification: _____

Station Location Information		
Station Number:	River Section: 1 2 3 REF	General Description:
Sampling Point	Northing	Easting
1		
2		
3		
4		
5		
6		
7		
8		
9		

Light Availability Measurements at Center of Station		
Sensor Depth	AIR	UW
0.5 m		
1.0 m		
Water Depth (cm)		

Current Velocity Measurements at Center of Station		
Sensor Depth	Sensor Depth (cm) below surface	Velocity (ft/sec)
10 cm	height above substrate	
100 cm		
20%	% of water column depth – below surface	
60%		
80%		

In-Situ Water Quality Measurements at Center of Station			
Parameter	Units	Sensor Depth – 1 meter below surface	Sensor Depth - 10 cm off bottom
Temperature	°C		
Conductivity	mS/cm		
Dissolved Oxygen	mg/L		
PH	S.U.		
Turbidity	NTU		
Water Depth	cm		

Date: ____/____/____

Personnel (initials): ____/____/____

Time: ____ AM / PM (Circle one)

Station Identification: _____

Table A-2. Inorganic Substrate Components										
Substrate Type	Diameter (millimeters [mm])	Percent Composition (0-100%)								
		1	2	3	4	5	6	7	8	9
Bedrock										
Boulder	> 256 mm (10 inches)									
Cobble	64 – 256 mm (2.5 – 10 inches)									
Gravel	2 – 64 mm (0.1 – 2.5 inches)									
Sand	0.06 – 2 mm (gritty)									
Silt	0.004 – 0.06 mm									
Clay	<0.004 mm (slick)									

Table A-3. Organic Substrate Components										
Substrate Type	Characteristics	Percent Composition (0-100%)								
		1	2	3	4	5	6	7	8	9
Detritus	Sticks, wood, coarse plant material (CPOM)									
Muck-Mud	Black, very fine organic (FPOM)									
Marl	Grey, shell fragments									
Mussels	% substrate colonized									

Table A-4. Epifaunal Substrate / Available Cover											
Category	Stable Habitat		Mark Appropriate Box								
	Low Gradient	High Gradient	1	2	3	4	5	6	7	8	9
Optimal	> 50%	> 70%									
Suboptimal	30 – 50%	40 – 70%									
Marginal	10 – 30%	20 – 40%									
Poor	< 10%	< 20%									

Optimal - mix of snags, submerged logs, cobble, or other stable habitat
Suboptimal – mix of stable habitat well-suited for colonization and new fall
Marginal – habitat availability less than desirable; substrate frequently disturbed or removed
Poor – lack of habitat obvious; substrate unstable or lacking

Table A-5. Embeddedness (HIGH GRADIENT AREAS ONLY)										
Category	Surrounded by Fine Sediment	Mark Appropriate Box								
		1	2	3	4	5	6	7	8	9
Optimal	0 - 25%									
Suboptimal	25 - 50%									
Marginal	50 - 75%									
Poor	> 75%									

Optimal – gravel, cobble and boulder particles largely uncovered; layer of cobble provides diversity of niche space
Suboptimal – gravel, cobble and boulder particles partially covered
Marginal – gravel, cobble and boulder particles more than 50% covered
Poor – gravel, cobble and boulder particles mostly covered and difficult to discern

Date: ____/____/____

Personnel (initials): ____/____/____

Time: _____ AM / PM (Circle one)

Station Identification: _____

Table A-6. Pool Substrate Characterization (LOW GRADIENT AREAS ONLY)										
Category	Stable Habitat	Mark Appropriate Box								
		1	2	3	4	5	6	7	8	9
Optimal	> 80%									
Suboptimal	55 – 75%									
Marginal	30 – 50%									
Poor	< 25%									

Optimal – mix of substrate materials, with gravel and firm sand prevalent; root mats and SAV common

Suboptimal – mix of soft sand, mud or clay; mud may be dominant; some root mats and SAV present

Marginal – all mud or clay or sand bottom; little or no root mat; no SAV

Poor – hard-pan clay or bedrock; no root mat or SAV

Table A-7. Channel Flow Status										
Category	Percent Channel Filled with Water	Mark Appropriate Box								
		1	2	3	4	5	6	7	8	9
Optimal	100%									
Suboptimal	> 75%									
Marginal	25 – 75%									
Poor	< 25%									

Optimal – water reaches base of both lower banks and minimal amount of channel substrate is exposed.

Suboptimal – water fills > 75% of available channel; or < 25% of channel substrate is exposed.

Marginal – water fills between 25-75% of channel and/or riffle substrates are mostly exposed.

Poor – very little water in channel and mostly standing pools.

General Comments/Notes:

APPENDIX C
STANDARD OPERATING PROCEDURES
FOR AQUATIC BED ASSESSMENT

Appendix C. Revised Standard Operating Procedure for Aquatic Bed Assessment

I. Objective

The Standard Operating Procedure (SOP) for measuring the range of existing conditions, including cover, shoot density, and above-ground biomass, within submerged aquatic vegetation (SAV) habitats in River Sections 1, 2, and 3 of the Upper Hudson River were provided as Attachment B to the HDA Work Plan. This revised SOP provides methods for the collection of additional data in the aquatic bed habitats that have been added to the program since the approval of the HDA Work Plan.

II. Necessary Materials and Equipment

- Small boat with standard water safety gear (e.g., personal flotation device; first aid kit)
- Differential Global Positioning System (DGPS) unit
- Protective gear for working in water (e.g., hip waders, wetsuit, drysuit)
- Dive equipment (e.g., diving flag, SCUBA and/or snorkel gear)
- Field log book
- Sampling quadrat (1 meter [m] x 1 m, polyvinyl chloride [PVC]) with permanent marks every 25 centimeters (cm) on each side
- Sampling subquadrat (25 cm x 25 cm, PVC)
- Tubes for collecting sediment cores (PVC or Lexan)
- Light meter (photoactive radiation sensor)
- Sounding line, calibrated in centimeters
- Water velocity meter
- Random number table
- Sealable storage bags, pre-labeled
- Cooler(s) with ice
- Range finder (optical)
- Camera
- Binoculars
- Field guide(s)
- Laboratory support equipment (e.g., jars, labels, etc.)

III. Sampling Design

Based on discussions between GE and EPA related to the derivation of success criteria, an alternative approach for identifying the location at which certain SAV data are collected has been developed. Previously, as described in the SHAWP, SAV stations were located within certain SAV beds located within (target) or outside of (reference) dredge areas. Data were collected from these beds using either nine or 18 quadrats, for beds less than and greater than 3.0 acres, respectively. SAV data were then analyzed using station averages.

Subsequent analyses have shown that each individual quadrat provides representative data and can serve as the experimental unit. Therefore, rather than assign multiple quadrats to an individual SAV bed, individual quadrats will be located based on the presence of SAV using the following procedure:

- A 90 foot triangular grid will be used to generate Thiessen polygons and placed over River Sections 1, 2 and 3;
- For target stations, those polygons entirely within a Phase 1 dredge area and with SAV at the centroid of the polygon will be selected as potential sample locations.
- For reference stations, every other polygon entirely outside of a Phase 1 or Phase 2 dredge area and with SAV at the centroid of the polygon will be selected as potential sample locations.

SAV biomass, shoot density, percent cover and water depth data will be collected at the centroid locations following procedures described below. The specific target and reference grids that will be sampled will be submitted to EPA for approval prior to any sampling season. The remaining SAV data (current velocity, water quality, and light availability) will be collected at the scale of the SAV beds initially identified for sampling in the SHAWP.

IV. Methods

The protocols described in this SOP address both field and laboratory methods. Field and laboratory analyses will be conducted by trained, experienced personnel.

A. Field

Shoot density, percent cover, and aboveground biomass will be quantified using 1-m square quadrats and conducted during the peak of the SAV growing season, between July 15 and August 30.

Plant characteristics, sediment nutrient availability, light availability, and current velocity data will be collected as distinct tasks using the following protocols.

Plant Characteristics

1. Using SCUBA or snorkeling equipment, collect samples from within the sampling quadrat.
2. Record the center of each sampling quadrat using DGPS.
3. Visually estimate percent cover of the 1-m square quadrat and record in field book.
4. Randomly select two 25 cm x 25 cm subquadrats of the 1-m quadrat. Remove all aboveground material by clipping and store in a pre-labeled sealable bag.
5. Place sample in cooler for transport to the laboratory for processing for shoot density and aboveground biomass.

Sediment Nutrient Availability

1. Using SCUBA or snorkeling equipment, collect surface sediment sample from the center of one randomly selected grid location from each stratum using a PVC coring tube. Follow Steps 3-7. If the sediment depth is less than 5 cm or presence of large-diameter substrate prevents the collection of a sediment core, proceed to Step 2.
2. Lower a ponar grab from the boat and collect a sample from the center of the quadrat. Retrieve the grab and place on deck. Subsample the collected material to obtain sufficient quantity to fill a PVC tube. Place caps on ends of tube and proceed to Step 5.
3. Remove both end caps from a 2-inch diameter PVC tube, press tube into substrate approximately 12 cm. Place cap on top of tube and slowly extract core from substrate. If necessary, place a dive

knife or small shovel under the PVC tube to prevent the sample from falling out as the tube is extracted.

4. Place cap on bottom of tube. Bring to surface and once above surface water, place in holder until any suspended material has settled, then decant excess water from top of tube. Wipe excess water from tube and seal both ends with tape.
5. Place label on tube indicating location, transect number, quadrat number, and date.
6. Place tube in sealable bag and store on ice in cooler.
7. Ship collected samples to the laboratory for processing (by methods provided in Barko et al., 1988).

Light Availability and Water Depth

1. Handheld equipment for measuring photosynthetically active radiation (e.g., Licor 1400 photometer) will be maintained and calibrated in accordance with the manufacturer's instructions. This equipment will be operated from the boat. The air (surface light) and underwater sensors will be attached to the data logger in accordance with the manufacturer's instructions. The underwater sensor will be attached to the sensor platform in accordance with the manufacturer's instructions.
2. Place air sensor on level surface in full sunlight.
3. Outside the deep edge of the bed, lower the sensor platform into the water to a depth of 0.5 m. Record air (surface) and underwater light readings.
4. Lower the calibrated sounding line to the bottom. Record water depth to the nearest centimeter.
5. Lower the sensor platform to a depth of 1 m. Record air (surface) and underwater light readings.
6. Move to the approximate center of the SAV bed, and repeat Steps 3 (at placement of the meter) through 5.
- 7.

Current Velocity

1. Collect velocity data from outside (i.e., the channel-ward edge), at the approximate center, immediately upriver and immediately downriver of the SAV bed using an electromagnetic velocity meter. The instrument will be maintained and calibrated in accordance with the manufacturer's instructions. This equipment will be operated from the boat. The meter will be secured to a long metal or PVC pole to allow raising and lowering of the meter in the water. The pole will be marked at 10 cm and 1 m intervals from the bottom.
2. Orient the meter head directly parallel with the flow. Flagging or streamers (e.g., from cassette tape material) should be tied to the vertical rod to assist with orientation of the meter.
3. Outside the deep edge of the bed, place the meter 10 cm above the substrate. Record velocity.
4. Raise the meter to 1 m above the substrate. Record velocity.
5. Move to the approximate center of the SAV bed and repeat Steps 3 (at placement of the meter) and 4.
6. Move to an unvegetated area immediately upriver of the SAV bed and repeat Steps 3 (at placement of the meter) and 4.
7. Move to an unvegetated area immediately downriver of the SAV bed and repeat Steps 3 (at placement of the meter) and 4.

Water Quality

1. Collect water quality data (temperature, dissolved oxygen [DO], pH, specific-conductivity, and turbidity) from outside and within the SAV bed using a multiparameter probe (YSI 6920 or equivalent). The instrument will be calibrated at the beginning of each day in accordance with the manufacturer's calibration procedures. This equipment will be operated from the boat.

2. Outside the deep edge of the bed, lower the probe to 1 m below the water surface. Wait 30 seconds for the readings to stabilize. Record temperature, DO, pH, specific-conductivity and turbidity.
3. Lower the probe to 10 cm above the sediment surface. Wait 30 seconds for the readings to stabilize. Record temperature, DO, pH, specific-conductivity and turbidity.
4. Move to the approximate center of the SAV bed and repeat Steps 2 (at lowering of the meter) and 3.

B. Laboratory

The following tasks will be performed by a contract laboratory.

***Vallisneria americana* (adapted from Biernacki and Lovett-Doust, 1997)**

1. Rinse plants with tap water.
2. Carefully remove and discard invertebrates, algae, etc. from blades.
3. Sort out unattached blades or root mass material not part of an intact shoot.
4. Count the number of intact shoots, and record total number. This number will be used to calculate shoot density.
5. Remove trace belowground material if present.
6. Place all aboveground material (e.g., shoots, blades etc.) in pre-labeled tin foil bag.
7. Refrigerate at cool temperature until drying.
8. Clean and dry glass 1 liter (L) beakers to be used for drying the samples.
9. Determine and record the tare weight of each beaker using precision scale. Mass should be recorded to the nearest 1/100th of a gram.
10. Use scale to record the initial mass of the sample in the beaker before beginning the drying procedure.
11. Place the samples in the laboratory oven for 24 hours at 85 (+/- 1) °C. Confirm that the oven is connected to ventilation system through use of flexible ductwork.
12. Remove samples at the end of 24-hours and place in the desiccator for approximately 45 minutes to confirm the complete removal of water from the samples and to allow for cooling of the sample to room temperature.
13. Record the mass of the samples immediately after removal from the desiccator.
14. Return the samples to the oven for 1 hour, place in desiccator and record the mass for constant mass reading (within 5% of the previous measurement).
15. Repeat Step 14 until constant mass is reached.
16. Place samples in sealed bags for archiving and store at room temperature.

Other Species (each species will be processed separately)

Follow the procedures described above for *Vallisneria americana*, with the following exception. In Step 4, count and record the number of primary stems for each species present.

Sediment Nutrient Analysis (Barko et al., 1988)

1. Remove end caps from tube and extrude 10 cm of material through the top of the tube into a clean glass container.
2. Thoroughly homogenize sample with Teflon coated mixing spoon (or similar).
3. For extractable P: Mix (by shaking) 2 grams of wet sediment with 25 milliliters (ml) of extractant containing 0.3 N NH₄F and 0.025 N HCl for 1 minute. Proceed to Step 6.
4. For exchangeable ammonium-N and K: Mix (by shaking) 5 grams of wet sediment with 50 ml of an extractant containing 1 M NaCl for 1 minute. Proceed to Step 6.

5. For moisture content: follow steps 5-12 in the *Vallisneria americana* procedures above, substituting 250 mL beakers for the 1 L beakers, and using approximately 2 grams of sediment as the sample.
6. Filter extract. Acidify with HCl to pH of 2.0.
7. Use flow-injection analysis procedure for Lachat Quik-Chem Auto-Analyzer (or similar autoanalysis technique) to determine concentrations of extracted nutrients.
8. Express nutrient concentrations on basis of sediment dry mass following correction for moisture content.

V. References

BBL. 2003. *Habitat Delineation and Assessment Work Plan*. Hudson River PCBs Superfund Site. Prepared for General Electric Company, Albany, NY.

Barko, J.W., R. Michael Smart, D.G. McFarland, and R. L. Chen. 1988. Interrelationships between the growth of *Hydrilla verticillata* (L.f.) and sediment nutrient availability. *Aquat. Bot.* 32:205-216.

Biernacki, M. and J. Lovett-Doust. 1997. *Vallisneria americana* (Hydrocharitaceae) as a biomonitor of aquatic ecosystems: comparison of cloned genotypes. *Am. J. Bot.* 84(12):1743-1751.

USEPA. 2000. *Guidance for Choosing a Sampling Design for Environmental Data Collection*. EPA QA/G-5S (peer review draft).

USEPA. 2002. *Hudson River PCBs Site – Record of Decision and ROD Responsiveness Summary*. New York, NY.

Date: ____/____/____

Personnel (initials): ____/____/____

Time: _____ AM / PM (Circle one)

Station / Transect / Quadrat Location Information					
	Quad ID	Water Depth (cm)	Percent Cover (full quad)	Collect Subquads (Y / N)	Sediment Sample (Y / N)
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					

Date: ____/____/____

Personnel (initials): ____/____/____

Time: ____ AM / PM (Circle one)

Station Identification: _____

Light Availability Measurements				
Sensor Depth (below surface)	Center of Bed		Outside Edge of Bed	
	AIR	UW	AIR	UW
0.5 m				
1.0 m				

Current Velocity Measurements					
Measurement Depths		Center of Bed		Outside Edge	
		Water Depth (cm) =		Water Depth (cm) =	
		Sensor Depth (cm) <small>below surface</small>	Velocity (ft/sec)	Sensor Depth (cm) <small>below surface</small>	Velocity (ft/sec)
10 cm	height above substrate				
100 cm					
20%	% of water column depth – below surface				
60%					
80%					

Current Velocity Measurements					
Measurement Depths		Upriver Edge		Downriver Edge	
		Water Depth (cm) =		Water Depth (cm) =	
		Sensor Depth (cm) <small>below surface</small>	Velocity (ft/sec)	Sensor Depth (cm) <small>below surface</small>	Velocity (ft/sec)
10 cm	height above substrate				
100 cm					
20%	% of water column depth – below surface				
60%					
80%					

Water Quality Measurements					
Parameter	Units	Center of Bed		Outside Edge of Bed	
		1m below surface	10 cm off bottom	1m below surface	10 cm off bottom
Temperature	°C				
Conductivity	mS/cm				
Dissolved Oxygen	mg/L				
PH	S.U.				
Turbidity	NTU				
Water Depth	cm				

APPENDIX D
STANDARD OPERATING PROCEDURES
FOR NATURAL SHORELINE ASSESSMENT

Appendix D. Revised Standard Operating Procedure for Natural Shoreline Assessment

I. Objective

The Standard Operating Procedure (SOP) for measuring the range of existing habitat conditions for natural shorelines within River Sections 1, 2, and 3 of the Upper Hudson River was provided as Attachment C to the HDA Work Plan. This revised SOP provides methods for the collection of additional data in the natural shoreline habitats that have been added to the program since the approval of the HDA Work Plan.

II. Necessary Materials and Equipment

- Small boat with standard water safety gear (e.g., personal flotation device [PFD]; first aid kit)
- Protective gear for working in water (e.g., hip waders, wetsuit, drysuit)
- Foul weather gear
- Rapid Bioassessment Protocols (RBP) guidance document
- Differential Global positioning system (DGPS) unit
- Soil auger
- Inclinometer
- Video camera
- Survey measuring tape (100-meter [m] length is recommended)
- Erasable slate with pens
- Binoculars
- Field guide(s)
- Field log book

III. Sampling Design

The locations for all natural shoreline assessment stations were identified in the SHAWP. The rationale for the selection of those stations was described in the HDA Work Plan.

IV. Methods

The protocols described in this SOP for assessing river bank habitat are adapted from the USEPA RBPs (Barbour et al., 1999). Sampling will be conducted by trained, experienced personnel (per Barbour et al., 1999). Sample locations will not be disturbed by sampling personnel prior to making habitat parameter estimates.

Four methods will be used to assess shoreline habitats: A) shoreline substrate assessment; B) river bank assessment; C) riparian edge vegetation assessment; and D) belted kingfisher habitat suitability assessment. Each method will be implemented along pre-established transects. Substrate assessment, river bank assessment, and riparian edge vegetation assessment will be conducted between June 1 and September 30 to provide quantitative habitat characterization information. The specific procedures for each method are described below.

A. Shoreline Substrate Assessment Protocol

1. At each transect, establish position at shoreline (e.g., edge of water line) and record location in field notebook (distance from riparian edge DGPS location).
2. As described by Barbour et al. (1999), visually observe the river surface substrate in an area from approximately 3.0 m offshore (this distance may be less in areas where the riverbed is steeply sloped) to the river bank “slope,” or where terrestrial vegetation begins to cover the substrate. Use Table C-1 to record the approximate percent composition of inorganic features of the shoreline substrate in the inspected area determined by visual/tactile observation.

Table C-1. Inorganic Shoreline Substrate Components		
Substrate Type	Diameter (millimeters [mm])	Percent Composition (0-100%)
Bedrock		
Boulder	> 256 mm (10 inches)	
Cobble	64 – 256 mm (2.5 – 10 inches)	
Gravel	2 – 64 mm (0.1 – 2.5 inches)	
Sand	0.06 – 2 mm (gritty)	
Silt	0.004-0.06 mm	
Clay	<0.004 mm (slick)	

(Adapted from Barbour et al., 1999)

3. As described by Barbour et al. (1999), use Table C-2 to record the percent composition of organic features of the shoreline substrate in the same visually inspected area as noted in Step 2.

Table C-2. Organic Shoreline Substrate Components		
Substrate Type	Characteristic	Percent Composition (0-100%)
Detritus	Sticks, wood, coarse plant material (CPOM)	
Muck-Mud	Black, very fine organic (FPOM)	
Marl	Grey, shell fragments	
Vegetated	Submerged or emergent vegetation present	

(Adapted from Barbour et al., 1999)

Note: Values are recorded visually and are therefore approximations

4. As modified from Barbour et al., (1999), record the estimated length and width of large woody debris formations in direct contact with the water surface within 50 meters on either side of the transect line. Individual limbs or logs are included if their diameter is 10 cm or greater. Multiply the length and width of the formations to obtain an estimate of downfall/m² (area sampled).
5. Repeat observations at one sampling point per station using different crew member and compare observations. Stations where repeated observations deviate from original estimates by 20% or more will be reassessed.

B. River Bank Assessment Protocol

1. At each transect, establish position in transect at base of river bank. Record location in field notebook (distance from riparian edge DGPS location). The river bank starts where a sharp rise in slope from the shoreline is obvious, or where terrestrial vegetation begins to cover the substrate.
2. Record relative slope of bank (using inclinometer or survey data if available).
3. As described by Barbour et al. (1999), estimate the percent of bank erosion by visual observation of freshly exposed substrate and unvegetated soils and sediments and use Table C-3 to determine and record estimated stability.

Table C-3. Bank Assessment Components	
Stability	Percent Bank Erosion
Stable – banks stable; evidence of erosion or bank failure absent or minimal	< 5%
Moderately Stable – infrequent small areas of erosion mostly healed	5 - 30%
Moderately Unstable – areas of erosion present, unhealed	30 – 60%
Unstable – eroded areas frequent along straight sections obvious bank sloughing	60 – 100%

(Adapted from Barbour et al., 1999)

4. As described by Barbour et al. (1999), visually estimate the amount of vegetative protection afforded to the river bank. Use Table C-4 to record the percent of the river bank covered by vegetation.

Table C-4. Bank Vegetative Components	
Vegetative Protection	Percent River Bank Covered by Vegetation
Optimal – river bank surfaces and immediate riparian zones covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption minimal	> 90%
Suboptimal – river bank surfaces covered by native vegetation but one class of plants not well-represented; disruption evident but not affecting full plant growth potential	70 – 90%
Marginal – vegetative disruption evident; patches of bare soil or closely cropped vegetation common	50-70%
Poor – vegetative disruption is very high; vegetation has been removed to 5 cm or less in average height	< 50%

(Adapted from Barbour et al., 1999)

5. Repeat observations at one sampling point per station using different crew member and compare observations. Stations where repeated observations deviate from original estimates by 20% or more will be reassessed.

C. Riparian Edge Vegetation Assessment Protocol

1. Establish position along each transect at riparian edge. The riparian edge is defined, for purposes of the Remedial Design Work Plan, the area at the top of the river bank or 2.0 meters from the water's edge (whichever is a shorter distance). Record the location in DGPS the width of the riparian edge was determined from aerial photography. Qualitatively record the adjacent land use based on visual inspection.
2. Visually estimate percent cover for canopy, understory, and herbaceous layer at the riparian edge. Ground-truth riparian edge as defined by aerial photographs. Use Table C-5 to record percent cover and dominant species composition for each layer.
3. Repeat observations at one sampling point per station using different crew member and compare observations. Stations where repeated observations deviate from original estimates by 20% or more will be reassessed.

Table C-5. Riparian Edge – Cover Components		
Vegetation Biome	Percent Cover (0-100%)	Dominant Species Composition
Canopy		
Understory		
Herbaceous		

C. Belted Kingfisher Habitat Suitability Assessment Protocol

Average water transparency

1. In the channel offshore from the approximate center of each shoreline station, the average Secchi disk depth over five readings will be determined by placing the disk in the water and allowing it to descend to a depth where it is no longer visible. Secchi disk readings will not be collected during or immediately following a storm event that increases the turbidity of the water.
2. Place secchi disk into water and lower slowly. Record the depth at which the disk is no longer visible.
3. Repeat five times.

Percent Water Surface Obstruction

1. At each shoreline station, the station will be broken up into four subsections measuring 25 m each and extending to the midpoint in the river. Within each subsection, visually estimate the percent of the water surface obstructed or covered by emergent and floating vegetation, logs, leaves, or overhanging shore vegetation < 1.0 m above the water's surface.

Average Number of Perches

2. At each shoreline station, the station will be broken up into 4 subsections measuring 25 m each. At each station, determine the number of perches available. Perches can consist of tree or shrub limbs, electrical wires, metal or wooden posts, or similar perches immediately adjacent to or overhanging the water.

V. References

Barbour, M.T., J. Gerritsen, B.D. Snyder, and J.B. Stribling. 1999. *Rapid Bioassessment Protocols for Use in Streams and Wadeable Rivers: Periphyton, Benthic Macroinvertebrates, and Fish*, Second Edition. EPA 841-B-99-002. USEPA, Office of Water, Washington, DC.

BBL. 2003. *Habitat Delineation and Assessment Work Plan*. Hudson River PCBs Superfund Site. Prepared for General Electric Company, Albany, NY.

USEPA. 2002. *Hudson River PCBs Site – Record of Decision and ROD Responsiveness Summary*. New York, NY.

Date: ____/____/____

Personnel (initials): ____/____/____

Time: ____ AM / PM (Circle one)

Station Identification _____

Station Location Information					
Station Number:	River Section: 1 2 3 REF			General Description:	
Transect	A. Offshore (3.0 m from shoreline)		B. Top of Bank (or 2.0 m from water's edge).		Distance A to B
	Latitude	Longitude	Latitude	Latitude	
1					
2					
3					

HSI Information								
	1 st – 25m		2 nd – 25 m		3 rd – 25m		4 th – 25m	
# Perches								
% Obstruct								
Secchi	1.	2.	3.	4.	5.	AVG.		

Table C-2. Inorganic Shoreline Substrate Components				
Substrate Type	Diameter (millimeters [mm])	Percent Composition (0-100%)		
		1	2	3
Bedrock				
Boulder	> 256 mm (10 inches)			
Cobble	64 – 256 mm (2.5 – 10 inches)			
Gravel	2 – 64 mm (0.1 – 2.5 inches)			
Sand	0.06 – 2 mm (gritty)			
Silt	0.004 – 0.06 mm			
Clay	<0.004 mm (slick)			
DISTANCE FROM RIPARIAN EDGE (m)				

Table C-3. Organic Shoreline Substrate Components				
Substrate Type	Characteristic	Percent Composition (0-100%)		
		1	2	3
Detritus	Sticks, wood, coarse plant material (CPOM)			
Muck-Mud	Black, very fine organic (FPOM)			
Marl	Grey, shell fragments			
Vegetated	Submerged or emergent vegetation present			
		L / W	L / W	L / W
Woody Debris	Length and width of large woody debris formations in direct contact with the water surface within 50 meters on either side of the transect line			

Date: ____/____/____

Personnel (initials): ____/____/____

Time: ____ AM / PM (Circle one)

Station Identification _____

Table C-4. Bank Assessment Components				
Stability	Percent Bank Erosion	Percent Composition (0-100%)		
		1	2	3
Stable – banks stable; evidence of erosion or bank failure absent or minimal	< 5%			
Moderately Stable – infrequent small areas of erosion mostly healed	5 - 30%			
Moderately Unstable – areas of erosion present, unhealed	30 – 60%			
Unstable – eroded areas frequent along straight sections obvious bank sloughing	60 – 100%			

Table C-5. Bank Vegetation Components				
Vegetative Protection	Percent River Bank Covered by Vegetation	Percent Composition (0-100%)		
		1	2	3
Optimal – river bank surfaces and immediate riparian zones covered by native vegetation, including trees, understory shrubs, or nonwoody macrophytes; vegetative disruption minimal	> 90%			
Suboptimal – river bank surfaces covered by native vegetation but one class of plants not well-represented; disruption evident but not affecting full plant growth potential	70 – 90%			
Marginal – vegetative disruption evident; patches of bare soil or closely cropped vegetation common	50-70%			
Poor – vegetative disruption is very high; vegetation has been removed to 5 cm or less in average height	< 50%			

Table C-6. Riparian Edge – Cover Components						
Vegetation Biome	Percent Cover (0-100%)			Dominant Species		
	1	2	3	1	2	3
Canopy						
Understory						
Herbaceous						
Adjacent Landuse						

APPENDIX E
STANDARD OPERATING PROCEDURES
FOR FRINGING WETLAND ASSESSMENT

Appendix E. Revised Standard Operating Procedure for Fringing Wetland Assessment

I. Objective

The Standard Operating Procedure (SOP) for measuring the range of existing conditions of fringing wetland habitats in River Sections 1, 2, and 3 of the Upper Hudson River was provided as Attachment D to the HDA Work Plan. This revised SOP provides methods for the collection of additional data in the riverine fringing wetland habitats that have been added to the program since the approval of the HDA Work Plan.

II. Necessary Field Materials and Equipment

- Small boat with standard water safety equipment (e.g., personal flotation device [PFD]; first aid kit)
- Foul weather gear
- Chest waders
- Differential Global Positioning System (DGPS) unit
- Soil probe/sharpsooter shovel
- Survey measuring tape
- Diameter tape or calipers for measuring tree diameter at breast height (dbh)
- Stakes and flagging
- Measuring tape (metric, 100 meter [m])
- Plant identification keys
- Munsell color book and hydric soil indicator list
- Sampling quadrats (0.25 square meter [m²])
- Random number table
- Sealable storage bags, pre-labeled
- Laboratory support equipment (e.g., jars, labels, etc.)
- Field log book
- Camera
- Binoculars
- Field guide(s)

III. Sampling Design

The locations for all riverine fringing wetland assessment stations were identified in the SHAWP. The rationale for the selection of those stations was described in the HDA Work Plan.

IV. Methods

The following procedures describe the steps for conducting functional assessments of fringing riverine wetlands along the Upper Hudson River. These procedures are modified from, and combine elements of, HGM assessment methods (Ainslie et al., 1999; Findlay et al., 2002) and biological measurement techniques for wetlands (Stevenson and Hauer, 2002; USEPA, 2002a). Data and observations for Items A-E will be obtained from the wetland as a whole. Data and observations for Items F and G will be obtained from transects within each wetland. Data and observations for Items H-N will be obtained from sampling quadrats randomly placed on each transect. Data and observations for Item O through R will be obtained from the wetland as a whole. DGPS will be used to record positions of transects and quadrats within sample stations of fringing wetlands. Sampling of the riverine fringing wetlands will be

completed during or after peak growing season (July 1 to September 15). The procedures for evaluating the function of fringing wetlands consist of the following steps:

A. Wetland Parcel Size

Measure/Units:

The area of wetland.

Method:

1. Determine the area of the parcel using field reconnaissance, topographic maps, National Wetland Inventory maps (NWI), and/or aerial photography.
2. Report the size of the wetland tract in square meters.

B. Interior Core Area

Measure/Units:

The percent of the wetland parcel with a buffer zone greater than 100 m separating it from non-forested habitat.

Method:

1. Visually determine the area of the wetland tract within a buffer of at least 100 m (i.e., at least 100 m from wetland perimeter) using field reconnaissance, topographic maps, NWI maps, aerial photography, and/or other sources.
2. Report the size of the area within a 100-m buffer as a percentage of total parcel area.

C. Habitat Connections

Measure/Units:

The percent of the perimeter of the wetland parcel that is contiguous with other natural habitats.

Method:

1. Determine the total length of the wetland perimeter using field reconnaissance, topographic maps, and/or aerial photography.
2. Visually determine the length of the wetland perimeter that is contiguous with other natural (vs. maintained or anthropogenic) habitats including other wetlands (fringing and floodplain), wooded or forested riparian tracts, or other vegetated open space.
3. Report as a visual estimate, the percent of the perimeter of the wetland tract that is “connected” (i.e., contiguous to other natural habitats).

D. Soil Integrity

Measure/Units:

The percent of the fringing wetland with soils that appear to have been altered or disturbed by anthropogenic impacts.

Method:

1. Visually determine (from historical aerials and site reconnaissance) if any of the soils in the area being assessed appear to have been altered. In particular, look for alteration to a normal soil profile -- for example, absence of an “A” horizon (defined below), presence of fill material, or other types of impact that significantly alter soil integrity. Use soil probe or sharpshooter shovel, as appropriate, to obtain sample.
2. Report the percent of the wetland with altered or disturbed soils.

E. Surface Water Connections

Measure/Units:

The percent of the linear length of shoreward bank and riverward edge of the wetland parcel that has been altered to prevent exchange of surface water in or out of wetland.

Method:

1. Conduct a visual reconnaissance of the parcel and the adjacent shoreward bank and riverward edge. Estimate what percent of the length of each that is modified with levees, side cast materials, or other obstructions that reduce the exchange of surface water between the river channel, the wetland, and the floodplain/riparian corridor.
2. Report percent of the linear distance of the bank and riverward edge that has been altered.

F. Elevation**Measure/Units:**

The elevation of the shoreward and riverward edges of the wetland parcel.

Method:

1. Randomly select three transect locations along the axis of the wetland parallel to the shoreline. Establish a transect line perpendicular to the long axis at each location.
2. At each transect, locate the shoreward edge of the fringing wetland. Use DGPS to record position.
3. At each transect, locate the riverward edge of the fringing wetland. Use DGPS to record position. Report the elevation in feet and inches. Report distance between shoreward and riverward positions.
4. At each transect, use a transit station to record the slope between the shoreward and riverward edge of the fringing wetland.

G. Soil Clay Content**Measure/Units:**

The clay content in the top 20 inches (50.8 cm) of the soil profile of the wetland.

Method:

1. Visually determine if the native soil along the transects has been covered with fill material, excavated and replaced, or subjected to any other types of impact that significantly change the clay content of the top 20 inches (50.8 cm) of the soil profile. Use soil probe or sharpshooter shovel, as necessary, to obtain a sample. If no such alterations have occurred, assign a value of 1.
2. If the soils along the transects have been altered in one of the ways described above, estimate the soil texture for each soil horizon in the upper 20 inches (50.8 cm) in representative portions of these areas from field texture determinations done by hand.
3. Based on the soil texture class determined in the previous step, the percentage of clay is determined from the soil texture triangle. The soil texture triangle contains soil texture classes and the corresponding percentages of sand, silt, and clay that comprise each class. Once the soil texture is determined by feel, the corresponding clay percentage is read from the left side of the soil texture triangle. The median value from the range of percent clay is used to calculate the weighted average. For example, if the soil texture at the surface were a silty clay loam, the range of clay present in that texture class is 28–40%. A median value of 34% would be used for the clay percentage in that particular horizon.
4. Calculate a weighted average of the percent clay in the altered soil by averaging the percent clay from each of the soil horizons to a depth of 20 inches (50.8 cm). For example, if the “A” horizon occurs from a depth of 0–5 inches (0–12.7 cm) and has 30% clay, and the underlying soil from a depth of 6–20 inches (15.2–50.8 cm) has 50% clay, then the weighted average of the percent clay for the top 20 inches (50.8 cm) of the profile is: $[(5 \times 30) + (15 \times 50)] / 20 = 45\%$.

5. Calculate the difference in percent clay between the natural soil (i.e., what existed prior to the impact obtained from soil survey or reference wetland data) and the altered soil using the following formula: percent difference = (|% clay after alteration - % clay before alteration |) / % clay before alteration). For example, if the percent clay after alteration is 40%, and the percent clay before alteration is 70%, then $|40 - 70| = 30$, and $(30 / 70) = 43\%$.
6. Average the results of the three transects.
7. Multiply the percent difference for the altered area (i.e., the value obtained in the previous step) by the percent of the wetland that the transect area represents (based on visual estimate).
8. Multiply the result by 100 to obtain the percent difference. Report the percent difference in the soil clay content in the area being assessed.
9. On one transect per station, repeat measurements and record separately for reference to measurement variability.

H. Redoximorphic Features and Fluctuating Water Table

Measure/Units:

The presence or absence of redoximorphic features in each sampling quadrat. The presence of a fluctuating water table.

Method:

1. Place 0.25 m² quadrats at three locations selected randomly along each transect (quadrats will be placed and sampled sequentially—all need not be placed simultaneously).
2. Visually inspect the top 20 inches (50.8 cm) of the soil profile and determine if redoximorphic features (Verpraskas, 1994), accumulation or organic matter, or other hydric soil indicators are present or absent.
3. Report redoximorphic features as present or absent.
4. To determine the presence of a fluctuating water table, visually inspect the top 20 inches (50.8 cm) of the soil profile for the presence redoximorphic features or a reduced soil matrix (e.g. presence of mottling, low chroma colors, change in chroma hue or color when exposed to air) (USDA, NRCS, 2002).
5. Report fluctuating water table as present or absent.

I. “O” Horizon Cover

Measure/Units:

Percent cover of the “O” horizon (defined as surface layer formed above the mineral layer and composed of fresh or partially decomposed organic material).

Method:

1. Visually estimate the percent of the ground surface that is covered by an “O” horizon (defined above) in each sampling quadrat.
2. Average the results from the quadrats and report “O” horizon cover as a percent.

J. “A” Horizon Cover

Measure/Units:

Percent cover of the “A” horizon (defined as the upper mineral layer composed of organic material mixed with mineral matter, generally the darkest layer in a soil profile).

Method:

1. Estimate the percent of the mineral soil within the top 15 cm (6 inches) of the ground surface that qualifies as an “A” horizon (defined above) by making three soil observations in each sampling quadrat.
2. Average the results from the observations in the quadrat.

3. Report "A" horizon cover as a percent.

K. Plant Species Composition

Measure/Units:

Percent occurrence of dominant species in each relevant vegetative stratum.

Method:

1. Identify the dominant species in the canopy, understory vegetation, emergent layer (the primary and often the only stratum present in the fringing wetlands of the Upper Hudson) and ground vegetation strata using the 50/20 rule (described below). Use tree basal area to determine abundance in the canopy strata, understory vegetation density to determine abundance in the understory strata, emergent vegetation density to determine abundance in the emergent layer, and ground vegetation cover to determine abundance in the ground vegetation strata. To apply the 50/20 rule, rank species from each stratum in descending order of abundance. Identify dominants by summing the normalized abundance measure beginning with the most abundant species in descending order until 50% is exceeded. Additional species with $\geq 20\%$ normalized abundance are also considered dominants.
2. Report percent occurrence of dominant species in all vegetation strata.

L. Invasive Species

Measure/Units:

Percent occurrence of nonnative or invasive species in each relevant vegetative stratum.

Method:

1. Identify any invasive or nonnative species in the canopy, understory vegetation, emergent layer (the primary and often the only stratum present in the fringing wetlands of the Upper Hudson) and ground vegetation strata. Visually estimate the percent of quadrat covered by invasive/nonnative species.
2. Report percent occurrence of invasive/nonnative species in all vegetation strata.
3. For one quadrat per station, repeat measurements and record separately for evaluating measurement variability.

M. Emergent Plant Conformation and Stem Density

Measure/Units:

Stem conformation (length and thickness) and spatial density (stems per unit area) of emergent wetland vegetation.

Method:

1. In each quadrat on each transect, count all stems of dominant emergent macrovegetation. Record density of live and dead stems. In one quadrat per station, repeat count and record separately for reference to measurement variability.
2. From each quadrat, randomly select 10 stems of the dominant species. Measure the maximum total length of each stem to the nearest 0.1 cm. Measure diameter to the nearest 0.01 cm at the thickest part of the stem with calipers. In one quadrat per station, repeat measurements and record separately for reference to measurement variability.
3. Report live and dead stem density per unit area and minimum, maximum and average stem height, thickness, and thickness:height ratio (robustness).

N. Emergent Plant Biomass

Measure/Units:

Biomass per unit area of emergent wetland vegetation

Method:

1. From the same quadrats used in M (above), clip all standing vegetation from within each quadrat after conducting conformation and density measurements. Place in a large plastic bag for return to the processing laboratory.
2. At the processing laboratory, separate live from dead stems. Dry separately to constant weight and record weight. For one quadrat per station, repeat the drying and weighing process and record separately for reference to measurement variability. Drying procedure is as follows:
 - a. Clean and dry glass 1 liter (L) beakers to be used for drying the samples.
 - b. Determine and record the tare weight of each beaker using precision scale. Mass should be recorded to the nearest 1/100th of a gram.
 - c. Use scale to record the initial mass of the sample in the beaker before beginning the drying procedure.
 - d. Place the samples in the laboratory oven for 24 hours at 85 (+/- 1) °C. Confirm that the oven is connected to ventilation system through use of flexible ductwork.
 - e. Remove samples at the end of 24 hours and place in the desiccator for approximately 45 minutes to confirm the complete removal of water from the samples and to allow for cooling of the sample to room temperature.
 - f. Record the mass of the samples immediately after removal from the desiccator.
 - g. Return the samples to the oven for 1 hour, place in desiccator and record the mass for constant mass reading (within 5% of the previous measurement).
 - h. Repeat Step G until constant mass is reached.
 - i. Place samples in sealed bags for archiving and store at room temperature.

O. Water Quality**Measure/Units:**

Physical water quality parameters at the riverine edge of the wetland.

Method:

1. Collect water quality data (temperature, dissolved oxygen [DO], pH, specific-conductivity, and turbidity) at the riverward edge of the riverine fringing wetland station using a multiparameter probe (YSI 6920 or equivalent). The instrument will be calibrated at the beginning of each day in accordance with the manufacturer's calibration procedures. This equipment will be operated from the boat.
2. Lower the probe to just below the water surface. Wait 30 seconds for the readings to stabilize. Record temperature, DO, pH, specific-conductivity and turbidity.
3. Lower the probe to 10 cm above the sediment surface. Wait 30 seconds for the readings to stabilize. Record temperature, DO, pH, specific-conductivity and turbidity.

P. Current velocity**Measure/Units:**

Water velocity at the riverine edge of the wetland.

Method:

1. Collect velocity data at the riverward edge of the riverine fringing wetland station using an electromagnetic velocity meter. The instrument will be maintained and calibrated in accordance with the manufacturer's instructions. The meter will be secured to a metal or PVC pole to allow raising and lowering of the meter in the water. The pole will be marked at 10 cm intervals from the bottom.
2. Orient the meter head directly parallel with the flow. Flagging or streamers (e.g., from cassette tape material) should be tied to the vertical rod to assist with orientation of the meter.

3. Place the meter 10 cm above the substrate. Record velocity.
4. Raise the meter to 80% water column depth. Wait 30 seconds for the readings to stabilize. Record velocity.
5. Raise the meter to 60% water column depth. Wait 30 seconds for the readings to stabilize. Record velocity.
6. Raise the meter to 20% water column depth. Wait 30 seconds for the readings to stabilize. Record velocity.
7. Place the meter 1 m above the substrate (if applicable). Wait 30 seconds for the readings to stabilize. Record velocity.

Q. Sediment Nutrient Availability

Measure/Units:

exchangeable ammonium-N and K and extractable P in the surface sediments of the wetland.

Method – Field:

1. Collect surface sediment sample from the center of one randomly selected quadrat location from each stratum using a PVC coring tube.
2. Remove both end caps from a 2-inch diameter PVC tube, press tube into substrate approximately 12 cm. Place cap on top of tube and slowly extract core from substrate. If necessary, place a dive knife or small shovel under the PVC tube to prevent the sample from falling out as the tube is extracted.
3. Place cap on bottom of tube. Bring to surface and once above surface water, place in holder until any suspended material has settled, then decant excess water from top of tube. Wipe excess water from tube and seal both ends with tape.
4. Place label on tube indicating location, transect number, quadrat number, and date.
5. Place tube in sealable bag and store on ice in cooler.
6. Ship collected samples to the laboratory for processing according to the methods below (Barko et al., 1988).

Method – Laboratory:

1. Remove end caps from tube and extrude 10 cm of material through the top of the tube into a clean glass container.
2. Thoroughly homogenize sample with Teflon coated mixing spoon (or similar).
3. For extractable P: Mix (by shaking) 2 grams of wet sediment with 25 milliliters (ml) of extractant containing 0.3 N NH_4F and 0.025 N HCl for 1 minute. Proceed to Step 13.
4. For exchangeable ammonium-N and K: Mix (by shaking) 5 grams of wet sediment with 50 ml of an extractant containing 1 M NaCl for 1 minute. Proceed to Step 13.
5. For moisture content: remove trace belowground material if present.
6. Place at least 2 grams sediment in pre-labeled tin foil bag.
7. Refrigerate at cool temperature until drying.
8. Clean and dry glass 250 ml beakers to be used for drying the samples.
9. Determine and record the tare weight of each beaker using precision scale. Mass should be recorded to the nearest 1/100th of a gram.
10. Use scale to record the initial mass of the sample in the beaker before beginning the drying procedure.
11. Place the samples in the laboratory oven for 24 hours at 85 (+/- 1) °C. Confirm that the oven is connected to ventilation system through use of flexible ductwork.
12. Remove samples at the end of 24-hours and place in the desiccator for approximately 45 minutes to confirm the complete removal of water from the samples and to allow for cooling of the sample to room temperature.
13. Filter extract. Acidify with HCl to pH of 2.0.

14. Use flow-injection analysis procedure for Lachat Quik-Chem Auto-Analyzer (or similar autoanalysis technique) to determine concentrations of extracted nutrients.
15. Express nutrient concentrations on basis of sediment dry mass following correction for moisture content.

R. Sediment pH

Measure/Units:

pH in the surface sediments of the wetland.

Method:

1. Collect surface sediment sample from the center of one randomly selected quadrat location from each stratum
2. Place pH probe into water at the bottom of hole created by removing the sediment sample in Item Q using a handheld pH meter.
3. Record pH.

V. References

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Date: ____/____/____

Personnel (initials): ____/____/____

Time: ____ AM / PM (Circle one)

Station Identification _____

General Wetland Station Location											
Wetland ID:		RS1 RS2 RS3 UUHR MO		Description:							
Field Measurements – Entire Wetland											
Parcel Size (m ²)		Interior Core Area (% w>100m buffer)		Natural Habitat Connections (%)				Altered Soil Integrity (%)		Altered Surface Water Connection (%) BANK RIVER	
Upriver End of Wetland						Downriver End of Wetland					
Northing (N):			Easting (E):			Northing (N):			Easting (E):		
Transect Measurements – Upriver End of Wetland											
River's Edge				Center				Shoreward Edge			
N	E	DTW	DTB	N	E	DTW	DTB	N	E	DTW	DTB
Distance from Open Water/Wetland Edge				Distance from Open Water/Wetland Edge				Distance from Open Water/Wetland Edge			
Transect Measurements – Center of Wetland											
River's Edge				Center				Shoreward Edge			
N	E	DTW	DTB	N	E	DTW	DTB	N	E	DTW	DTB
Distance from Open Water/Wetland Edge				Distance from Open Water/Wetland Edge				Distance from Open Water/Wetland Edge			
Transect Measurements – Downriver End of Wetland											
River's Edge				Center				Shoreward Edge			
N	E	DTW	DTB	N	E	DTW	DTB	N	E	DTW	DTB
Distance from Open Water/Wetland Edge				Distance from Open Water/Wetland Edge				Distance from Open Water/Wetland Edge			

DTW = depth to water surface in inches; DTB = depth to bottom (substrate surface) in inches

Date: ____/____/____

Personnel (initials): ____/____/____

Time: ____ AM / PM (Circle one)

Station Identification _____

Measurements Made in Sampling Quadrats						
Veg. Strata	Quad	Northing	Easting		"O" Horizon	"A" Horizon
1	1			Redox Y / N H ₂ O Table Y / N	Depth (cm): Color: Texture: Description:	Depth (cm): Color: Texture: Description:
	2					
	3					
2	4			Redox Y / N H ₂ O Table Y / N	Depth (cm): Color: Texture: Description:	Depth (cm): Color: Texture: Description:
	5					
	6					
3	7			Redox Y / N H ₂ O Table Y / N	Depth (cm): Color: Texture: Description:	Depth (cm): Color: Texture: Description:
	8					
	9					

***Only one (1) sample is needed per strata for presence / absence of redoximorphic features (Redox), water table (H₂O Table) and soil analysis.

Current Velocity Measurements at Center of Wetland			
Sensor Depth		Sensor Depth (cm) below surface	Velocity (ft/sec)
10 cm	height above substrate		
100 cm			
20%	% of water column depth – below surface		
60%			
80%			

In-Situ Water Quality Measurements at Center of Wetland				
Parameter	Units	Just Below Surface	10 cm off bottom	Mid-depth
Temperature	°C			
Conductivity	mS/cm			
Dissolved Oxygen	mg/L			
PH	S.U.			
Turbidity	NTU			
Water Depth	cm			

COMPLETE THE EMERGENT PLANT CONFORMATION AND STEM DENSITY FORM FOR EACH QUADRAT

Part M: Quadrat Method

**Hudson River PCBs Superfund Site
Vegetation Analysis Data Form:
Emergent Plant Conformation and Stem Density**

Date: _____

Time: _____

Wetland Station #: _____

Weather Conditions: _____

Quadrat #: _____

Samplers: _____

Sample quadrat size: _____

Dominant Species:

Stem Counts (Live):

Stem Counts (Dead):

	Species 1		Species 2	
	Stem Length (cm)	Stem Diameter (cm)	Stem Length (cm)	Stem Diameter (cm)
Stem 1	_____	_____	_____	_____
Stem 2	_____	_____	_____	_____
Stem 3	_____	_____	_____	_____
Stem 4	_____	_____	_____	_____
Stem 5	_____	_____	_____	_____
Stem 6	_____	_____	_____	_____
Stem 7	_____	_____	_____	_____
Stem 8	_____	_____	_____	_____
Stem 9	_____	_____	_____	_____
Stem 10	_____	_____	_____	_____

Notes:

Record stem length to the nearest 0.1cm.

Record stem diameter to the nearest 0.01cm.

Emergent Vegetation

Date: _____

Time: _____

Wetland Station #: _____

Weather Conditions: _____

Quadrat #: _____

Samplers: _____

Sample quadrat size: _____

Species:	Stem Counts:	Total:
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Total Counts for the Plot: _____

50% of Total Counts: _____

20% Total Counts: _____

Notes:
Indicate dominant species with an asterisk.

APPENDIX F
WILDLIFE OBSERVATION RESULTS
(- 100 \ V COMPACT DISK)

APPENDIX F

WILDLIFE OBSERVATIONS IN RIVER SECTIONS 1 AND 2

Wildlife observations were conducted on the Upper Hudson River in 2005, 2006 and 2007. In 2005 wildlife observations were conducted at 58 locations in River Section 1. In 2006, observations were conducted at 100 locations within River Sections 1 and 2. In 2007, observations were conducted at a subset of locations in River Section 1. Observations were not conducted in River Section 3 due to seasonal constraints. The observation locations in River Sections 1 and 2 are shown on Figures D-1 through D-4. The standard operating procedure (SOP) for conducting the wildlife observations was submitted to USEPA on July 13, 2006. The USEPA approved the SOP on August 4, 2006. The SOP is reprinted as Exhibit F-1 to this appendix.

A summary of the species observed in River Sections 1 and 2 is provided in Table F-1. Table F-2 provides a summary of the fish species collected during the baseline monitoring program in 2006 and 2007. The fish sampling transect locations referenced in Table F-2 are shown on Figures F-1 through F-4.

The data tables from each of the observation locations for each year are provided on CD-ROM as Exhibit F-2. The observation codes indicate the manner in which the species was identified, specifically by sight (SE) or sound/call (HE).

Table F-1
Wildlife Species Recorded During Wildlife Observations in River Sections 1 and 2

Common Name	Scientific Name	Observation Code
Birds		
Acadian Flycatcher	<i>Empidonax virescens</i>	HE
Alder Flycatcher	<i>Empidonax alnorum</i>	HE
American Bittern	<i>Botaurus lentiginosus</i>	SE
American Crow	<i>Corvus brachyrhynchos</i>	SE,HE
American Goldfinch	<i>Carduelis tristis</i>	SE,HE
American Kestrel	<i>Falco sparverius</i>	SE,HE
American Redstart	<i>Setophaga ruticilla</i>	SE,HE
American Robin	<i>Turdus migratorius</i>	SE,HE
Bald Eagle	<i>Haliaeetus leucocephalus</i>	SE,HE
Baltimore Oriole	<i>Icterus galbula</i>	SE,HE
Bank Swallow	<i>Riparia riparia</i>	SE,HE
Barn Swallow	<i>Hirundo rustica</i>	SE
Belted Kingfisher	<i>Ceryl alcyon</i>	SE,HE
Black-and-white Warbler	<i>Mniotilta varia</i>	HE
Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	HE
Blackburnian Warbler	<i>Dendroica fusca</i>	SE
Black-capped Chickadee	<i>Parus atricapillus</i>	HE
Black-crowned Night-Heron	<i>Nycticorax nycticorax</i>	SE
Blackpoll Warbler	<i>Dendroica striata</i>	HE
Blue Jay	<i>Cyanocitta cristata</i>	SE,HE
Blue-gray Gnatcatcher	<i>Polioptila caerulea</i>	SE,HE
Blue-headed Vireo	<i>Vireo solitarius</i>	HE
Broad-winged Hawk	<i>Buteo platypterus</i>	SE
Brown Creeper	<i>Certhia americana</i>	SE
Brown Thrasher	<i>Toxostoma rufum</i>	HE
Brown-headed Cowbird	<i>Molothrus ater</i>	SE
Canada Goose	<i>Branta canadensis</i>	SE,HE
Canada Warbler	<i>Wilsonia canadensis</i>	SE
Cape May Warbler	<i>Dendroica tigrina</i>	HE
Carolina Wren	<i>Thryothorus ludovicianus</i>	HE
Cedar Waxwing	<i>Bombycilla cedrorum</i>	SE,HE
Cerulean Warbler	<i>Dendroica cerulea</i>	SE
Chestnut-sided Warbler	<i>Dendroica pensylvanica</i>	SE
Chimney Swift	<i>Chaetura pelagica</i>	SE
Chipping Sparrow	<i>Spizella passerina</i>	SE,HE
Cliff Swallow	<i>Petrochelidon pyrrhonota</i>	SE
Common Grackle	<i>Quiscalus quiscula</i>	SE,HE
Common Nighthawk	<i>Chordeiles minor</i>	SE
Common Raven	<i>Corvus corax</i>	SE
Common Yellowthroat	<i>Geothlypis trichas</i>	SE
Coopers Hawk	<i>Accipiter cooperii</i>	SE,HE
Double-crested Cormorant	<i>Phalacrocorax auritus</i>	SE
Downy Woodpecker	<i>Picoides pubescens</i>	SE
Eastern Bluebird	<i>Sialia sialis</i>	HE
Eastern Kingbird	<i>Tyrannus tyrannus</i>	SE
Eastern Phoebe	<i>Sayornis phoebe</i>	SE,HE

Table F-1
Wildlife Species Recorded During Wildlife Observations in River Sections 1 and 2

Common Name	Scientific Name	Observation Code
Eastern Towhee	<i>Pipilo erythrophthalmus</i>	HE
Eastern Wood Pewee	<i>Contopus virens</i>	SE,HE
European Starling	<i>Sturnus vulgaris</i>	SE
Grasshopper Sparrow	<i>Ammodramus savannarum</i>	HE
Gray Catbird	<i>Dumetella carolinensis</i>	SE,HE
Great Blue Heron	<i>Ardea herodias</i>	SE
Great Crested Flycatcher	<i>Myiarchus crinitus</i>	HE
Green Heron	<i>Butorides striatus</i>	SE,HE
Hairy Woodpecker	<i>Picoides villosus</i>	SE
Hermit Thrush	<i>Catharus guttatus</i>	HE
Herring Gull	<i>Larus argentatus</i>	SE
Hooded Merganser	<i>Lophodytes cucullatus</i>	SE
Horned Lark	<i>Eremophila alpestris</i>	SE,HE
House Finch	<i>Carpodacus mexicanus</i>	SE
House Sparrow	<i>Passer domesticus</i>	SE
House Wren	<i>Troglodytes aedon</i>	HE
Indigo Bunting	<i>Passerina cyanea</i>	HE
Killdeer	<i>Charadrius vociferus</i>	SE,HE
Least Flycatcher	<i>Empidonax minimus</i>	HE
Least Sandpiper	<i>Calidris minutilla</i>	SE
Magnolia Warbler	<i>Dendroica magnolia</i>	SE
Mallard	<i>Anas Platyrhynchos</i>	SE
Mourning Dove	<i>Zenaida macroura</i>	SE
Nashville Warbler	<i>Vermivora ruficapella</i>	SE
Northern Cardinal	<i>Cardinalis cardinalis</i>	SE,HE
Northern Flicker	<i>Colaptes auratus</i>	SE
Northern Harrier	<i>Circus cyaneus</i>	SE
Northern Rough-winged Swallow	<i>Stelgidopteryx serripennis</i>	SE
Orchard Oriole	<i>Icterus spurius</i>	SE
Osprey	<i>Pandion haliaetus</i>	SE
Ovenbird	<i>Seiurus aurocapillus</i>	SE,HE
Pectoral Sandpiper	<i>Calidris melanotos</i>	SE
Philadelphia Vireo	<i>Vireo philadelphicus</i>	HE
Pileated Woodpecker	<i>Dryocopus pileatus</i>	SE
Pine Warbler	<i>Dendroica pinus</i>	SE
Prairie Warbler	<i>Dendroica discolor</i>	SE
Purple Finch	<i>Carpodacus purpureus</i>	SE
Purple Martin	<i>Progne subis</i>	SE
Red-bellied Woodpecker	<i>Melanerpes carolinus</i>	SE
Red-eyed Vireo	<i>Vireo olivaceus</i>	HE
Red-tailed Hawk	<i>Buteo jamaicensis</i>	SE
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	HE
Ring-billed Gull	<i>Larus delawarensis</i>	SE
Rock Pigeon	<i>Columba livia</i>	SE
Rose-breasted Grosbeak	<i>Pheucticus ludovicianus</i>	SE,HE
Ruby-crowned Kinglet	<i>Regulus calendula</i>	SE
Ruby-throated Hummingbird	<i>Archilochus colubris</i>	SE,HE

Table F-1

Wildlife Species Recorded During Wildlife Observations in River Sections 1 and 2

Common Name	Scientific Name	Observation Code
Scarlet Tanager	<i>Piranga olivacea</i>	SE,HE
Semipalmated Sandpiper	<i>Calidris pusilla</i>	SE
Sharp-shinned Hawk	<i>Accipiter striatus</i>	SE
Solitary Sandpiper	<i>Tringa solitaria</i>	SE
Song Sparrow	<i>Melospiza melodia</i>	HE
Spotted Sandpiper	<i>Actitis macularia</i>	SE
Swamp Sparrow	<i>Melospiza georgiana</i>	SE
Tennessee Warbler	<i>Vermivora peregrina</i>	SE
Tree Swallow	<i>Tachycineta bicolor</i>	SE
Tufted Titmouse	<i>Parus bicolor</i>	SE,HE
Turkey Vulture	<i>Cathartes aura</i>	SE
Veery	<i>Catharus fuscescens</i>	HE
Warbling Vireo	<i>Vireo gilvus</i>	SE,HE
White-breasted Nuthatch	<i>Sitta carolinensis</i>	SE,HE
White-eyed Vireo	<i>Vireo griseus</i>	HE
White-rumped Sandpiper	<i>Calidris fuscicollis</i>	HE
White-throated Sparrow	<i>Zonotrichia albicollis</i>	HE
Willow Flycatcher	<i>Empidonax traillii</i>	HE
Wilson's Warbler	<i>Wilsonia pusilla</i>	SE
Wood Duck	<i>Aix sponsa</i>	SE
Wood Thrush	<i>Hylocichla mustelina</i>	HE
Yellow Warbler	<i>Dendroica petechia</i>	SE,HE
Yellow-bellied Sapsucker	<i>Sphyrapicus varius</i>	SE
Yellow-billed Cuckoo	<i>Coccyzus americanus</i>	SE
Yellow-rumped Warbler	<i>Dendroica coronata</i>	HE
Yellow-throated Vireo	<i>Vireo flavifrons</i>	SE,HE
Mammals		
Beaver	<i>Castor canadensis</i>	SE
Chipmunk	<i>Tamias striatus</i>	SE
Deer Mouse	<i>Peromyscus maniculatus</i>	SE
Eastern Cottontail	<i>Sylvilagus floridanus</i>	SE
Eastern Gray Squirrel	<i>Sciurus carolinensis</i>	SE
Muskrat	<i>Ondatra zibethicus</i>	SE
Raccoon	<i>Procyon lotor</i>	SE
Red Fox	<i>Vulpes fulva</i>	SE
Red Squirrel	<i>Tamiasciurus hudsonicus</i>	HE, SE
White-tailed Deer	<i>Odocoileus virginiana</i>	SE
Amphibians		
American Toad	<i>Bufo americanus</i>	SE
Bullfrog	<i>Rana catesbeiana</i>	SE
Eastern Gray Treefrog	<i>Hyla versicolor</i>	HE
Green Frog	<i>Rana clamitans</i>	SE
Northern Leopard Frog	<i>Rana pipiens</i>	SE
Redback Salamander	<i>Plethodon cinereus</i>	SE
Spring Peeper	<i>Pseudacris crucifer</i>	HE
Wood Frog	<i>Rana sylvatica</i>	SE
Reptiles		

Table F-1
Wildlife Species Recorded During Wildlife Observations in River Sections 1 and 2

Common Name	Scientific Name	Observation Code
Common Map Turtle	<i>Graptemys geographica</i>	SE
Eastern Garter Snake	<i>Thamnophis sirtalis sirtalis</i>	SE
Painted Turtle	<i>Chrysemys picta</i>	SE
Snapping Turtle	<i>Chelydra serpentina</i>	SE

NOTE:

¹ Observation Codes are SE by sight and HE is by sound/call.

**Table F-2
Fish BMP Sampling Locations and Number of Each Species Per Location - Spring 2006**

		SMB/LMB	BB/YB	YP/WP	Total			Previous transects sampled (2004, 05)
		Size (TL) >305 mm	>200 mm	>170mm/>160 mm		Sample Date	Notes	
Location	Site Code	Number of Adult Fish						
Feeder Dam	FD1	20	20	20	60	6/4/06; 6/5/06	Transects 64, 65, 66, 67, 69, 70, 73, 74, 77, 78; Plus 2119 seconds outside transects	64, 65, 66, 73, 77
Feeder Dam Total		20	20	20	60			
upstream	Thompson Island Pool	5	5	5	15	5/30/2006	near Rogers Island; transects 37, 40, 41, 45	37, 40, 42, 43, 45
	Thompson Island Pool	5	5	5	15	5/30/2006	near RM 193; 1927 shocking seconds	
	Thompson Island Pool	5	5	5	15	5/31/2006	just upstream of SnookKill - behind islands on eastern shore; transect 63	63
	Thompson Island Pool	5	5	5	15	5/31/2006	northern end of Griffin Island; transect 54	54
downstream	Thompson Island Pool*	10	10	10	30	5/31/2006	behind Griffin Island; transects 46, 47, 48	46, 47, 48, 49
TIP Totals		30	30	30	90			
upstream	Ft.Miller/Northumberland Pools (LL section)	5	5	5	15	6/8/2006	from Thompson Island to small island below (around island)	
	Ft.Miller/Northumberland Pools (LL section)	5	2	6	13	6/8/2006	short 3 bullhead; extra perch submitted below Fort Miller dam to two small islands; including cove on east shore; 2700	
	Ft.Miller/Northumberland Pools	5	5	5	15	6/6/2006	shocking seconds	
	Ft.Miller/Northumberland Pools	0	0	0	0		site abandoned 2004- no habitat	
downstream	Ft.Miller/Northumberland Pools	10	10	10	30	6/6/2006	wetland area above Northumberland Dam; 2500 shocking seconds	
FM/ND Totals		25	22	26	73			

*Historical DEC location behind Griffin Island

**Historical DEC location near Coveville

SMB/LMB - equal numbers from each location when possible

**Table F-2
Fish BMP Sampling Locations and Number of Each Species Per Location - Fall 2006**

		Size (TL)	PS	STS ¹	Total	Sample Date	Shocking Seconds	Site Description	Notes
			70-150 mm						
Location		Site Code	Number of Fish ²						
	Feeder Dam	FD1	20	10	30	28-Aug-06	3545	Feeder Dam pool near boat launch.	
Feeder Dam Total					30				
upstream	Thompson Island Pool	TD1	5	2	7	28-Aug-06		Near Rogers Island.	
	Thompson Island Pool	TD2	5	2	7	28-Aug-06	3238 (includes TD1)	Near RM 193.	
	Thompson Island Pool	TD3	5	2	7	28-Aug-06	914	Just upstream of Snook Kill - behind three sisters islands on eastern shore.	
	Thompson Island Pool	TD4	5	2	7	28-Aug-06	2290	Northern end of Griffin Island.	
downstream	Thompson Island Pool*	TD5	10	2	12	28-Aug-06	2093	Near RM 190 - along eastern shoreline.	
TIP Totals			30	10	40				
upstream	Ft.Miller/Northumberland Pools (LL section)	ND1	0	0	0	Not sampled		From Thompson Island to small island below.	Access not available in landlocked section.
	Ft.Miller/Northumberland Pools (LL section)	ND2	0	0	0	Not sampled		Downstream end of pool.	Access not available in landlocked section.
	Ft.Miller/Northumberland Pools	ND3	10	5	15	29-Aug-06	3759	Below Fort Miller Dam to two small islands.	Sample size increased to account for no samples in ND1 and ND2.
	Ft.Miller/Northumberland Pools	ND4			0			Abandoned.	
downstream	Ft.Miller/Northumberland Pools	ND5	15	5	20	29-Aug-06	1227	Wetland area above Northumberland Dam.	Sample size increased to account for no samples in ND1 and ND2.
FM/ND Totals			25	10	35				
upstream	Stillwater Pool	SW1	5	2	7	29-Aug-06	3334	Below Battenkill.	
	Stillwater Pool	SW2	5	2	7	29-Aug-06	1790	Approx. 3/4 mile usptream of Coveville.	
	Stillwater Pool	SW3	5	2	7	29-Aug-06	2226	Coveville.	
	Stillwater Pool	SW4	5	2	7	29-Aug-06	1233	Near RM 173.	
downstream	Stillwater Pool**	SW5	10	2	12	29-Aug-06	1228	Just above Stillwater Dam.	
SW Totals			30	10	40				
	Albany/Troy	AT1	20	3	23				
Albany/Troy Totals			20	3	23	30-Aug-06	14410	Near RM 144; Albany South Turning Basin.	Very few minnows.

¹ Substitute species for spottail shiner include: banded killifish, bluegill, blacknose dace, common shiner, fallfish, golden shiner, longnose dace, or tessellated darter

² Number of composite samples for forage fish.

*Historical DEC location across from Griffin Island (east channel).

**Historical DEC location near Stillwater Dam.

**Table F-2
Fish BMP Sampling Locations and Number of Each Species Per Location - Spring 2007**

		SMB/LMB	BB/YB	YP/WP	Total			Previous transects sampled (2004, 05, 06)
		Size (TL) >305 mm	>200 mm	>170mm/>160 mm		Sample Date	Notes	
Location	Site Code	Number of Adult Fish						
Feeder Dam	FD1	20	20	20	60	5/29/2007	transects 65, 66, 68, 70, 73, 74, 76, 77, 78	64, 65, 66, 67, 69, 73, 74, 77, 78
Feeder Dam Total		20	20	20	60			
upstream Thompson Island Pool	TD1	5	5	5	15	5/22/2007	transects 37, 42, 43, 45	37, 40, 41, 42, 43, 45
Thompson Island Pool	TD2	5	5	5	15	5/22/2007	near RM 193; 3588 shocking seconds	
Thompson Island Pool	TD3	5	5	5	15	5/21/2007	transect 63	63
Thompson Island Pool	TD4	5	5	5	15	5/21/2007	transect 54	54
downstream Thompson Island Pool*	TD5	10	10	10	30	5/21/2007	transects 46, 47	46, 47, 48, 49
TIP Totals		30	30	30	90			
upstream Ft. Miller/Northumberland Pools (LL section)	ND1	5	5	2	12	5/22/2007	6271 shocking seconds; short 3 yellow perch; very little vegetative growth	
Ft. Miller/Northumberland Pools (LL section)	ND2	5	1	1	7	5/22/2007	4119 shocking seconds; short 4 bullhead; 4 perch; very little vegetative growth	
Ft. Miller/Northumberland Pools	ND3	5	9	9	23	5/23/2007	2334 shocking seconds; captured additional yellow perch and bullhead (9 each) to cover lower numbers in ND1 and ND2	
Ft. Miller/Northumberland Pools	ND4	0	0	0	0		site abandoned 2004- no habitat	
downstream Ft. Miller/Northumberland Pools	ND5	10	10	13	33	5/23/07; 5/31	7209 shocking seconds first day (short 4 bullhead); no time recorded for second day of sampling - all 4 missing bullhead captured	
FM/ND Totals		25	25	25	75			
upstream Stillwater Pool	SW1	5	5	5	15	5/23/2007	transects 20, 22, 23, 56	18, 19, 20, 21, 22, 23, 55, 56, 57, 58, 62
Stillwater Pool	SW2	5	5	5	15	5/24/2007	transect 29	28, 29, 29A
Stillwater Pool**	SW3	10	10	10	30	5/24/2007	transects 24, 25, 35	24, 25, 26, 35, 36
Stillwater Pool	SW4	5	5	5	15	5/24/2007	transects 31, 32, 33	31, 32, 33
downstream Stillwater Pool	SW5	5	5	5	15	5/24/2007	just above Stillwater Dam; 4078 shocking seconds during afternoon; 2037 shocking seconds nighttime	
SW Totals		30	30	30	90			
Albany/Troy	AT1	20	20	20	60	5/29/2007	below dam to Green Island Bridge; 8542 shocking seconds	
Albany/Troy Totals		20	20	20	60			

*Historical DEC location behind Griffin Island

**Historical DEC location near Coveville

SMB/LMB - equal numbers from each location when possible

Albany/Troy: 20 White perch (2 yellow perch captured, under size limit); 3 brown bullhead; 4 channel catfish; 13 white catfish

**Table F-2
Fish BMP Sampling Locations and Number of Each Species Per Location - Fall 2007**

Location		Site Code	PS 70-150 mm	STS ¹	Total	Sample Date	Shocking Seconds	Site description	Notes
Feeder Dam		FD1	20	10	30	10/5/07	4754	feeder dam pool near boat launch	
Feeder Dam Total					30				
upstream	Thompson Island Pool	TD1	5	2	7	9/11/07	2448	near Rogers Island	
	Thompson Island Pool	TD2	5	2	7	9/11/07	2621	near RM 193 just upstream of SnookKill - behind three	
	Thompson Island Pool	TD3	5	2	7	9/11/07	1312	sisters islands on eastern shore	
	Thompson Island Pool	TD4	5	2	7	9/11/07	6720	northern end of Griffin Island	
downstream	Thompson Island Pool*	TD5	10	2	12	9/11/07	2027	near RM 190 - along eastern shoreline	
TIP Totals			30	10	40				
upstream	Ft.Miller/Northumberland Pools (LL section)	ND1	0	0	0			from Thompson Island to small island below	access not available in landlocked section
	Ft.Miller/Northumberland Pools (LL section)	ND2	0	0	0			downstream end of pool	access not available in landlocked section
	Ft.Miller/Northumberland Pools	ND3	2	5	7	10/4/07	7903	below Fort Miller dam to two small islands	pumpkinseed very difficult to find here; remaining numbers captured from ND5
	Ft.Miller/Northumberland Pools	ND4			0			abandoned	
downstream	Ft.Miller/Northumberland Pools	ND5	23	5	28	10/4/07; 10/5/0	4562; 4285	wetland area above Northumberland Dam	sample size increased to account for no samples in ND1 and ND2 and low numbers of pumpkinseed in ND3
FM/ND Totals			25	10	35				
upstream	Stillwater Pool	SW1	5	2	7	9/12/07	4540	below Battenkill	
	Stillwater Pool	SW2	5	2	7	10/3/07	3194	approx. 3/4 mile upstream of Coveville	
	Stillwater Pool	SW3	5	2	7	10/3/07	1967	Coveville	
	Stillwater Pool	SW4	5	2	7	10/5/07	1706	near RM 173; in cove near large culvert	
downstream	Stillwater Pool**	SW5	10	2	12	10/5/07	1697	just above Stillwater Dam	
SW Totals			30	10	40				
	Albany/Troy	AT1	20	10	30	10/4/07	4319; 2071	Albany South Turning Basin and area on east shore near Dunn Memorial Bridge	shocking seconds for Turning Basin and Bridge area, respectively. Pumpkinseed sparse at Turning Basin, captured in vegetation along shore further upstream
Albany/Troy Totals			20	10	30				

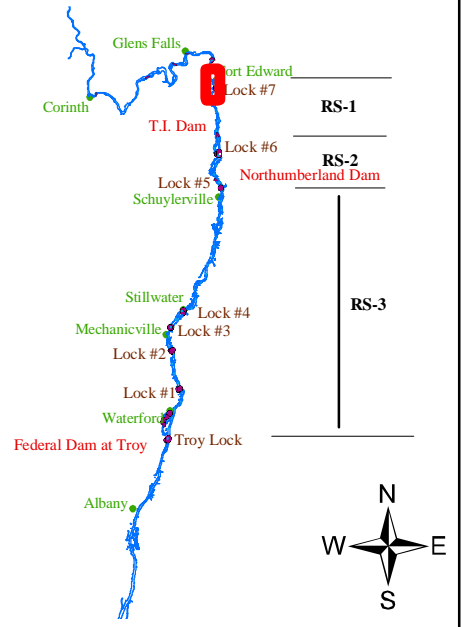
1. Substitute species for spottail shiner included: golden shiner, mimic shiner, and spotfin shiner

2. Number of composite samples for forage fish

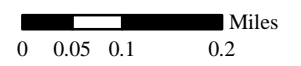
*Historical DEC location across from Griffin Island (east channel)

**Historical DEC location near Stillwater Dam

LOCATOR MAP OF THE UPPER HUDSON RIVER

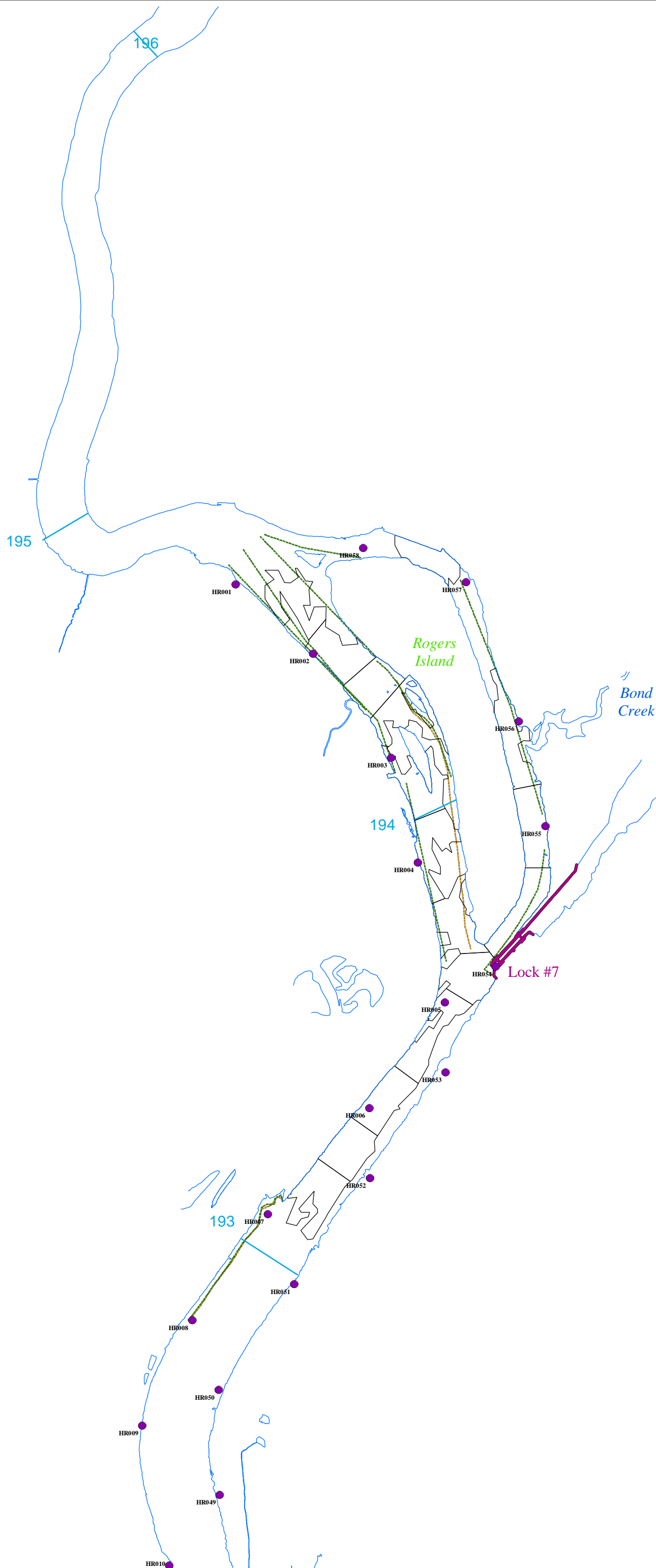


GRAPHIC SCALE



LEGEND

- Wildlife Observation Stations
- Phase 1 Dredge Areas
- Spring 2004 BMP Fish Transects
- Autumn 2004 BMP Fish Transects
- River Miles
- Dams and Locks
- Shoreline



**General Electric Company
Hudson River Project**

Figure F-1

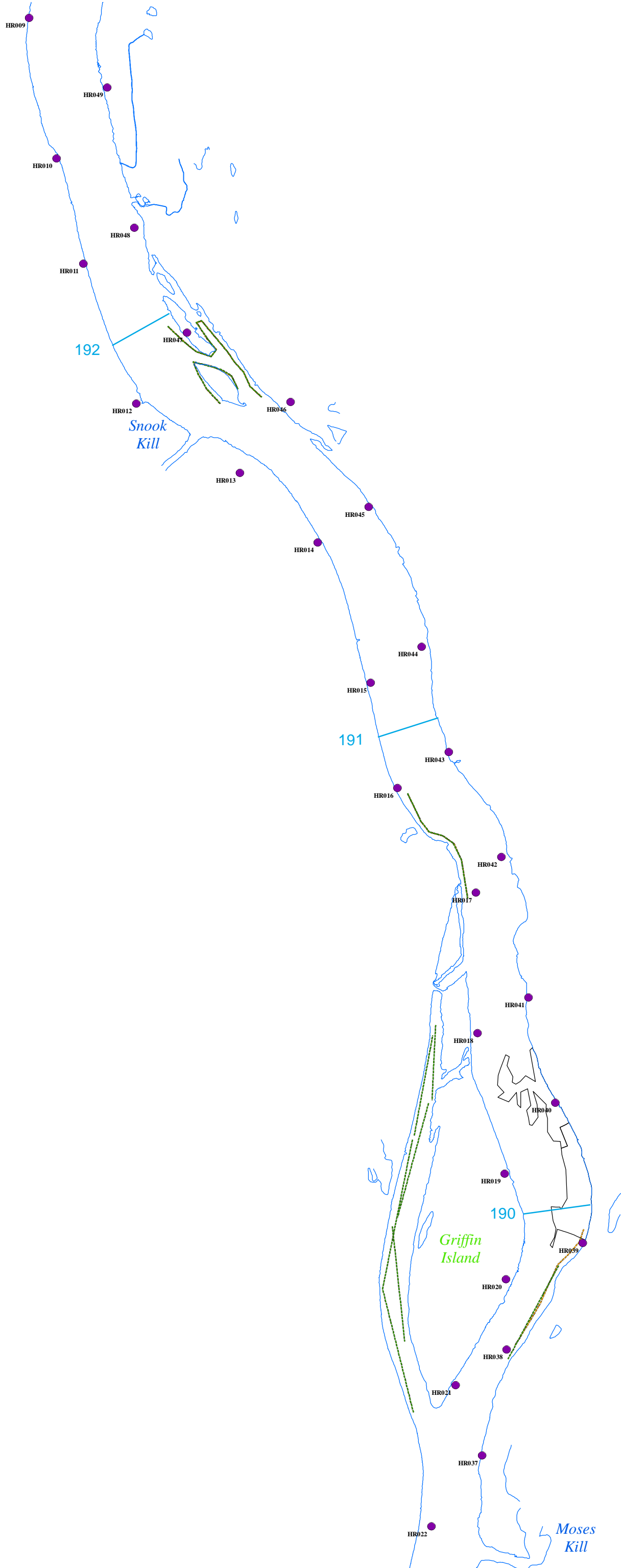
**Wildlife Observation Locations
and BMP Fish Transects**

RM 195 to RM 192.5

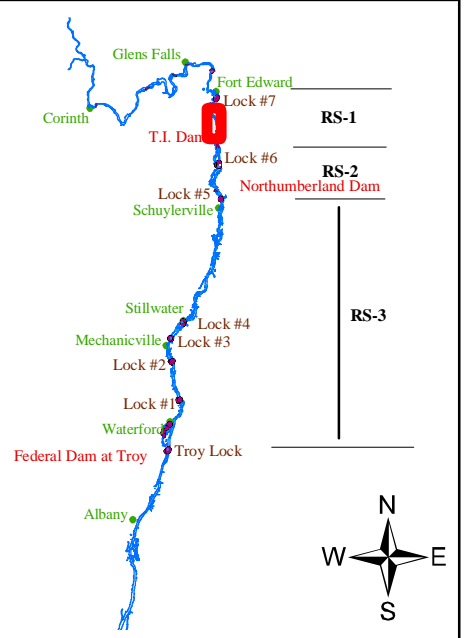


GENhab

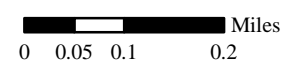
July 2008



LOCATOR MAP OF THE UPPER HUDSON RIVER



GRAPHIC SCALE



LEGEND

- Wildlife Observation Stations
- Phase 1 Dredge Areas
- Spring 2004 BMP Fish Transects
- Autumn 2004 BMP Fish Transects
- River Miles
- Dams and Locks
- Shoreline

General Electric Company Hudson River Project

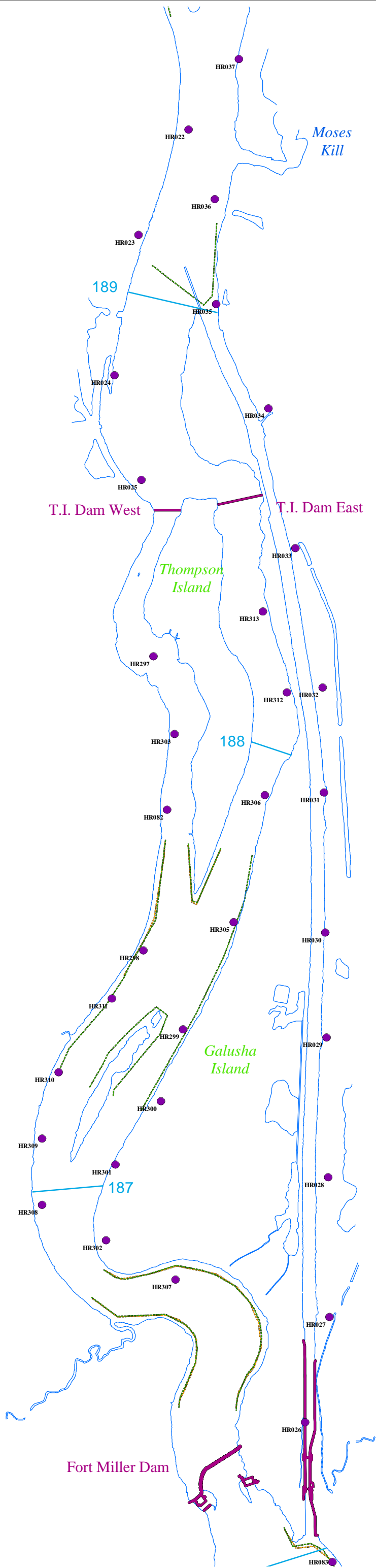
Figure F-2

**Wildlife Observation Locations and BMP Fish Transects
RM 192.5 to RM 189.5**

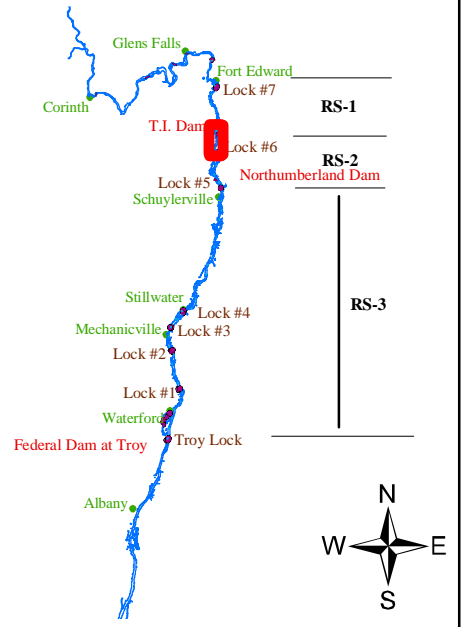


GENhab

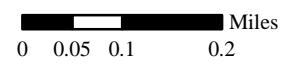
July 2008



LOCATOR MAP OF THE UPPER HUDSON RIVER



GRAPHIC SCALE



LEGEND

- Wildlife Observation Stations
- Phase 1 Dredge Areas
- - - Spring 2004 BMP Fish Transects
- - - Autumn 2004 BMP Fish Transects
- River Miles
- Dams and Locks
- Shoreline

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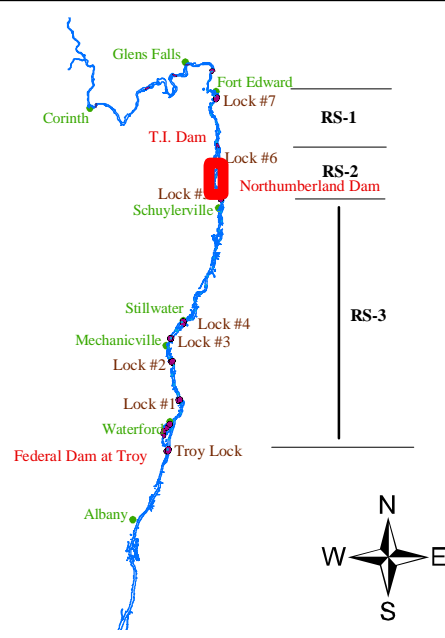
Figure F-3

Wildlife Observation Locations and BMP Fish Transects

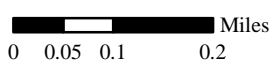
RM 189.5 to RM 186.5



LOCATOR MAP OF THE UPPER HUDSON RIVER

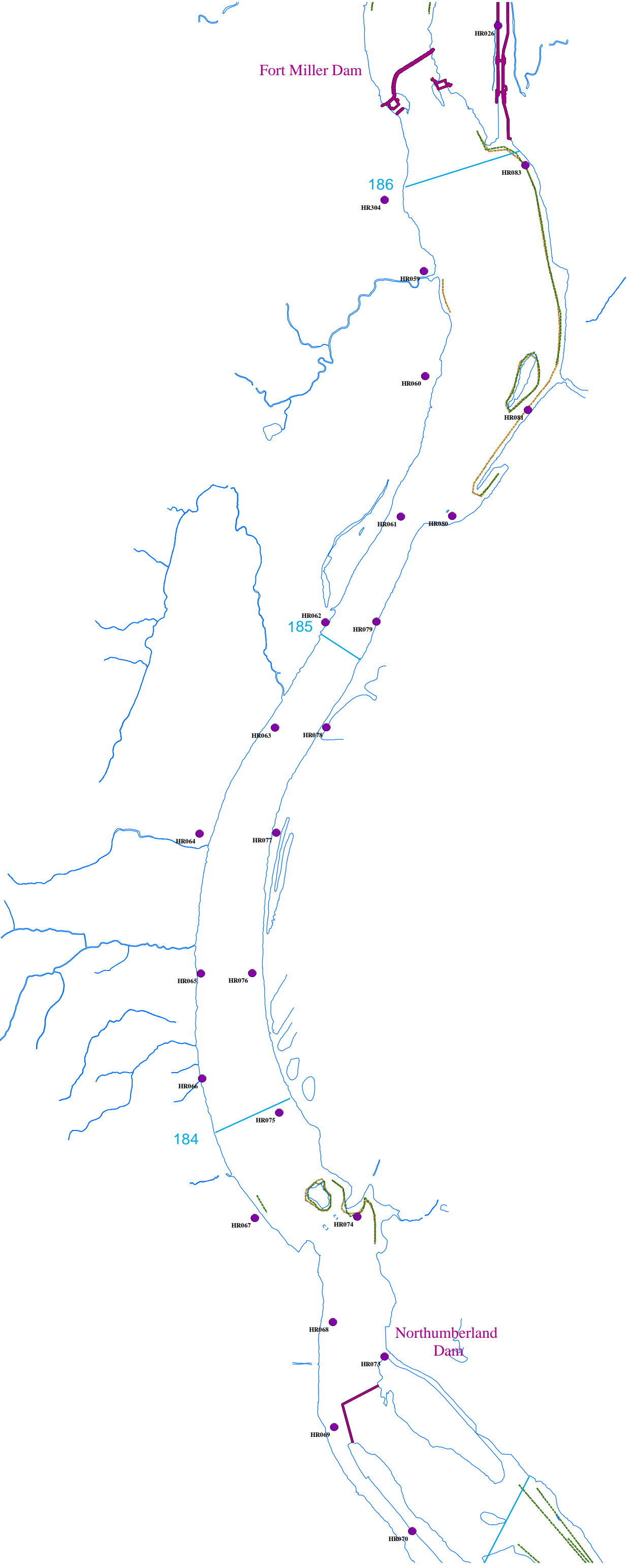


GRAPHIC SCALE



LEGEND

- Wildlife Observation Stations
- Phase 1 Dredge Areas
- Spring 2004 BMP Fish Transects
- Autumn 2004 BMP Fish Transects
- River Miles
- Dams and Locks
- Shoreline



General Electric Company Hudson River Project

Figure F-4

Wildlife Observation Locations and BMP Fish Transects

RM 186.5 to RM 183.5



GENhab

July 2008

EXHIBIT F-1

STANDARD OPERATING PROCEDURE FOR WILDLIFE OBSERVATIONS

Objective

The objective of this Standard Operating Procedure (SOP) is to set forth methods for observing wildlife in River Sections 1, 2, and 3 of the Upper Hudson River. The data recorded using these procedures will be used as part of the habitat assessment program and reported in the Final Design Report for Phase 1 for surveys completed in 2005 and the Phase 2 Habitat Assessment Report for surveys completed in 2006.

Necessary Materials and Equipment

- Small boat with standard water safety gear (e.g., personal flotation device [PFD]; first aid kit)
- Protective gear for working near/in water (e.g., hip waders, chest waders)
- Foul weather gear
- Global positioning system (GPS) unit
- Optical rangefinder
- Field log book
- Binoculars
- Additional field equipment as specified in the *Habitat Delineation and Assessment Work Plan* (HDA Work Plan) (BBL, 2003)

Sample Design

Point count survey stations are located every 0.25 mile along River Sections 1, 2 and 3. Survey stations are located on both the east and west shorelines. Surveys are centered from the shoreline and conducted using a 100 meter (m)-radius. All individuals identified within 100 m of the sampling point will be recorded and the distance to their location estimated.

Methods

Each point will be surveyed (sampled) for 15-minutes. Prior to beginning each survey, an initial 5-minute “quieting period” will be used, during which data will not be collected. This “quieting period” is designed to lessen the disturbance caused by the approach to the station. Fifteen-minute

point counts will be used to allow identification of the less vocal classes of vertebrates (i.e., reptiles, and mammals). The survey period will be further divided into 0- to 3-minute, 3- to 5-minute, 5- to 10-minute, and 10- to 15-minute subsample periods to collect data consistent with various avian point count protocols.

Each station will be surveyed twice, once in the morning and once in the evening (peak periods of wildlife activity). Morning surveys will commence at sunrise and continue for approximately 5.5 hours. Evening surveys began approximately 5.5 hours prior to sunset and conclude at sunset. Surveys will not be conducted during times when the sustained wind is in excess of 15 miles per hour (mph) (Beaufort scale), or during periods of constant precipitation.

During each survey, the following data will be recorded using a tape recorder and on field data sheets:

- Vertebrate species identified
- Total number of individual detections for each species
- Method of identification (e.g., sound, sight, or sign)
- Age and/or sex of each individual (if possible)
- Individuals chased or flushed from the survey location by the approach of the boat
- Species of interest beyond the 100-m sampling distance (used as interpoint data)
- Species of interest observed between survey locations (used as interpoint data)
- Human activities occurring during the 15 minute sampling period

APPENDIX G
HABITAT SUITABILITY INDEX MODEL
SCORES FOR PHASE 2 AREAS

APPENDIX G

HABITAT SUITABILITY INDEX MODELS

G.1 Introduction

Data were collected under various programs to calculate habitat suitability index (HSI) model scores for selected species for each river reach. The species for which the HSI model scores were calculated are listed in Table G-1. The rationale for the selection of the representative species was provided in the Habitat Assessment Report for Candidate Phase 1 Areas (Phase 1 HA Report; BBL and Exponent 2005a) and is repeated in Table G-1. HSI values were calculated for the entire reach and, within each reach, were calculated separately for target and reference areas when possible (in some cases only one type of station [target or reference] is located within a river reach).

Where models exist for both lacustrine and riverine environments, the riverine models were used. In some cases, such as with the great blue heron, only one index of the overall HSI was used (the foraging index) as the remaining variables are specific to habitats unlikely to be impacted by remedial activities (i.e., forested wetlands off the river). A rationale for the exclusion of certain variables from the HSI models was provided in the Phase 1 HA Report (BBL and Exponent 2005a).

G.2 Data Sources

In accordance with the EPA-approved Supplemental Habitat Assessment Work Plan (SHAWP; BBL and Exponent 2005b), data collected as part of ongoing monitoring programs were used to complete the HSI models for the selected species. Data sources included: water quality data from the Hudson River Baseline Monitoring Program, water quality and habitat assessment data from the Habitat Delineation and Assessment Program (BBL and Exponent 2005a), bathymetric survey data (BBL 2006), habitat delineation data (BBL and Exponent 2005c), and aerial photography (BBL 2005c). Some suitability indices were determined based on defined categories (such as soil type or specific pH range), while others were based on calculated values (e.g., mean temperature). Once variables were calculated, the suitability index for that variable was obtained by interpolation using curves provided in each HSI model. The suitability indices for individual variables were then used to compute

component suitability indices (e.g., food, cover, reproduction) from which the final HSIs were calculated. Table E-2 provides, for each species, a description of the variables used in calculating the HSI scores, the data sources and calculation methods, the suitability subindices, and the final HSI values.

For two species, one of the variables specified for the HSI model was not used in calculating the HSI model scores due to spatial or temporal data limitations that would likely have biased the results. This approach has been used for the application of HSI models elsewhere (Madsen et al. 1998). These instances are as follows:

- Using all variables, the calculated HSI for yellow perch was 0.0 as a result of the winter degree days variable (number of days with water temperature between 4° and 10°C during the winter). The only temperature data available, from the Upper Hudson River BMP, are sparse during the winter due to ice cover, thus giving an estimate of winter degree days that is likely biased low. Therefore, the HSI model score was calculated without considering that variable and, instead, using only those variables that will, or are likely to be altered by the remediation project (i.e., temperature is unlikely to be affected and was therefore removed from the calculation).
- Using all variables, the calculated HSI for common shiner was 0.0 due to a lack of current velocity data in shallow areas. Current velocity data recorded at unconsolidated river bottom (UCB) stations in water less than 2.0 m deep were used to calculate the HSI. In some river sections, all UCB stations were located in water greater than 2.0 meter deep and there was insufficient current velocity data. The HSI model score was calculated without considering that variable and, instead, using only those variables that will, or are likely to be altered by the remediation project (i.e., current velocity is unlikely to be affected and was therefore removed from the calculation).

G.3 Results

The results of the HSI model calculations are presented in detail in Table G-2. The final HSI model scores for each species and river reach are summarized in Table 3-10 in the main text

of this Phase 2 HA Report. For convenience, that table is repeated as Table G-3 in this appendix.

G.4 References

BBL, 2006. *Phase 1 Final Design Report* (Phase 1 FDR). Hudson River PCBs Superfund Site. Prepared for General Electric Company, Albany, NY.

BBL and Exponent, 2005a. *Phase 1 Habitat Assessment Report* (Phase 1 HA Report). Hudson River PCBs Superfund Site. Prepared for General Electric Company, Albany, NY.

BBL and Exponent, 2005b. *Supplemental Habitat Assessment Work Plan* (SHAWP). Hudson River PCBs Superfund Site. Prepared for General Electric Company, Albany, NY.

BBL and Exponent, 2005c. *Habitat Delineation Report* (HD Report). Hudson River PCBs Superfund Site. Prepared for General Electric Company, Albany, NY.

Madsen, J.D., J.W. Sutherland, J.A. Bloomfield, L.W. Eichler, C.W. Boylen, N.H. Ringler, D.L. Smith, C.A. Siegfried, and M.A. Arrigo, 1998. *Onondaga Lake littoral zone manipulation to improve fish habitat*: Final report to Onondaga Lake Management Conference and U.S. Environmental Protection Agency, Region II.

**Table G-1
List of Species for HSI Models**

Species (Scientific Name)	Associated Habitat	Rationale
Birds		
Belted Kingfisher (<i>Ceryle alcyon</i>)	SHO, UCB	<ul style="list-style-type: none"> Habitat potentially impacted by dredging Forested habitat along edge of the river provides foraging and nesting River likely provides suitable prey population
Great Blue Heron (<i>Ardea herodias</i>)	SHO, UCB, WET, SAV	<ul style="list-style-type: none"> Habitat within range of nesting sites River likely provides suitable prey population HSI model for Upper Hudson River will only use the foraging index within the overall HSI
Wood Duck (<i>Aix sponsa</i>)	SHO, UCB, WET, SAV	<ul style="list-style-type: none"> Forested wetlands along river provide potential nesting sites Overhang and downfall along natural shorelines provide potential cover
Mammals		
Mink (<i>Mustela vison</i>)	SHO, WET	<ul style="list-style-type: none"> Portions of potential mink habitat in near-shore areas could be impacted by remedial activities; therefore mink has been retained as requested by the USEPA
Muskrat (<i>Ondatra zibethicus</i>)	SHO, WET, SAV	<ul style="list-style-type: none"> Abundant herbaceous vegetation on shoreline and in wetlands Low flow conditions of Upper Hudson River still provide surface water Tracks frequently observed during assessment of fringing wetlands
Fish		
Yellow Perch (<i>Perca flavescens</i>)	UCB, SAV	<ul style="list-style-type: none"> Habitat potentially impacted by dredging Recreational species Predator/invertivore
Largemouth Bass (<i>Micropterus salmoides</i>)	UCB, WET, SAV	<ul style="list-style-type: none"> Habitat potentially impacted by dredging Recreational species Top predator
Smallmouth Bass (<i>Micropterus dolomieu</i>)	UCB, SAV	<ul style="list-style-type: none"> Habitat potentially impacted by dredging Recreational species Predator/invertivore
Common Shiner (<i>Notropis cornutus</i>)	UCB, WET, SAV	<ul style="list-style-type: none"> Habitat potentially impacted by dredging Representative HSI species for Cyprinidae Forage base for predatory fish and piscivorous wildlife
Carp (<i>Cyprinus carpio</i>)	UCB, WET, SAV	<ul style="list-style-type: none"> Non-native and nuisance species Species resistant to habitat modification
Bluegill (<i>Lepomis macrochirus</i>)	UCB, WET, SAV	<ul style="list-style-type: none"> Recreational species Large woody debris and SAV provide cover Forage base for predatory fish and piscivorous wildlife
Reptiles/Amphibians		
Snapping Turtle (<i>Chelydra serpentina</i>)	SHO, UCB, WET, SAV	<ul style="list-style-type: none"> Small tributaries and backwaters present along river edge Depths in river exceed ice depth; provides overwintering

Notes:

UCB = Unconsolidated river bottom
 SAV = Submerged aquatic vegetation
 SHO = Shoreline
 WET = Wetland

**Table G-2a
Variable Calculations of Non-fish**

Mink

	Description	Calculation	Data Source	TIP		FMP		NP		SP		UMP		LMP		WP		TP		Comments
				VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	
VARIABLES																				
V1	% of year with surface water present	SI = 1.0 b/c surface water is always present in the upper Hudson			1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
V2	% shoreline cover within 1 m of shoreline	used percent herbaceous cover estimates within 10m of shoreline	Habitat Assessment data (2003 - 2006)	66.25	0.66	63.70	0.64	64.88	0.65	40.00	0.40	-999.00	-999.00	56.67	0.57	78.67	0.79	60.00	0.60	
V3	% tree and/or shrub canopy cover w/in 100 m of water's edge	determined in GIS: visual estimate	Spring 2002 aerial photography and QEA Hudson River shoreline at 5000 cfs	63.37	0.86	52.16	0.73	75.17	1.00	83.48	1.00	0.00	0.10	58.60	0.80	80.00	1.00	89.09	1.00	
SUITABILITY SUBINDICES																				
SIW	Water Suitability Index - SIW = SI1				1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
SIC	Cover Suitability Index - SIC = (SI2 * SI3)^(1/2)				0.76		0.68		0.81		0.63		NA		0.67		0.89		0.77	
HABITAT SUITABILITY INDEX																				
HSI	HSI = minimum SIW and SIC				0.76		0.68		0.81		0.63		NA		0.67		0.89		0.77	

Wood Duck

	Description	Calculation	Data Source	TIP		FMP		NP		SP		UMP		LMP		WP		TP		Comments
				VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	
VARIABLES																				
V3	density of potential nesting sites per 0.4 ha (1 acre)	((0.18*cavities)+(0.95*nest boxes)/nesting area)*100	Habitat Assessment data (2005 & 2006)	1419.83	1.00	1512.00	1.00	0.00	0.00	7207.17	1.00	-999.00	NA	1854.00	1.00	684.00	1.00	5058.00	1.00	
V4	% of water surface covered by potential brood cover	determined in GIS: area of wetlands and overhanging trees as a percent of total reach area	Spring 2002 aerial photography and QEA Hudson River shoreline at 5000 cfs	3.78	0.08	2.27	0.05	7.13	0.14	1.05	0.02	0.00	0.00	4.36	0.09	0.53	0.01	0.35	0.01	
HABITAT SUITABILITY INDEX																				
HSI	HSI = minimum of SI3 and SI4				0.08		0.05		0.00		0.02		NA		0.09		0.01		0.01	

Snapping Turtle

	Description	Calculation	Data Source	TIP		FMP		NP		SP		UMP		LMP		WP		TP		Comments
				VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	
VARIABLES																				
V1	water temp at mid-depth during summer	mean water temperature between June 15 and September 15	BMP data and habitat assessment data (2003 - 2006)	22.38	0.82	23.13	0.90	22.99	0.89	23.31	0.92	23.35	0.93	23.37	0.93	23.81	0.98	23.79	0.98	used 60% depth measurements from Habitat Assessment Data. Excluded BMP data without dates.
V2	mean current velocity at mid-depth during mid-summer (cm/s)	current velocity at 60% of depth	Habitat Assessment data (2003 - 2006)	14.56	0.78	12.91	0.81	5.94	0.91	18.69	0.72	-999.00	-999.00	27.43	0.59	-999.00	-999.00	-999.00	-999.00	
V3	% aquatic vegetation in littoral zone	calculated the % cover of aquatic vegetation for the entire reach	2005 Habitat delineation GIS data	24.22	0.24	15.01	0.15	24.29	0.24	14.92	0.15	7.41	0.07	30.96	0.31	5.53	0.06	7.46	0.07	see section III E. of Attachment A of SHAWP
V4	maximum water depth greater than ice depth during winter	SI = 1.0 b/c water depth is always greater than ice depth			1.00		1.00		1.00		1.00		1.00		1.00		1.00	-999.00	1.00	
V5	% silt in substrate	average % silt in top 12" of cores within the reach	SSAP Results_NonPCBs table	24.01	0.24	18.24	0.18	28.30	0.28	35.79	0.36	32.52	0.33	49.15	0.49	42.02	0.42	33.53	0.34	
V6	distance to small stream	determined in GIS: mean of measured distances to small streams from wetlands and shoreline stations	2005 Habitat delineation and shoreline GIS data	2.98	0.70	3.10	0.69	1.61	0.84	1.44	0.86	-999.00	-999.00	1.84	0.82	2.23	0.78	3.98	0.60	
V7	distance to permanent water	SI = 1.0 b/c Hudson River is permanent water			1.00		1.00		1.00		1.00		1.00		1.00		1.00	-999.00	1.00	
SUITABILITY SUBINDICES																				
SIF	Food Suitability Index	SIF = (SI1 * SI2 * SI3)^(1/3)			0.54		0.48		0.58		0.46		-4.09		0.55		-3.78		-4.17	
SIWC	WinterCover Suitability Index	SIWC = SI4 * SI5			0.24		0.18		0.28		0.36		0.33		0.49		0.42		0.34	
SIR	Reproduction Suitability Index	SIR = SI6			0.70		0.69		0.84		0.86		-999.00		0.82		0.78		0.60	
SII	Interspersion Suitability Index	SII = SI7			1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
HABITAT SUITABILITY INDEX																				
HSI	HSI = ((SIF*SIWC*SIR)^(1/3))*SII				0.45		0.39		0.52		0.52		NA		0.61		NA		NA	

Table G-2a
Variable Calculations of Non-fish

Muskrat

	Description	Calculation	Data Source	TIP		FMP		NP		SP		UMP		LMP		WP		TP		Comments
				VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	
VARIABLES																				
V2	% of year with surface water present	SI = 1 because surface water is present in the Hudson River year-round			1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
V3	percent stream gradient	determined in GIS: measured elevation diff. from north of reach to south of reach (m) and total reach length (km): gradient in m/km	2001 & 2003 OSI bathymetry	0.27	1.00	0.10	1.00	0.09	1.00	0.01	1.00	0.02	1.00	0.02	1.00	0.01	1.00	0.10	1.00	
V4	% of river channel with water present during typical minimum flow	SI = 1 because there are no large drawdowns in the Hudson River			1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
V5	% of river channel dominated by emergent herbaceous veg	determined in GIS (wetland cover as a % of total reach area)	2005 Habitat delineation	1.89	0.26	1.14	0.24	3.56	0.31	0.53	0.22	0.00	0.20	2.18	0.27	0.26	0.21	0.18	0.21	
V6	% herbaceous veg. cover within 10 m of water's edge	mean % herbaceous cover of all shoreline stations in reach	Habitat Assessment Shoreline Data (2003 - 2006)	66.25	0.66	63.70	0.64	64.88	0.65	40.00	0.40	-999.00	-999.00	56.67	0.57	78.67	0.79	60.00	0.60	
SUITABILITY SUBINDICES																				
SIC	Cover Suitability Index	$SIC = ((SI2 * SI3 * SI4)^{(1/3)} + SI5)/2$			0.63		0.62		0.66		0.61		0.60		0.63		0.60		0.60	
SIF	Food Suitability Index	$SIF = (SI6 + 2(SI5)) / 2$ - if SIF gt 1.0 then SIF = 1.0			0.59		0.55		0.64		0.42		NA		0.55		0.60		0.51	
HABITAT SUITABILITY INDEX																				
HSI		HSI = minimum of SIC and SIF			0.59		0.55		0.64		0.42		NA		0.55		0.60		0.51	

Great Blue Heron

	Description	Calculation	Data Source	TIP		FMP		NP		SP		UMP		LMP		WP		TP		Comments
				VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	
VARIABLES																				
V1	distance between heronry areas and foraging sites	calculated average distance between heronries and potential forage areas within reach	NYSDEC et al. 2004	8.66	0.23	13.60	0.10	17.67	0.10	13.61	0.10	6.20	0.48	8.73	0.23	13.12	0.10	17.27	0.10	
V2	presence of water body with suitable prey population and foraging substrate	SI set to 1.0 because the Upper Hudson is assumed to support a suitable fish population and foraging substrate			1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	
V3	A disturbance free zone up to 100 m around potential foraging areas	determined in GIS areas within the reach with water depth ≤ 0.5 meters and a 100 m exclusion zone were identified	2001 & 2003 OSI Bathymetry, Summer 2003 aerial photos		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	suitable foraging areas were identified in RS1 therefore variable was set to 1.0
SUITABILITY SUBINDICES																				
SIF	Foraging Suitability Index	$SIF = SI1 * SI2 * SI3$			0.23		0.10		0.10		0.10		0.48		0.23		0.10		0.10	
HABITAT SUITABILITY INDEX																				
HSI		HSI = SIF			0.23		0.10		0.10		0.10		0.48		0.23		0.10		0.10	

Belted Kingfisher

	Description	Calculation	Data Source	TIP		FMP		NP		SP		UMP		LMP		WP		TP		Comments
				VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	
V2	Average water transparency (secchi depth in cm)	Average of secchi depth readings for all stations in reach	Habitat Assessment Shoreline Data (2003 - 2006)	260.35	1.00	286.34	1.00	278.57	1.00	187.08	1.00	-999.00	-999.00	135.00	1.00	128.00	1.00	175.00	1.00	
V3	% water surface obstruction	Average percent of water surface obstruction for all stations in reach	Habitat Assessment Shoreline Data (2003 - 2006)	21.80	0.78	21.30	0.79	33.58	0.66	28.18	0.72	-999.00	-999.00	7.50	0.93	27.58	0.72	7.78	0.92	Obstructions are areas covered by emergent and floating vegetation, logs, leaves, or overhanging shore vegetation < 1.0 m above the water's surface
V4	% of water area that is < 60 cm	determined in GIS by creating polygons of areas where water depth < 60 cm during the breeding season (May 1 to June 31) and calculating its percentage of the total reach	OSI 2001 & 2003 bathymetry and QEA Hudson River shoreline at 5000 cfs	7.52	0.30	7.34	0.30	9.98	0.32	8.60	0.31	1.84	0.26	6.72	0.29	1.55	0.26	8.16	0.30	
V6	average number of stream subsections that contain one or more perches	calculated the # of perches per km of shoreline sampled	Habitat Assessment Shoreline Data (2003 - 2006)	39843.00	1.00	76939.90	1.00	53838.00	1.00	20933.80	1.00	-999.00	-999.00	5225.22	1.00	7473.70	1.00	3992.36	1.00	
V7	distance to nearest suitable soil bank from river	measured the distance from the reach to the nearest soil bank suitable for kingfisher nesting in GIS	NYSDEC et al 2004	0.00	1.00	0.91	0.70	1.25	0.58	0.76	0.75	1.10	0.63	3.26	0.00	2.26	0.25	2.25	0.25	
SUITABILITY SUBINDICES																				
SIW	Water Suitability Index	$SIW = ((SI2 * SI4)^{(1/2)}) * SI3$			0.43		0.43		0.37		0.40		NA		0.50		0.37		0.51	
SIC	Cover Suitability Index	$SIC = SI6$			1.00		1.00		1.00		1.00		NA		1.00		1.00		1.00	
SIR	Reproduction Suitability Index	$SIR = SI7$			1.00		0.70		0.58		0.75		0.63		0.00		0.25		0.25	
HABITAT SUITABILITY INDEX																				
HSI		HSI = minimum of SIW, SIC and SIR			0.43		0.43		0.37		0.40		NA		0.00		0.25		0.25	

The equation for SIW that included % riffles (SI5) was not used because that variable was deemed not to be applicable for the Upper Hudson.

TIP = Thompson Island Pool; FMP = Fort Miller Pool; NP = Northumberland Pool; SP = Stillwater Pool; UMP = Upper Mechanicville Pool; LMP = Lower Mechanicville Pool; WP = Waterford Pool; TP = Troy Pool

Table G-2b
Variable Calculations of Yellow Perch

	TIP		FMP		NP		SP		UMP		LMP		WP		TP		Description	Calculation	Data Source	Comments
	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI				
VARIABLES																				
V2	98.11	0.35	98.86	0.33	96.44	0.38	99.47	0.31	100.00	0.30	97.82	0.35	99.74	0.31	99.82	0.30	% pool & backwater during average summer flow	determined in GIS: pool area as a % of reach area	Spring 2002 aerial photography	
V3	23.79	0.97	14.21	0.66	20.02	0.85	11.61	0.57	4.95	0.36	9.11	0.49	0.98	0.23	5.90	0.39	% cover during summer within pools and backwaters	determined in GIS: veg and nonveg cover area as % of pools and backwaters	2003 habitat survey and OSI RS1 SSS debris* data	
V4	22.00	1.00	22.03	1.00	22.03	1.00	22.02	1.00	22.02	1.00	22.02	1.00	21.82	1.00	21.99	1.00	most suitable temp (°C) during midsummer - adults, juveniles, and fry	find the temperature closest to 22C between July 1 and August 31	BMP and Habitat Assessment data (2003 - 2006)	excluded BMP data without dates
V5	10.51	1.00	10.15	1.00	10.15	1.00	10.43	1.00	10.43	1.00	10.43	1.00	9.34	1.00	10.49	1.00	most suitable temp (°C) during spawning & embryo development within pools and backwaters	find the temperature closest to 10.5°C in April to June within pools and backwaters	BMP data (2003 - 2006)	excluded BMP data without dates
V6	8.76	1.00	8.41	1.00	8.41	1.00	8.62	1.00	8.62	1.00	8.62	1.00	9.04	1.00	10.68	1.00	minimum D.O. (mg/L) during growing season within pools and backwaters	find minimum D.O. between May 1 and October 1 within pools and backwaters	BMP and Habitat Assessment data (2003 - 2006)	excluded BMP data without dates
V7	104.27	NA	106.05	NA	106.05	NA	211.25	NA	211.25	NA	211.25	NA	43.48	NA	149.70	NA	degree days (4-10 °C) from October 30 to April 1	multiply weekly average of temp. measurements in RS1, between 4 and 10 °C, by 7 days b/c of weekly measurements; get total	BMP data (2003 - 2006)	Limited sites and dates during the winter may lead to a low estimate of degree days
V8		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	pH range throughout year	determine max and min pH and 2 stderr from the mean: SI = 1.0 if mean-2stderr > 6.5 and mean+2stderr < 8.5; SI = 0.5 if pH is 5.5 - 6.5 or 8.5 - 9.5; SI = 0.25 if mean+2 stderr < 6.5 and mean-2stderr > 4.5 and min <4.5 or mean+2 stderr < 9.5 and mean-2stderr ge 8.5 and max > 9.5; SI = 0.1 if mean-2stderr < 4.5 or mean+2stderr > 9.5	BMP and Habitat Assessment data (2003 - 2006)	excluded extreme values (<5 and > 12) and data without dates
HABITAT SUITABILITY INDEX																				
H S I		0.35		0.33		0.38		0.31		0.30		0.35		0.23		0.30			HSI = minimum(SI value)	

* SSS_debris_and_attributes.shp

Unless otherwise noted SI values were obtained by interpolating to the variable value based on data from SI graphs in FWS documents.

TIP = Thompson Island Pool; FMP = Fort Miller Pool; NP = Northumberland Pool; SP = Stillwater Pool; UMP = Upper Mechanicville Pool; LMP = Lower Mechanicville Pool; WP = Waterford Pool; TP = Troy Pool

Table G-2c
Variable calculations of Largemouth Bass

	TIP		FMP		NP		SP		UMP		LMP		WP		TP		Description	Calculation	Data Source	Comments
	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI				
VARIABLES																				
V1	98.11	1.00	98.86	1.00	96.44	1.00	99.47	1.00	100.00	1.00	97.82	1.00	99.74	1.00	99.82	1.00	% pool and backwater during summer	determined in GIS: pool area as a % of reach area	Spring 2002 aerial photography	
V3	23.79	0.68	14.21	0.48	20.02	0.60	11.61	0.43	4.95	0.30	9.11	0.38	0.98	0.22	5.90	0.32	% bottom cover during summer - veg and non-veg adults and juveniles	determined in GIS: veg and nonveg cover area as % of pool area	2005 Habitat delineation and OSI SSS debris data	
V4	23.79	0.59	14.21	0.36	20.02	0.50	11.61	0.29	4.95	0.12	9.11	0.23	0.98	0.02	5.90	0.15	% bottom cover - veg and non-veg fry	determined in GIS: veg and nonveg cover area as % of pool area	2005 Habitat delineation and OSI SSS debris data	
V6		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	minimum DO during midsummer	examine D.O. values during July and August: SI = 0.1 if more than 5 measurements are < 2.0; SI = 0.4 if 75% of D.O. measurements are between 2 and 5 ; SI = 0.4 if 75% of D.O. measurements are between 5 and 8; SI = 1.0 87.5% of measurements are greater than 8	BMP data	assumed values < 4.0 were erroneous and the river was not anoxic during these periods (C. Yates) Excluded BMP data without dates.
V7		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	pH range throughout growing season	find whether 85% of pH measurements fall within the following ranges: SI = 0.1 if pH < 5.0 or pH > 10.0; SI = 0.5 if range is 5.0 < pH < 6.5 or 8.5 < pH < 10.0; SI = 1.0 if range is 6.5 < pH < 8.5	BMP and Habitat Assessment data (2003 - 2006)	excluded BMP data without dates
V8	20.75	0.64	19.43	0.49	19.45	0.49	20.06	0.56	19.78	0.53	19.77	0.53	21.05	0.67	20.50	0.61	average water temp during growing season (adult and juvenile)	mean temperature between May and October	BMP and Habitat Assessment data (2003 - 2006)	excluded BMP data without dates
V9	15.45	0.35	15.35	0.34	15.35	0.34	15.57	0.37	15.57	0.37	15.57	0.37	16.26	0.47	16.68	0.53	mean weekly average water temp during spawning and incubation (embryo)	mean weekly average water temperature between May 1 and June 15	BMP data	excluded BMP data without dates
V10	20.75	0.52	19.43	0.40	19.45	0.40	20.06	0.46	19.78	0.43	19.77	0.43	21.05	0.55	20.50	0.50	average water temp during growing season (fry)	mean temperature between May and October	BMP and Habitat Assessment data (2003 - 2006)	excluded BMP data without dates
V11		0.30		0.30		0.30		0.30		0.30		0.30		0.30		1.00	maximum monthly average turbidity during growing season	maximum of monthly average turbidity between May and October: SI = 1.0 if max >= 5 ppm and max <= 25 ppm; SI = 0.7 if max > 25 ppm and max <= 100 ppm; SI = 0.3 if max < 5 ppm or max > 100 ppm	BMP and Habitat Assessment data (2003 - 2006)	converted turbidity units from NTU to ppm according to Dahlgren et al. (2004)*. 1 ppm = 1-2 NTU. Excluded BMP data without dates.
V12	0.99	1.00	0.13	1.00	0.22	1.00	0.26	1.00	1.32	1.00	0.16	1.00	0.17	1.00	0.33	1.00	max salinity during summer (adult and juvenile)	max salinity between June 15 to September 15	BMP and Habitat Assessment data (2003 - 2006)	excluded BMP data without dates
V13	0.99	1.00	0.13	1.00	0.22	1.00	0.26	1.00	1.32	1.00	0.16	1.00	0.17	1.00	0.33	1.00	max salinity during summer (fry)	max salinity between June 15 to September 15	BMP and Habitat Assessment data (2003 - 2006)	excluded BMP data without dates
V14	0.14	1.00	0.17	1.00	0.17	1.00	0.21	1.00	0.21	1.00	0.21	1.00	0.21	1.00	0.23	1.00	max salinity during spawning and incubation (fry)	max salinity between May 1 to June 15	BMP data	excluded BMP data without dates
V15		0.50		0.50		0.50		0.50		0.50		0.50		0.50		0.50	substrate composition within pools and backwaters (embryo)	looked at overall description and primary sediment type data in top segment of cores: SI = 0.3 if predominant sediment type is rock; SI = 0.5 if predominant sediment type was sand; SI = 0.8 if predominant sediment type is silt or clay; SI = 1.0 if predominant sediment type is gravel	SSAP sediment data (in Locations (probing data) and Description tables)	only found which primary sediment type was most prevalent, not necessarily > 50%
V16	1.68	0.83	1.68	0.83	1.68	0.83	1.68	0.83	1.68	0.83	1.68	0.83	1.68	0.83	1.68	0.83	average water level fluctuation during growing season (adult and juvenile)	average difference from mean water level between May 1 and October 1	water level data from Canal Corp. (2001 - 2003)	
V17	1.23	0.96	1.23	0.96	1.23	0.96	1.23	0.96	1.23	0.96	1.23	0.96	1.23	0.96	1.23	0.96	max water level fluctuation during spawning (embryo)	maximum difference from mean water level between May 1 and June 15	water level data from Canal Corp. (2001 - 2003)	
V18	1.68	1.00	1.68	1.00	1.68	1.00	1.68	1.00	1.68	1.00	1.68	1.00	1.68	1.00	1.68	1.00	average water level fluctuation during growing season (fry)	average difference from mean water level between May and October	water level data from Canal Corp. (2001 - 2003)	
V19	0.48	1.00	0.42	1.00	0.20	1.00	0.61	1.00	0.29	1.00	0.90	1.00	0.70	1.00	0.44	1.00	average current velocity at 60% depth during summer (adults and juveniles)	average current at 60% depth between June 15 and Sept. 15	Habitat Assessment data (2003 - 2006)	
V20	2.77	1.00	0.99	1.00	0.93	1.00	2.52	1.00	0.43	1.00	1.44	1.00	0.78	1.00	1.29	1.00	max current velocity at 80% depth during spawning in pools and backwaters (embryo)	max current at 80% depth between May and June	Habitat Assessment data (2003 - 2006)	not from spawning period
V21	0.48	1.00	0.42	1.00	0.20	1.00	0.61	0.99	0.29	1.00	0.90	0.83	0.70	0.94	0.44	1.00	average current velocity at 60% depth during summer (fry)	average current at 60% depth between June 15 and September 15	Habitat Assessment data (2003 - 2006)	
V22	0.27	1.00	0.10	1.00	0.09	1.00	0.01	1.00	0.02	1.00	0.02	1.00	0.01	1.00	0.10	1.00	stream gradient in reach	determined in GIS: measured height diff. from north of reach to south of reach and total reach length, gradient in m/km	2001 & 2003 OSI bathymetry	
SUITABILITY SUBINDICES																				
SIF		0.80		0.65		0.74		0.60		0.46		0.55		0.35		0.48	Food Suitability Index	$SIF = (SI1 * ((SI3+SI4)/2))^{(1/2)}$		
SIC		0.83		0.73		0.80		0.69		0.58		0.65		0.48		0.60	Cover Suitability Index	$SIC = (SI1 * ((SI3+SI4)/2) * ((SI16+SI18)/2))^{(1/3)}$		
SIWQ		0.73		0.67		0.67		0.70		0.69		0.68		0.74		0.82	Water Quality Suitability Index	if SI12 or SI13 = 1.0 then SIWQ = ((2 * SI6) + SI7 + (2 * SI8) + SI10 + SI11)/7 if SI12 and SI13 < 1.0 then SIWQ = ((2 * SI6) + SI7 + (2 * SI8) + SI10 + SI11 + ((SI12 + SI13)/2))/8 if SI6 or SI7 or SI8 or SI10 < 0.4 then SIWQ = minimum(SI6, SI8, SI10, SIWQ)		
SIR		0.70		0.69		0.69		0.71		0.71		0.71		0.74		0.76	Reproduction Suitability Index	if SI14 = 1.0 then SIR = (SI1 * SI9 * SI15 * SI17 * SI20)^ (1/5) else SIR = (SI1 * SI9 * SI14 * SI15 * SI17 * SI20)^ (1/6)		
SIO		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	Other Suitability Index	$SIO = SI22$ or $SIO = (SI19 + SI21)/2$		
HABITAT SUITABILITY INDEX																				
HSI		0.81		0.74		0.77		0.73		0.66		0.71		0.62		0.71	HSI = (SIF * SIC * SIWQ * SIR * SIO)^ (1/5)			

* Dahlgren, R.; E. VanNieuwenhuysse, and G. Litton. July-September 2004. "Transparency tube provides reliable water quality measurements", California Agriculture. University of California Division of Agriculture and Natural Resources. <http://CaliforniaAgriculture.ucop.edu>

Unless otherwise noted SI values were obtained by interpolating to the variable value based on data from SI graphs in FWS documents.

TIP = Thompson Island Pool; FMP = Fort Miller Pool; NP = Northumberland Pool; SP = Stillwater Pool; UMP = Upper Mechanicville Pool; LMP = Lower Mechanicville Pool; WP = Waterford Pool; TP = Troy Pool

Table G-2d
Variable calculations of Smallmouth Bass

	TIP		FMP		NP		SP		UMP		LMP		WP		TP		Description	Calculation	Data Source	Comments
	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI				
VARIABLES																				
V1		0.20		0.20		0.20		0.20		0.20		0.20		0.20		0.20	dominant substrate type within pools and backwaters	looked at overall description and primary type sediment data in top segment of cores: SI = 0.2 if predominant sediment type is silt or sand; SI = 0.3 if predominant sediment type is pebbles; SI = 1.0 if predominant sediment type is gravel; SI = 0.2 if predominant sediment type is rock	SSAP sediment data in Locations and Description tables	predominant sediment type only means the most common, not necessarily > 50%
V2	98.11	0.26	98.86	0.24	96.44	0.31	99.47	0.22	100.00	0.20	97.82	0.27	99.74	0.21	99.82	0.21	% pools	determined in GIS: pool area as % of reach area	Spring 2002 aerial photos	
V4	2.93	1.00	2.87	1.00	4.21	1.00	3.93	1.00	3.87	1.00	2.99	1.00	3.69	1.00	3.96	1.00	average depth (m) of pools during midsummer	determined in GIS: mean of all bathymetry grid cells in reach at 3,661 cfs	QEA raster grid of bathymetry	
V5	23.79	0.95	14.21	0.57	20.02	0.80	11.61	0.46	4.95	0.20	9.11	0.36	0.98	0.04	5.90	0.24	% cover non-veg (adults) or veg (fry)	determined in GIS: veg and nonveg cover area as % of reach area	2005 Habitat delineation and OSI side-scan sonar debris data*	
V6	7.48	0.90	7.48	0.90	7.48	0.90	7.57	0.91	7.57	0.91	7.57	0.91	7.73	0.95	7.72	0.94	average pH during year	Average of pH less than 12 and greater than 0	BMP and Habitat Assessment Data (2003 - 2006)	excluded extreme values (< 5 and ≥ 12) and data without dates.
V8	4.18	0.47	4.12	0.45	4.12	0.45	4.02	0.43	4.02	0.43	4.02	0.43	4.22	0.47	4.49	0.55	minimum D.O. (ppm) throughout the year	minimum D.O. greater than 4.0 ppm	BMP and Habitat Assessment Data (2003 - 2006)	assumed values < 4.0 were erroneous and the river was not anoxic during these periods (C. Yates) Excluded BMP data without dates.
V9	3.64	1.00	5.22	1.00	18.38	1.00	16.78	1.00	16.78	1.00	16.78	1.00	10.56	1.00	73.27	0.35	maximum monthly average turbidity (JTU) during summer	maximum of monthly average turbidity between June 15 to Sept 15	BMP and Habitat Assessment Data (2003 - 2006)	BMP and Habitat data are in NTU; JTU is approximately equal to NTU. Excluded BMP data without dates.
V10	21.63	0.92	20.71	0.89	20.69	0.88	21.27	0.91	21.06	0.90	21.06	0.90	21.98	0.92	22.05	0.93	water temperature (°C) in selected habitat during May-Oct. (adults)	mean water temp May 1 to Oct 1	BMP and Habitat Assessment Data (2003 - 2006)	temperature measurements were not all collected in the specific habitat
V11	18.45	1.00	18.13	1.00	18.13	1.00	19.47	1.00	19.47	1.00	19.47	1.00	21.25	1.00	16.11	1.00	water temp. (°C) in selected habitat during spawning and 45 after (embryo)	mean water temp between April 15 and July 31	BMP data	due to limited temperature data measurements are not all in selected areas. Excluded BMP data without dates.
V12	21.63	0.93	20.71	0.91	20.69	0.91	21.27	0.92	21.06	0.92	21.06	0.92	21.98	0.94	22.05	0.94	water temperature in selected habitat during May-Oct. (fry)	mean water temp May 1 to Oct 1	BMP and Habitat Assessment Data (2003 - 2006)	
V13	21.63	0.94	20.71	0.92	20.69	0.92	21.27	0.93	21.06	0.93	21.06	0.93	21.98	0.95	22.05	0.95	water temperature (°C) in selected habitat during May-Oct. (juvenile)	mean water temp May 1 to Oct 1	BMP and Habitat Assessment Data (2003 - 2006)	
V14		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	water level fluctuation (m) during spawning and 45 days afterward	determined water level difference between beginning and end of three time periods: (prior to May 1 = before); during spawning (May 1 - June 15 = spawn); after spawning (June 15 - July)	water level data from Canal Corp (2001 - 2003)	
V15	0.27	0.41	0.10	0.15	0.09	0.13	0.01	0.02	0.02	0.03	0.02	0.03	0.01	0.01	0.10	0.15	stream gradient (m/km)	determined in GIS: measured height diff. from north of reach to south of reach and total reach length, gradient in m/km	2001 & 2003 OSI bathymetry	
SUITABILITY SUBINDICES																				
SIF		0.37		0.30		0.37		0.27		0.20		0.27		0.12		0.21	Food Suitability Index	$SIF = (SI1 * SI2 * SI5)^{(1/3)}$		
SIC		0.60		0.50		0.58		0.47		0.40		0.46		0.36		0.41	Cover Suitability Index	$SIC = (SI1 + SI2 + SI4 + SI5)/4$		
SIWQ		0.84		0.83		0.83		0.84		0.83		0.83		0.86		0.74	Water Quality Suitability Index	$SIWQ = ((SI6 + SI8 + SI9 + (2 * ((SI10 * SI12 * SI13)^{(1/3)))))/5$		
SIR		0.71		0.65		0.69		0.63		0.56		0.61		0.45		0.51	Reproduction Suitability Index	$SIR = ((SI11^2) * SI14 * SI1 * SI5 * SI8 * SI9)^{(1/7)}$		
SIO		0.41		0.15		0.13		0.02		0.03		0.03		0.01		0.15	Other Suitability Index	$SIO = SI15$		
HABITAT SUITABILITY INDEX																				
HSI		0.56		0.41		0.44		0.26		0.26		0.28		0.18		0.35	Habitat Suitability Index	$HSI = (SIF * SIC * SIWQ * SIR * SIO)^{(1/5)}$ Unless SIWQ or SIR < 0.6, then $HSI = \text{minimum}(SIWQ, SIR, HSI)$		

* SSS_debris_and_attributes.shp

Unless otherwise noted SI values were obtained by interpolating to the variable value based on data from SI graphs in FWS documents.

TIP = Thompson Island Pool; FMP = Fort Miller Pool; NP = Northumberland Pool; SP = Stillwater Pool; UMP = Upper Mechanicville Pool; LMP = Lower Mechanicville Pool; WP = Waterford Pool; TP = Troy Pool

Table G-2e
Variable calculations of Bluegill

VARIABLES	TIP		FMP		NP		SP		UMP		LMP		WP		TP		Description	Calculation	Data Source	Comments
	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI				
V1	98.11	1.00	98.86	1.00	96.44	1.00	99.47	1.00	100.00	1.00	97.82	1.00	99.74	1.00	99.82	1.00	Percent pool area during average summer flow	determined in GIS; pool area as a percent of the reach area	aerial photography - Spring 2002	
V2	7.80	0.51	6.69	0.47	3.55	0.34	2.27	0.29	0.03	0.20	0.05	0.20	0.31	0.21	0.38	0.22	percent cover - non-vegetative	determined in GIS; non-vegetative cover as a percent of pool area	OSI side-scan sonar debris data	
V3	16.75	1.00	7.85	0.52	17.26	1.00	9.52	0.63	4.92	0.33	9.06	0.60	0.67	0.04	5.55	0.37	percent cover - vegetative only	determined in GIS; vegetative cover as a percent of pool area	2005 habitat survey GIS data	
V6	2.44	1.00	3.50	1.00	12.31	1.00	11.24	1.00	11.24	1.00	11.24	1.00	7.07	1.00	49.09	1.00	maximum monthly average turbidity (ppm) during average summer flows	average of monthly maxima between June 15 and Sept. 15	BMP data	converted from NTU to ppm by multiplying by 0.67. (1-2 NTU/ ppm (Dahlgren et al. 2004))
V7		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	pH range during growing season	find whether 85% of pH measurements (May 1 to Oct. 1) fall within the following ranges: SI = 0.1 if pH < 5.0 or pH > 10.0; SI = 0.2 if range is 5.0 ≤ pH < 6.0 or 9.0 ≤ pH < 10.0; SI = 0.5 if range is 6.0 ≤ pH < 6.5 or 8.5 ≤ pH < 9.0; SI = 1.0 if range is 6.5 ≤ pH < 8.5	BMP and Habitat Assessment Data (2003 - 2006)	excluded extreme values (< 5 and ≥ 12) and data without dates.
V8		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	DO (ppm) range during summer	determined +/- 2 stderr of the mean from June 15 to Sept. 15; SI = 1.0 if -2stderr ≥ 5; SI = 0.7 if -stderr ≤ 3 and +stderr ≥ 5; SI = 0.25 if -stderr ≤ 1.5 and +stderr ≥ 3; SI = 0.1 if +stderr < 1.5	BMP and Habitat Assessment Data (2003 - 2006)	excluded BMP data without dates
V9	0.11	1.00	0.12	1.00	0.12	1.00	0.14	1.00	0.14	1.00	0.14	1.00	0.16	1.00	0.19	1.00	maximum average monthly salinity (ppm) during growing season	maximum of monthly averages between May 1 and October 1	BMP and Habitat Assessment Data (2003 - 2006)	optional. Excluded BMP data without dates.
V10	26.56	0.99	26.68	0.99	26.68	0.99	27.60	0.80	27.60	0.80	27.60	0.80	27.19	0.94	27.81	0.73	maximum midsummer temperature (°C) (adults)	max temp between July 1 and August 31	BMP data	excluded BMP data without dates
V11	20.28	0.57	20.80	0.70	20.80	0.70	21.15	0.79	21.15	0.79	21.15	0.79	21.52	0.88	21.56	0.89	average mean weekly water temperature (°C) during spawning (embryo)	mean weekly temperature between May 15 to July 15	BMP data	excluded BMP data without dates
V12	24.45	0.96	24.67	0.98	24.67	0.98	25.92	1.00	25.92	1.00	25.92	1.00	24.98	1.00	26.06	1.00	maximum early summer temperature (°C) (fry)	max temp between June 1 and July 1	BMP data	excluded BMP data without dates
V13	26.56	0.79	26.68	0.79	26.68	0.79	27.60	0.85	27.60	0.85	27.60	0.85	27.19	0.82	27.81	0.86	maximum midsummer temperature (°C) (juveniles)	max temp between July 1 and August 31	BMP data	excluded BMP data without dates
V14	0.47	1.00	0.38	1.00	0.22	1.00	0.58	1.00	0.23	1.00	0.88	1.00	0.60	1.00	0.44	1.00	average current velocity (cm/s) during growing season in pools and backwaters (adult)	average current velocity throughout water column (May 1 to Oct. 1)	Habitat Assessment Data (2003 - 2006)	Habitat data is from late summer
V15	0.47	1.00	0.38	1.00	0.22	1.00	0.58	1.00	0.23	1.00	0.88	1.00	0.60	1.00	0.44	1.00	average current velocity (cm/s) in spawning areas (embryo)	average current velocity throughout water column May 15 to July 15	Habitat Assessment Data (2003 - 2006)	Habitat data is from late summer
V16	0.47	1.00	0.38	1.00	0.22	1.00	0.58	1.00	0.23	1.00	0.88	1.00	0.60	1.00	0.44	1.00	average current velocity (cm/s) in pools during early summer (fry)	average current velocity throughout water column June 1 to July 1	Habitat Assessment Data (2003 - 2006)	Habitat data is from late summer
V17	0.47	1.00	0.38	1.00	0.22	1.00	0.58	1.00	0.23	1.00	0.88	1.00	0.60	1.00	0.44	1.00	average current velocity (cm/s) during the growing season (juvenile)	average current velocity throughout water column May 1 to Oct. 1	Habitat Assessment Data (2003 - 2006)	Habitat data is from late summer
V18	0.27	1.00	0.10	1.00	0.09	1.00	0.01	1.00	0.02	1.00	0.02	1.00	0.01	1.00	0.10	1.00	stream gradient in reach (m/km)	determined in GIS: measured elevation diff. from north of reach to south of reach (m) and total reach length (km): gradient in m/km	2001 & 2003 OSI bathymetry	
V20		1.00		1.00		1.00		1.00		1.00		1.00		1.00		1.00	substrate composition within pools (embryo)	SI = 1.0 b/c gravel and fines are present in all river sections		
SUITABILITY SUBINDICES																				
SIF		0.80		0.63		0.70		0.57		0.40		0.50		0.21		0.43	Food Suitability Index	$SIF = (SI1 * SI2 * SI3)^{1/3}$		
SIC		0.76		0.50		0.67		0.46		0.26		0.40		0.13		0.29	Cover Suitability Index	$SIC = (SI2 + SI3)/2$		
SIWQ		0.97		0.98		0.98		0.97		0.97		0.97		0.98		0.96	Water Quality Suitability Index	$SIWQ = (SI6 + SI7 + (2 * SI8) + SI9 + (2 * [(SI10 * SI12 * SI13)^{1/3}]))/7$ Unless SI8 or $(2 * [(SI10 * SI12 * SI13)^{1/3}]) < 0.4$ then $SIWQ = \text{minimum}(SI8, (2 * [(SI10 * SI12 * SI13)^{1/3}]), SI9)$		
SIR		0.83		0.89		0.89		0.92		0.92		0.92		0.96		0.96	Reproduction Suitability Index	$SIR = (SI11 * SI15 * SI20)^{1/3}$		
SIO		0.83		0.83		0.83		0.83		0.83		0.83		0.83		0.83	Other Suitability Index	$SIO = ((SI14 * SI16 * SI17)/3) + (SI18/2)$		
HABITAT SUITABILITY INDEX																				
HSI		0.86		0.78		0.83		0.76		0.65		0.72		0.52		0.67	Habitat Suitability Index	$HSI = (SIF * SIC * (SIWQ^2) * SIR * SIO)^{1/6}$ Unless SIWQ or SIR < 0.4 then $HSI = \text{minimum}(SIF, SIC, SIWQ, SIR, SIO)$		

Unless otherwise noted SI values were obtained by interpolating to the variable value based on data from SI graphs in FWS documents.

TIP = Thompson Island Pool; FMP = Fort Miller Pool; NP = Northumberland Pool; SP = Stillwater Pool; UMP = Upper Mechanicville Pool; LMP = Lower Mechanicville Pool; WP = Waterford Pool; TP = Troy Pool

Table G-2f
Variable calculations of Common Shiner

	TIP		FMP		NP		SP		UMP		LMP		WP		TP		Description	Calculation	Data Source	Comments
	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI	VALUE	SI				
VARIABLES																				
V1	26.00	0.30	26.00	0.30	26.00	0.30	27.00	0.21	27.00	0.21	27.00	0.21	27.00	0.21	27.00	0.21	maximum summer temp. persisting for > 1 week	found the first and last day within each year where the temperature was > each unique temperature and found the maximum temperature with a duration greater than 7 days	BMP data	could not use Habitat data because dates were not kept in data, just years. Excluded BMP data without dates.
V2	8.69	0.99	9.70	0.27	9.70	0.27	6.04	0.65	6.04	0.65	6.04	0.65	8.56	1.00	9.09	0.82	least suitable pH occurring during year	determined the pH with the greatest absolute difference from 7.5	BMP and Habitat Assessment Data (2003 - 2006)	excluded extreme values (< 5 and > 12) and data without dates.
V3	1.63	1.00	3.78	1.00	4.02	1.00	5.36	1.00	5.49	1.00	5.49	1.00	4.33	1.00	29.80	1.00	average turbidity in JTU	mean of turbidity throughout year	BMP and Habitat Assessment Data (2003 - 2006)	BMP and Habitat data are in NTU; JTU is approximately equal to NTU. Excluded BMP data without dates.
V4		0.50		0.10		0.10		0.10		0.10		0.10		0.10		0.10	predominant substrate in riffles or shoals	looked at overall description and sediment type data in top segment of cores in riffle areas masked out in GIS: SI = 0.1 if predominant sediment is silt or organic; SI = 0.5 if predominant sediment type is fine sand; SI = 1.0 if sediment is predominantly gravel and sand; SI = 0.8 if predominant sediment type is pebbles; SI = 0.2 if predominant sediment type is rock	SSAP sediment data in Locations and Description tables	predominant sediment type only means the most common, not necessarily > 50%
V5	98.11	0.62	98.86	0.61	96.44	0.64	99.47	0.61	100.00	0.60	97.82	0.62	99.74	0.60	99.82	0.60	percent pools	determined in GIS: pool area as a % of reach area	summer 2003 aerial photos	
V6	14.56	0.95	12.91	0.97	5.94	0.92	18.69	0.91	8.80	0.98	27.43	0.72	21.44	0.87	13.51	0.96	average current velocity at 60% of depth in pools		Habitat Assessment data (2003-2006)	
V7		0.40		0.40		0.40		0.40		0.40		0.40		0.40		0.40	predominant pool class	SI = 0.4 b/c the predominant pool class is large and deep		
V8	17.68	0.96	17.58	0.98	17.58	0.98	18.00	0.90	18.00	0.90	18.00	0.90	19.25	0.27	19.27	0.26	average water temp. (°C) in spawn habitat during spawn	average temperature between May 1 to July 1	BMP data	data are not specifically from spawning habitat. Excluded BMP data without dates.
V9	12.73	0.55	11.45	0.29	8.92	0.00	29.60	0.52	-999.00	-999.00	29.38	0.52	-999.00	-999.00	-999.00	-999.00	average current velocity (cm/s) just above substrate in riffle	used average current velocity from 10 cm above the substrate in UCB stations where water depth was less than 150 cm	Habitat Assessment data (2003-2006)	there was no velocity data from riffle areas; UCB stations with water depth < 150 cm were used as an approximation
SUITABILITY SUBINDICES																				
SIFC		0.40		0.10		0.10		0.10		0.10		0.10		0.10		0.10	Food and Cover Suitability Index	$SIFC = (SI4 + SI5 + SI6 + SI7)/4$ Unless any of the suitability indices are < 0.4 then $SIFC = \text{minimum}(SI4, SI5, SI6, SI7)$		
SIWQ		0.30		0.27		0.27		0.21		0.21		0.21		0.21		0.21	Water Quality Suitability Index	$SIWQ = (SI1 * SI2 * SI3)^{(1/3)}$ Unless any of the suitability indices are < 0.4 then $SIWQ = \text{minimum}(SI1, SI2, SI3)$		
SIR		0.50		0.10		0.00		0.10		-999.00		0.10		-999.00		-999.00	Reproduction Suitability Index	$SIR = ((SI8^2) * SI4 * SI9)^{(1/4)}$ Unless any of the suitability indices are < 0.4 then $SIR = \text{minimum}(SI4, SI8, SI9)$		
HABITAT SUITABILITY INDEX																				
HSI		0.30		0.10		0.00		0.10		NA		0.10		NA		NA	Habitat Suitability Index	$HSI = (SIFC * SIWQ * SIR)^{(1/3)}$ Unless the value of SIFC, SIWQ or SIR are < 0.4 then $HSI = \text{minimum of SIFC, SIWQ, or SIR}$		

Unless otherwise noted SI values were obtained by interpolating to the variable value based on data from SI graphs in FWS documents.

TIP = Thompson Island Pool; FMP = Fort Miller Pool; NP = Northumberland Pool; SP = Stillwater Pool; UMP = Upper Mechanicville Pool; LMP = Lower Mechanicville Pool; WP = Waterford Pool; TP = Troy Pool

**Table G-3
HSI Model Scores for Phase 2 Areas**

Reach	Area	Yellow Perch ¹	Largemouth Bass	Smallmouth Bass	Bluegill	Common Shiner	Mink	Wood Duck	Snapping Turtle	Muskrat	Belted Kingfisher	Great Blue Heron
Thompson Island Pool	Entire Reach	0.35	0.81	0.56	0.88	0.30	0.76	0.08	0.45	0.59	0.43	0.23
Thompson Island Pool	Target Area	0.36	0.82	0.56	0.89	0.10	0.75	0.09	0.45	0.61	0.42	0.25
Thompson Island Pool	Reference Area	0.33	0.79	0.54	0.87	0.00	0.77	0.05	0.45	0.57	0.42	0.21
Fort Miller Pool	Entire Reach	0.33	0.74	0.41	0.80	0.10	0.68	0.05	0.39	0.55	0.43	0.10
Fort Miller Pool	Target Area	0.42	0.39	0.43	0.81	0.10	0.66	0.20	0.38	0.68	0.38	0.10
Fort Miller Pool	Reference Area	0.32	0.40	0.41	0.80	0.05	0.70	0.03	0.40	0.53	0.42	0.10
Northumberland Pool	Entire Reach	0.38	0.77	0.44	0.86	0	0.81	NA ⁴	0.52	0.64	0.37	0.10
Northumberland Pool	Target Area	0.68	0.39	0.49	0.82	0	0.78	NA ⁴	0.56	0.86	0.35	0.10
Northumberland Pool	Reference Area	0.32	0.40	0.41	0.85	NA ²	0.80	NA ⁴	NA ²	0.55	0.36	0.10
Stillwater Pool	Entire Reach	0.31	0.73	0.26	0.78	0.10	0.67	0.02	0.52	0.44	0.40	0.10
Stillwater Pool	Target Area	0.31	0.76	0.27	0.81	0.10	0.79	0.02	0.55	0.52	0.57	0.10
Stillwater Pool	Reference Area	0.31	0.73	0.26	0.78	0.10	0.63	0.02	0.52	0.42	0.40	0.10
Upper Mechanicville Pool	Entire Reach	0.30	0.66	0.26	0.67	NA ²	NA ³	NA ⁴	NA ⁵	NA ³	NA ³	0.48
Upper Mechanicville Pool	Target Area	0.30	0.68	0.27	0.70	NA ²	NA ³	NA ⁴	NA ⁵	NA ³	NA ³	0
Upper Mechanicville Pool	Reference Area	0.30	0.66	0.26	0.67	NA ²	NA ³	NA ⁴	NA ⁵	NA ³	NA ³	0.48
Lower Mechanicville Pool	Entire Reach	0.35	0.71	0.28	0.75	0.10	0.67	0.09	0.61	0.55	0	0.23
Lower Mechanicville Pool	Target Area	0.33	NA ²	0.27	0.65	NA ²	NA ³	0.33	NA ²	NA ³	NA ³	0.14
Lower Mechanicville Pool	Reference Area	0.35	0.71	0.28	0.75	0.10	0.71	0.08	0.61	0.54	0	0.24
Waterford Pool	Entire Reach	0.23	0.62	0.18	0.54	NA ²	0.89	0.01	NA ²	0.60	0.25	0.10
Waterford Pool	Target Area	0.30	NA ²	0.21	0.65	NA ²	0.28	0.00	NA ²	0.58	0.16	0.10
Waterford Pool	Reference Area	0.23	0.62	0.18	0.54	NA ²	0.89	0.01	NA ²	0.60	0.25	0.10
Troy Pool	Entire Reach	0.30	0.71	0.35	0.69	NA ²	0.77	0.01	NA ²	0.51	0.25	0.10
Troy Pool	Target Area	0.39	0.85	0.44	0.83	NA ²	NA ³	0.16	NA ²	NA ³	NA ³	0.10
Troy Pool	Reference Area	0.30	0.71	0.35	0.69	NA ²	0.77	0.01	NA ²	0.50	0.25	0.10

Notes:

- ¹ The suitability index for degree days during winter was excluded due to a insufficient measurements.
- ² Insufficient current velocity data at required depth.
- ³ No shoreline stations located within this reach.
- ⁴ No wood duck nest stations located in this reach.
- ⁵ No wetland stations within reach.

APPENDIX H
HABITAT ASSESSMENT DATA FROM
PHASE 2 AREAS

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Appendix H - Habitat Assessment Data (SAV - Current/Light Results)

Station ID	Measurement Location	Current Velocity		Light Availability Measurements				
		Height Above Substrate		Sensor Depth	Water Depth	AIR	UW	Notes
		10cm	100cm					
SAV-05T-2003	CENTER	-0.06	0.5	0.5	186	1170	710	
				1	186	1225	364	
SAV-05T-2003	OUTSIDE	-0.12	0.14	0.5	375	949	409	
				1	375	1105	218	
SAV-07T-2003	CENTER	0	-0.02	0.5	420	131	42	
				1	420	124	124	
SAV-07T-2003	OUTSIDE	0.06	0.1	0.5	192	1290	714	
				1	192	1287	465	
SAV-08T-2003	CENTER	-0.02	0	0.5	-999	-999	-999	Due to overcast, light rain and turbid conditions, light measurements were not taken.
				1	-999	-999	-999	Due to overcast, light rain and turbid conditions, light measurements were not taken.
SAV-08T-2003	OUTSIDE	0.21	0.43	0.5	-999	-999	-999	Due to overcast, light rain and turbid conditions, light measurements were not taken.
SAV-09T-2003	CENTER	0.18	-0.04	0.5	-999	-999	-999	Due to overcast, light rain and turbid conditions, light measurements were not taken.
				1	-999	-999	-999	Due to overcast, light rain and turbid conditions, light measurements were not taken.
SAV-09T-2003	OUTSIDE	0.21	0.43	0.5	-999	-999	-999	Due to overcast, light rain and turbid conditions, light measurements were not taken.
				1	-999	-999	-999	Due to overcast, light rain and turbid conditions, light measurements were not taken.
SAV-10T-2005	CENTER	0.06	0.02	0.5	140	925	547.6	SUN PARTIALLY BLOCKED BY TREES
				1	140	915.6	235.9	SUN PARTIALLY BLOCKED BY TREES
SAV-10T-2005	DOWNSTREAM	0.01	0.05	----	----	----	----	----
SAV-10T-2005	OUTSIDE	0.2	0.35	0.5	410	1400	410.7	
				1	410	1453	351.6	
SAV-10T-2005	UPSTREAM	-0.04	-0.04	----	----	----	----	----
SAV-10T-2006	CENTER	0.24	0.35	0.5	177	1107	509	
				1	177	1102	446	
SAV-10T-2006	DOWNSTREAM	0.04	0.1	----	----	----	----	----
SAV-10T-2006	OUTSIDE	0.05	0.18	0.5	271	1050	500	
				1	271	1038	300	
SAV-10T-2006	UPSTREAM	0.03	-999	----	----	----	----	----
SAV-11T-2005	CENTER	0.03	0.1	0.5	222	488.2	251.1	

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Appendix H - Habitat Assessment Data (SAV - Current/Light Results)

Station ID	Measurement Location	Current Velocity		Light Availability Measurements				
		Height Above Substrate		Sensor Depth	Water Depth	AIR	UW	Notes
		10cm	100cm					
SAV-11T-2005	CENTER	0.03	0.1	1	222	483.7	132.8	
SAV-11T-2005	DOWNSTREAM	0	0.03	---	---	---	---	---
SAV-11T-2005	OUTSIDE	0.17	0.33	0.5	345	1185	551.6	
				1	345	1197	315.6	
SAV-11T-2005	UPSTREAM	0.01	0.01	---	---	---	---	---
SAV-12R-2005	CENTER	0.03	0.18	0.5	185	528	144.2	
				1	185	470.4	73.7	
SAV-12R-2005	DOWNSTREAM	0.01	-0.05	---	---	---	---	---
SAV-12R-2005	OUTSIDE	0.04	0.1	0.5	190	663.2	288	
				1	190	700.3	180.3	
SAV-12R-2005	UPSTREAM	-0.06	-0.03	---	---	---	---	---
SAV-12T	CENTER	0.14	0.24	0.5	167	1197	490.7	
				1	167	1201	234.7	
SAV-12T	DOWNSTREAM	0.08	0.06	---	---	---	---	---
SAV-12T	OUTSIDE	0.26	0.32	0.5	184	1290	498.4	
				1	184	1273	273	
SAV-12T	UPSTREAM	0.01	0.02	---	---	---	---	---
SAV-13R-2006	CENTER	0.81	0.3	0.5	240	906	317	
				1	240	1751	193	
SAV-13R-2006	DOWNSTREAM	-0.21	0.06	---	---	---	---	---
SAV-13R-2006	UPSTREAM	0.07	0.1	---	---	---	---	---
SAV-13T	CENTER	0.08	0.08	0.5	130	1507	430.3	
				1	130	1500	11.55	UW SENSOR IN VEGETATION
SAV-13T	DOWNSTREAM	0.01	0.02	---	---	---	---	---
SAV-13T	OUTSIDE	0.09	0.2	0.5	224	1485	663.4	
				1	224	1483	479.3	
SAV-13T	UPSTREAM	0.26	0.28	---	---	---	---	---
SAV-14R-2005	CENTER	0.1	0.15	0.5	160	480.1	196.4	SUN PARTIALLY BLOCKED BY TREES
				1	160	481.1	95.2	SUN PARTIALLY BLOCKED BY TREES
SAV-14R-2005	DOWNSTREAM	0.01	-0.01	---	---	---	---	---
SAV-14R-2005	OUTSIDE	0.12	0.14	0.5	365	1463	1007	
				1	365	1638	538.3	
SAV-14R-2005	UPSTREAM	0.25	0.18	---	---	---	---	---
SAV-14T	CENTER	0.04	0.04	0.5	110	1476	413	
				1	110	1479	290	

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Appendix H - Habitat Assessment Data (SAV - Current/Light Results)

Station ID	Measurement Location	Current Velocity		Light Availability Measurements				
		Height Above Substrate		Sensor Depth	Water Depth	AIR	UW	Notes
		10cm	100cm					
SAV-14T	DOWNSTREAM	0.02	0.01	---	---	---	---	---
SAV-14T	OUTSIDE	0.06	0.03	0.5	225	1648	627	
				1	225	1656	424	
SAV-14T	UPSTREAM	0.05	0.06	---	---	---	---	---
SAV-15T	CENTER	0.12	0.1	0.5	150	429	185	
				1	150	455	103.9	
SAV-15T	DOWNSTREAM	0.03	0.2	---	---	---	---	---
SAV-15T	OUTSIDE	0.03	0.17	0.5	250	620	253	
				1	250	615	174	
SAV-15T	UPSTREAM	0.3	0.1	---	---	---	---	---
SAV-16T	CENTER	0.38	0.43	0.5	184	2100	226	
				1	184	1804	162	
SAV-16T	DOWNSTREAM	-0.24	-0.14	---	---	---	---	---
SAV-16T	OUTSIDE	1.08	1.24	0.5	247	1251	326	
				1	247	1268	164	
SAV-16T	UPSTREAM	0.21	0.2	---	---	---	---	---
SAV-17T	CENTER	0.01	0.01	0.5	100	103	51	OVERHANGING TREES
				1	100	99	18	OVERHANGING TREES
SAV-17T	DOWNSTREAM	0.03	0.01	---	---	---	---	---
SAV-17T	OUTSIDE	0.02	0.02	0.5	140	134	64	OVERHANGING TREES
				1	140	152	26	OVERHANGING TREES
SAV-17T	UPSTREAM	0.01	0.04	---	---	---	---	---
SAV-18T	CENTER	0.04	0.09	0.5	162	1432	983	
				1	162	1260	437	
SAV-18T	DOWNSTREAM	0.06	0.06	---	---	---	---	---
SAV-18T	OUTSIDE	0.48	0.92	0.5	185	1056	723	
				1	185	1180	538	
SAV-18T	UPSTREAM	0.09	0.07	---	---	---	---	---
SAV-19T	CENTER	0.08	0.18	0.5	145	1731	532	IN VEG
				1	145	1729	261	IN VEG
SAV-19T	DOWNSTREAM	0.09	0.27	---	---	---	---	---
SAV-19T	OUTSIDE	0.71	1.23	0.5	200	1746	968	
				1	200	1748	493	
SAV-19T	UPSTREAM	0.13	0.25	---	---	---	---	---
SAV-20T	CENTER	0.03	0.02	0.5	100	894	163	
				1	100	556	31.7	

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Appendix H - Habitat Assessment Data (SAV - Current/Light Results)

Station ID	Measurement Location	Current Velocity		Light Availability Measurements				
		Height Above Substrate		Sensor Depth	Water Depth	AIR	UW	Notes
		10cm	100cm					
SAV-20T	DOWNSTREAM	0.03	0.03	---	---	---	---	---
SAV-20T	OUTSIDE	0.5	0.31	0.5	148	550	277	
				1	148	467	142	
SAV-20T	UPSTREAM	0.02	0.08	---	---	---	---	---
SAV-21T	CENTER	0.27	0.4	0.5	137	1272	397	
				1	137	1380	242	
SAV-21T	DOWNSTREAM	-999	-999	---	---	---	---	---
SAV-21T	OUTSIDE	0.73	1.03	0.5	187	1325	426	
				1	187	1320	230	
SAV-21T	UPSTREAM	0.2	-0.4	---	---	---	---	---
SAV-22T	CENTER	0.02	0.01	0.5	138	1500	721	
				1	138	1450	485	
SAV-22T	DOWNSTREAM	0.06	0.09	---	---	---	---	---
SAV-22T	OUTSIDE	0.04	0.05	0.5	201	1610	732	
				1	201	1555	525	
SAV-22T	UPSTREAM	0.02	-999	---	---	---	---	---
SAV-23T	CENTER	0	-999	0.5	94	1430	973	
				1	94	1410	623	bottom sample - 0.94m sensor depth
SAV-23T	DOWNSTREAM	-0.04	-0.01	---	---	---	---	---
SAV-23T	OUTSIDE	0	0.02	0.5	156	1510	955	
				1	156	1490	593	
SAV-23T	UPSTREAM	0.02	-999	---	---	---	---	---
SAV-24T	CENTER	0.17	0.27	0.5	95	1134	165	
				1	95	1132	97	bottom sample - 0.95m sensor depth
SAV-24T	DOWNSTREAM	0.14	0.25	---	---	---	---	---
SAV-24T	OUTSIDE	0.24	0.36	0.5	102	1283	737	
				1	102	1320	341	
SAV-24T	UPSTREAM	0.64	0.43	---	---	---	---	---
SAV-25T	CENTER	0.02	-999	0.5	92	270	77	CLOUDS
				1	92	285	23	CLOUDS; bottom sample - 0.92m sensor depth
SAV-25T	DOWNSTREAM	0.02	0.03	---	---	---	---	---
SAV-25T	OUTSIDE	0.02	0.02	0.5	170	621	220	CLOUDS
				1	170	503	108	CLOUDS
SAV-25T	UPSTREAM	0.02	0.02	---	---	---	---	---
SAV-26T	CENTER	0.01	0.03	0.5	125	246	26	IN TRAPA

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Appendix H - Habitat Assessment Data (SAV - Current/Light Results)

Station ID	Measurement Location	Current Velocity		Light Availability Measurements				
		Height Above Substrate		Sensor Depth	Water Depth	AIR	UW	Notes
		10cm	100cm					
SAV-26T	CENTER	0.01	0.03	1	125	245	8	IN TRAPA
SAV-26T	DOWNSTREAM	-999	0.02	----	----	----	----	----
SAV-26T	OUTSIDE	0.07	0.55	0.5	160	399	194	
				1	160	373	128	
SAV-26T	UPSTREAM	-999	-999	----	----	----	----	----

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Appendix H - Habitat Assessment Data (SAV-SSAP Grain Size)

Unconsolidated Bottom Samples			2002 - 2006 SSAP Grain Size Analyses															
Station Number	Northing	Easting	Core ID	Northing	Easting	Sample Type	Start Depth (in)	End Depth (in)	Clay	Silt	Fine Sand	Medium Sand	Coarse Sand	Gravel	Fines	Sand s	Coarse	Distance to Station (ft)
SAV-05T-2003-Q1	1599771.3	736738.5	RS1-9190-GP003	1599757.8	736651.2	GRAB	0	0	1.2	13	12.1	12.7	30.5	30.4	26.3	55.3	60.90	88.37
SAV-05T-2003-Q4	1599762.2	736681.6	RS1-9190-GP003	1599757.8	736651.2	GRAB	0	0	1.2	13	12.1	12.7	30.5	30.4	26.3	55.3	60.90	30.74
SAV-05T-2003-Q5	1599766.6	736715.8	RS1-9190-GP003	1599757.8	736651.2	GRAB	0	0	1.2	13	12.1	12.7	30.5	30.4	26.3	55.3	60.90	65.16
SAV-05T-2003-Q6	1599539.6	736853.6	RS1-9190-GP004	1599464.4	736824.5	GRAB	0	0	0.6	22.9	0.5	0.3	1.1	74.6	24	1.9	75.70	80.66
SAV-05T-2003-Q7	1599473.9	736902.8	RS1-9190-GP004	1599464.4	736824.5	GRAB	0	0	0.6	22.9	0.5	0.3	1.1	74.6	24	1.9	75.70	78.83
SAV-07T-2003-Q1	1593753.7	736688.9	RS1-9089-GP010	1593701	736671.7	CORE	0	1	4.2	5.4	34.1	2.1	1.9	52.2	43.7	38.1	54.10	55.43
SAV-07T-2003-Q7	1593161.7	736411.5	RS1-9089-GP016	1593098.9	736370.2	CORE	0	1	4.9	25.5	68.1	1.5	0	0	98.5	69.6	0.00	75.12
SAV-07T-2003-Q8	1593137.2	736420.3	RS1-9089-GP016	1593098.9	736370.2	CORE	0	1	4.9	25.5	68.1	1.5	0	0	98.5	69.6	0.00	63.09
SAV-07T-2003-Q9	1593051.0	736397.0	RS1-9089-CL033	1593018.6	736361.2	CORE	2	12	4.6	9.7	84.2	1.5	0	0	98.5	85.7	0.00	48.25
SAV-08T-2003-Q1	1565515.0	735809.9	RS2-8483-GP007	1565582	735826	GRAB	0	0	5.2	2.6	81.3	10.8	0.1	0	89.1	92.2	0.10	68.90
SAV-08T-2003-Q2	1565541.6	735824.9	RS2-8483-GP007	1565582	735826	GRAB	0	0	5.2	2.6	81.3	10.8	0.1	0	89.1	92.2	0.10	40.40
SAV-08T-2003-Q3	1565596.7	735823.3	RS2-8483-GP007	1565582	735826	GRAB	0	0	5.2	2.6	81.3	10.8	0.1	0	89.1	92.2	0.10	14.95
SAV-08T-2003-Q4	1565457.3	735829.4	RS2-8483-AR043	1565463.9	735928.1	CORE	2	12	1.7	18.7	6	53.6	18.4	1.6	26.4	78	20.00	98.87
SAV-08T-2003-Q5	1565486.2	735836.0	RS2-8483-AR043	1565463.9	735928.1	CORE	2	12	1.7	18.7	6	53.6	18.4	1.6	26.4	78	20.00	94.72
SAV-08T-2003-Q6	1565525.5	735852.0	RS2-8483-GP007	1565582	735826	GRAB	0	0	5.2	2.6	81.3	10.8	0.1	0	89.1	92.2	0.10	62.23
SAV-08T-2003-Q7	1565825.4	736277.5	RS2-8483-ET136	1565814.7	736257.8	CORE	2	12	18.2	32.5	44.9	4.4	0	0	95.6	49.3	0.00	22.48
SAV-08T-2003-Q8	1565806.7	736263.0	RS2-8483-ET136	1565814.7	736257.8	CORE	2	12	18.2	32.5	44.9	4.4	0	0	95.6	49.3	0.00	9.54
SAV-08T-2003-Q9	1565703.1	736327.2	RS2-8483-ET139	1565750.5	736297.5	CORE	2	12	18	22.7	48.5	9.4	0.4	1	89.2	58.3	1.40	55.91
SAV-09T-2003-Q5	1566986.1	735382.7	RS2-8483-ET047	1566989.8	735417.8	CORE	2	6	0	1.5	28.1	47.1	12.1	11.1	29.6	87.3	23.20	35.26
SAV-09T-2003-Q7	1567828.0	735271.8	RS2-8584-ET130	1567895.8	735221.5	CORE	2	12	20.8	54.1	23.9	1.1	0	0	98.8	25	0.00	84.43
SAV-09T-2003-Q8	1567853.9	735238.6	RS2-8584-ET130	1567895.8	735221.5	CORE	2	12	20.8	54.1	23.9	1.1	0	0	98.8	25	0.00	45.22
SAV-09T-2003-Q9	1567917.6	735217.9	RS2-8584-ET130	1567895.8	735221.5	CORE	2	12	20.8	54.1	23.9	1.1	0	0	98.8	25	0.00	22.05
SAV-10T-2005-Q1	1609680.6	733469.7	RS1-9493-GR116	1609647.2	733462.8	CORE	2	12	1.7	4.5	29.4	24.2	12.9	27.3	35.6	66.5	40.20	34.08
SAV-10T-2005-Q13	1609352.6	733198.8	RS1-9392-GP001	1609329.4	733122.9	CORE	0	1	3.4	17.7	74.5	4.2	0.1	0	95.6	78.8	0.10	79.35
SAV-10T-2005-Q16	1609115.1	733103.8	RS1-9392-WT059	1609092.1	733138.2	CORE	2	12	1.4	5.6	16.9	26.8	15.4	33.9	23.9	59.1	49.30	41.44
SAV-10T-2005-Q17	1609044.2	733050.5	RS1-9392-WT058	1609090.3	733064.6	CORE	2	12	0.2	3.9	43.1	25.7	6.2	20.9	47.2	75	27.10	48.15
SAV-10T-2005-Q18	1609083.9	733007.4	RS1-9392-GP004	1609061.6	733000.4	CORE	0	1	1.4	7.3	77	11.6	2.4	0.3	85.7	91	2.70	23.35
SAV-10T-2005-Q2	1609643.4	733451.9	RS1-9493-GR116	1609647.2	733462.8	CORE	2	12	1.7	4.5	29.4	24.2	12.9	27.3	35.6	66.5	40.20	11.52
SAV-10T-2005-Q3	1609594.5	733424.7	RS1-9493-GR116	1609647.2	733462.8	CORE	2	12	1.7	4.5	29.4	24.2	12.9	27.3	35.6	66.5	40.20	64.98
SAV-10T-2005-Q4	1609658.1	733301.9	RS1-9493-GP024	1609731.7	733365.1	CORE	0	1	6.9	12.2	68.3	8.1	4.5	0	87.4	80.9	4.50	97.05

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Appendix H - Habitat Assessment Data (SAV-SSAP Grain Size)

Unconsolidated Bottom Samples			2002 - 2006 SSAP Grain Size Analyses															
Station Number	Northing	Easting	Core ID	Northing	Easting	Sample Type	Start Depth (in)	End Depth (in)	Clay	Silt	Fine Sand	Medium Sand	Coarse Sand	Gravel	Fines	Sand s	Coarse	Distance to Station (ft)
SAV-10T-2005-Q5	1609567.2	733405.2	RS1-9493-GR116	1609647.2	733462.8	CORE	2	12	1.7	4.5	29.4	24.2	12.9	27.3	35.6	66.5	40.20	98.58
SAV-10T-2006-Q18	1609474.9	733238.8	RS1-9392-AB001	1609505.2	733145.2	CORE	2	12	12.1	25	55.6	6.7	0.6	0	92.7	62.9	0.60	98.42
SAV-10T-2006-Q7	1609666.1	733318.7	RS1-9493-GP024	1609731.7	733365.1	CORE	0	1	6.9	12.2	68.3	8.1	4.5	0	87.4	80.9	4.50	80.35
SAV-10T-2006-Q8	1609659.0	733337.1	RS1-9493-GP024	1609731.7	733365.1	CORE	0	1	6.9	12.2	68.3	8.1	4.5	0	87.4	80.9	4.50	77.87
SAV-10T-2006-Q9	1609679.5	733357.0	RS1-9493-GP024	1609731.7	733365.1	CORE	0	1	6.9	12.2	68.3	8.1	4.5	0	87.4	80.9	4.50	52.80
SAV-11T-2005-Q10	1607997.7	732357.9	RS1-9392-GP012	1607975.8	732370.5	CORE	0	1	6.6	30.5	54.6	6.8	1.1	0.5	91.7	62.5	1.60	25.31
SAV-11T-2005-Q11	1607990.0	732486.9	RS1-9392-WT184	1607909	732463.5	CORE	2	12	0.4	7.2	45.6	22	11.9	12.8	53.2	79.5	24.70	84.28
SAV-11T-2005-Q12	1607922.2	732454.6	RS1-9392-WT184	1607909	732463.5	CORE	2	12	0.4	7.2	45.6	22	11.9	12.8	53.2	79.5	24.70	15.94
SAV-11T-2005-Q13	1607847.4	732439.9	RS1-9392-WT184	1607909	732463.5	CORE	2	12	0.4	7.2	45.6	22	11.9	12.8	53.2	79.5	24.70	65.98
SAV-11T-2005-Q17	1607382.2	732311.4	RS1-9392-GP013	1607456.7	732334.1	CORE	0	1	3.4	12.4	29	9.1	9.7	36.5	44.8	47.8	46.20	77.80
SAV-11T-2005-Q3	1608393.4	732444.2	RS1-9392-GP010	1608326.7	732474.4	CORE	0	1	3.3	45.3	49.1	2.3	0.1	0	97.7	51.5	0.10	73.30
SAV-11T-2005-Q5	1608247.6	732503.0	RS1-9392-WT152	1608184.8	732466.6	CORE	2	12	9.1	20.1	65.3	4.6	0.7	0.2	94.5	70.6	0.90	72.51
SAV-11T-2005-Q6	1608252.7	732396.0	RS1-9392-WT152	1608184.8	732466.6	CORE	2	12	9.1	20.1	65.3	4.6	0.7	0.2	94.5	70.6	0.90	97.88
SAV-11T-2005-Q7	1608114.7	732486.3	RS1-9392-WT152	1608184.8	732466.6	CORE	2	12	9.1	20.1	65.3	4.6	0.7	0.2	94.5	70.6	0.90	72.88
SAV-11T-2005-Q8	1608077.5	732466.1	RS1-9392-WT168	1608053.3	732380.3	CORE	2	12	0.5	9	5.1	21.6	17.6	46.2	14.6	44.3	63.80	89.20
SAV-11T-2005-Q9	1608110.8	732309.4	RS1-9392-WT168	1608053.3	732380.3	CORE	2	12	0.5	9	5.1	21.6	17.6	46.2	14.6	44.3	63.80	91.20
SAV-12R-2005-Q9	1593067.1	736852.7	RS1-9089-GP017	1593022.3	736829.4	CORE	0	1	9.1	41.8	47.7	1.5	0	0	98.6	49.2	0.00	50.47
SAV-13T-Q6	1603690.2	734647.1	RS1-9291-GP008	1603672.4	734713	GRAB	0	0	2.9	2.5	83.9	9.3	0.7	0.7	89.3	93.9	1.40	68.28
SAV-14R-2005-Q2	1589851.5	735722.3	RS1-8988-GP004	1589806.1	735702.8	CORE	0	1	2.1	10.9	8.7	4.5	6.2	67.6	21.7	19.4	73.80	49.38
SAV-14R-2005-Q4	1589647.6	735641.3	RS1-8988-GP005	1589729.6	735674.8	CORE	0	1	1.2	2.9	25.3	29.7	11.1	29.9	29.4	66.1	41.00	88.58
SAV-14T-2005-Q1	1601869.8	735514.6	RS1-9291-AR285	1601883.1	735478.1	CORE	2	12	11.4	51.3	36.1	1.1	0	0	98.8	37.2	0.00	38.85
SAV-14T-2005-Q2	1601824.4	735509.9	RS1-9291-AR285	1601883.1	735478.1	CORE	2	12	11.4	51.3	36.1	1.1	0	0	98.8	37.2	0.00	66.82
SAV-14T-2005-Q4	1601780.6	735601.4	RS1-9291-AR082	1601852.8	735643.2	CORE	2	12	3.3	2.8	87.1	6.1	0.4	0.3	93.2	93.6	0.70	83.38
SAV-14T-2005-Q5	1601620.6	735573.8	RS1-9291-AR291	1601603.7	735627.1	CORE	2	12	5.5	31.3	62.6	0.5	0	0	99.4	63.1	0.00	55.92
SAV-14T-2005-Q8	1601897.1	735473.8	RS1-9291-AR285	1601883.1	735478.1	CORE	2	12	11.4	51.3	36.1	1.1	0	0	98.8	37.2	0.00	14.62
SAV-14T-2005-Q9	1601941.9	735487.5	RS1-9291-AR285	1601883.1	735478.1	CORE	2	12	11.4	51.3	36.1	1.1	0	0	98.8	37.2	0.00	59.54
SAV-16T-2005-Q1	1588954.4	735585.1	RS1-8988-GP011	1588922.4	735646.3	CORE	0	1	4.3	4.8	42.7	17.1	8	23.1	51.8	67.8	31.10	69.04
SAV-16T-2005-Q2	1588954.7	735591.5	RS1-8988-GP011	1588922.4	735646.3	CORE	0	1	4.3	4.8	42.7	17.1	8	23.1	51.8	67.8	31.10	63.58
SAV-16T-2005-Q3	1588953.0	735597.2	RS1-8988-GP011	1588922.4	735646.3	CORE	0	1	4.3	4.8	42.7	17.1	8	23.1	51.8	67.8	31.10	57.89
SAV-16T-2005-Q4	1588935.4	735595.9	RS1-8988-GP011	1588922.4	735646.3	CORE	0	1	4.3	4.8	42.7	17.1	8	23.1	51.8	67.8	31.10	52.09

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Appendix H - Habitat Assessment Data (SAV-SSAP Grain Size)

Unconsolidated Bottom Samples			2002 - 2006 SSAP Grain Size Analyses															
Station Number	Northing	Easting	Core ID	Northing	Easting	Sample Type	Start Depth (in)	End Depth (in)	Clay	Silt	Fine Sand	Medium Sand	Coarse Sand	Gravel	Fines	Sand s	Coarse	Distance to Station (ft)
SAV-16T-2005-Q5	1588922.3	735598.3	RS1-8988-GP011	1588922.4	735646.3	CORE	0	1	4.3	4.8	42.7	17.1	8	23.1	51.8	67.8	31.10	47.98
SAV-16T-2005-Q6	1588668.2	735667.5	RS1-8988-CL005	1588730.8	735702.5	CORE	2	12	4.8	3.9	70.1	17.9	2.7	0.6	78.8	90.7	3.30	71.72
SAV-16T-2005-Q7	1588634.6	735681.1	RS1-8988-CL005	1588730.8	735702.5	CORE	2	12	4.8	3.9	70.1	17.9	2.7	0.6	78.8	90.7	3.30	98.59
SAV-17T-Q1	1592533.8	736843.9	RS1-9089-AR262	1592530.8	736838	CORE	2	12	4.1	53.7	38.6	1.2	0.5	1.9	96.4	40.3	2.40	6.67
SAV-17T-Q2	1592575.1	736832.8	RS1-9089-AR262	1592530.8	736838	CORE	2	12	4.1	53.7	38.6	1.2	0.5	1.9	96.4	40.3	2.40	44.54
SAV-17T-Q3	1592623.3	736829.6	RS1-9089-AR262	1592530.8	736838	CORE	2	12	4.1	53.7	38.6	1.2	0.5	1.9	96.4	40.3	2.40	92.82
SAV-17T-Q7	1592882.0	736848.1	RS1-9089-ET228	1592947.2	736859.6	CORE	2	12	3.3	32.7	58.5	4.5	0.6	0.3	94.5	63.6	0.90	66.21
SAV-17T-Q8	1592918.8	736843.6	RS1-9089-ET228	1592947.2	736859.6	CORE	2	12	3.3	32.7	58.5	4.5	0.6	0.3	94.5	63.6	0.90	32.65
SAV-17T-Q9	1593013.2	736857.1	RS1-9089-GP017	1593022.3	736829.4	CORE	0	1	9.1	41.8	47.7	1.5	0	0	98.6	49.2	0.00	29.17
SAV-18T-Q1	1590210.2	736398.9	RS1-8988-GP002	1590270.5	736413.7	CORE	0	1	11.1	66.1	18.4	3.8	0	0.6	95.6	22.2	0.60	62.06
SAV-18T-Q2	1590181.8	736391.3	RS1-8988-GP002	1590270.5	736413.7	CORE	0	1	11.1	66.1	18.4	3.8	0	0.6	95.6	22.2	0.60	91.45
SAV-19T-Q7	1583732.6	736231.3	RS2-8887-CL001	1583816.8	736248.8	CORE	2	12	5.4	13	74.2	7.2	0.3	0	92.6	81.7	0.30	86.06
SAV-19T-Q8	1583811.1	736259.0	RS2-8887-CL001	1583816.8	736248.8	CORE	2	12	5.4	13	74.2	7.2	0.3	0	92.6	81.7	0.30	11.71
SAV-19T-Q9	1583891.4	736292.8	RS2-8887-GP015	1583886.1	736295.6	CORE	0	1	6.2	3.7	56.5	16.5	5.8	11.4	66.4	78.8	17.20	6.03
SAV-20T-Q1	1577063.4	737946.9	RS2-8685-GP001	1577079.3	737956.9	CORE	0	1	9.8	63.6	23.7	2.9	0	0	97.1	26.6	0.00	18.82
SAV-20T-Q10	1577077.5	737980.2	RS2-8685-GP001	1577079.3	737956.9	CORE	0	1	9.8	63.6	23.7	2.9	0	0	97.1	26.6	0.00	23.36
SAV-20T-Q11	1577098.4	737967.9	RS2-8685-GP001	1577079.3	737956.9	CORE	0	1	9.8	63.6	23.7	2.9	0	0	97.1	26.6	0.00	22.05
SAV-20T-Q12	1577130.4	737969.5	RS2-8685-GP001	1577079.3	737956.9	CORE	0	1	9.8	63.6	23.7	2.9	0	0	97.1	26.6	0.00	52.62
SAV-20T-Q13	1577146.2	737955.8	RS2-8685-GP001	1577079.3	737956.9	CORE	0	1	9.8	63.6	23.7	2.9	0	0	97.1	26.6	0.00	66.88
SAV-20T-Q14	1577165.4	737941.6	RS2-8685-GP001	1577079.3	737956.9	CORE	0	1	9.8	63.6	23.7	2.9	0	0	97.1	26.6	0.00	87.50
SAV-20T-Q15	1577168.2	737949.7	RS2-8685-GP001	1577079.3	737956.9	CORE	0	1	9.8	63.6	23.7	2.9	0	0	97.1	26.6	0.00	89.20
SAV-20T-Q16	1577336.7	737818.3	RS2-8685-CL002	1577244.4	737840.2	CORE	2	12	25.5	52.6	20.6	1.3	0	0	98.7	21.9	0.00	94.79
SAV-20T-Q18	1577321.6	737780.2	RS2-8685-CL002	1577244.4	737840.2	CORE	2	12	25.5	52.6	20.6	1.3	0	0	98.7	21.9	0.00	97.66
SAV-20T-Q2	1577080.9	737936.5	RS2-8685-GP001	1577079.3	737956.9	CORE	0	1	9.8	63.6	23.7	2.9	0	0	97.1	26.6	0.00	20.49
SAV-20T-Q3	1577104.1	737938.8	RS2-8685-GP001	1577079.3	737956.9	CORE	0	1	9.8	63.6	23.7	2.9	0	0	97.1	26.6	0.00	30.71
SAV-20T-Q4	1577132.5	737930.9	RS2-8685-GP001	1577079.3	737956.9	CORE	0	1	9.8	63.6	23.7	2.9	0	0	97.1	26.6	0.00	59.25
SAV-20T-Q5	1577146.4	737902.1	RS2-8685-GP001	1577079.3	737956.9	CORE	0	1	9.8	63.6	23.7	2.9	0	0	97.1	26.6	0.00	86.61
SAV-20T-Q6	1577148.1	737926.9	RS2-8685-GP001	1577079.3	737956.9	CORE	0	1	9.8	63.6	23.7	2.9	0	0	97.1	26.6	0.00	75.08
SAV-20T-Q7	1577321.8	737803.4	RS2-8685-CL002	1577244.4	737840.2	CORE	2	12	25.5	52.6	20.6	1.3	0	0	98.7	21.9	0.00	85.62
SAV-20T-Q9	1577309.0	737794.9	RS2-8685-CL002	1577244.4	737840.2	CORE	2	12	25.5	52.6	20.6	1.3	0	0	98.7	21.9	0.00	78.82

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Appendix H - Habitat Assessment Data (SAV-SSAP Grain Size)

Unconsolidated Bottom Samples			2002 - 2006 SSAP Grain Size Analyses															
Station Number	Northing	Easting	Core ID	Northing	Easting	Sample Type	Start Depth (in)	End Depth (in)	Clay	Silt	Fine Sand	Medium Sand	Coarse Sand	Gravel	Fines	Sand s	Coarse	Distance to Station (ft)
SAV-21T-Q11	1569042.1	735094.5	RS2-8584-ES098	1569007.6	735053.9	CORE	2	12	32.4	52.1	14.1	1.3	0	0	98.6	15.4	0.00	53.33
SAV-21T-Q12	1568977.9	735090.7	RS2-8584-ES098	1569007.6	735053.9	CORE	2	12	32.4	52.1	14.1	1.3	0	0	98.6	15.4	0.00	47.32
SAV-21T-Q3	1569023.2	735102.9	RS2-8584-ES098	1569007.6	735053.9	CORE	2	12	32.4	52.1	14.1	1.3	0	0	98.6	15.4	0.00	51.40
SAV-21T-Q4	1569062.0	735103.8	RS2-8584-ES098	1569007.6	735053.9	CORE	2	12	32.4	52.1	14.1	1.3	0	0	98.6	15.4	0.00	73.84
SAV-21T-Q5	1568941.7	735095.3	RS2-8584-ES098	1569007.6	735053.9	CORE	2	12	32.4	52.1	14.1	1.3	0	0	98.6	15.4	0.00	77.83
SAV-22T-Q1	1540167.4	738944.4	RS3-7978-VT213	1540209	738952	CORE	2	12	23.6	68.6	6.4	1.2	0.1	0.2	98.6	7.7	0.30	42.33
SAV-22T-Q2	1540193.1	738961.3	RS3-7978-VT213	1540209	738952	CORE	2	12	23.6	68.6	6.4	1.2	0.1	0.2	98.6	7.7	0.30	18.46
SAV-22T-Q3	1540211.1	738950.3	RS3-7978-VT213	1540209	738952	CORE	2	12	23.6	68.6	6.4	1.2	0.1	0.2	98.6	7.7	0.30	2.68
SAV-22T-Q4	1540241.0	738976.3	RS3-7978-VT213	1540209	738952	CORE	2	12	23.6	68.6	6.4	1.2	0.1	0.2	98.6	7.7	0.30	40.23
SAV-22T-Q5	1540250.4	738952.9	RS3-7978-VT213	1540209	738952	CORE	2	12	23.6	68.6	6.4	1.2	0.1	0.2	98.6	7.7	0.30	41.40
SAV-22T-Q6	1540307.8	738972.9	RS3-7978-AR018	1540338.8	738903.4	CORE	2	12	11	41.7	46.1	1.1	0	0	98.8	47.2	0.00	76.10
SAV-22T-Q7	1540336.0	738978.4	RS3-7978-AR018	1540338.8	738903.4	CORE	2	12	11	41.7	46.1	1.1	0	0	98.8	47.2	0.00	75.06
SAV-22T-Q8	1540366.0	738988.8	RS3-7978-AR018	1540338.8	738903.4	CORE	2	12	11	41.7	46.1	1.1	0	0	98.8	47.2	0.00	89.56
SAV-22T-Q9	1540395.4	738986.0	RS3-7978-LW017	1540431.2	738913.9	CORE	2	12	10.9	51.9	36.3	0.9	0	0	99.1	37.2	0.00	80.56
SAV-23T-Q8	1538031.1	736747.4	RS3-7877-AR005	1538124.9	736773.0	CORE	2	12	10.9	48.9	37.7	2.6	0	0	97.5	40.3	0.00	97.27
SAV-23T-Q9	1538061.8	736755.1	RS3-7877-AR005	1538124.9	736773.0	CORE	2	12	10.9	48.9	37.7	2.6	0	0	97.5	40.3	0.00	65.55
SAV-25T-Q7	1528106.6	735532.0	RS3-7675-AR014	1528063.4	735597.9	CORE	2	12	17.5	61.4	19.3	1.8	0	0	98.2	21.1	0.00	78.78
SAV-25T-Q8	1528087.0	735517.3	RS3-7675-AR014	1528063.4	735597.9	CORE	2	12	17.5	61.4	19.3	1.8	0	0	98.2	21.1	0.00	83.93
SAV-25T-Q9	1528077.5	735527.5	RS3-7675-AR014	1528063.4	735597.9	CORE	2	12	17.5	61.4	19.3	1.8	0	0	98.2	21.1	0.00	71.74
SAV-26T-Q11	1500699.0	725251.3	RS3-7069-LW012	1500758.2	725258	CORE	2	12	22.7	46	28.3	3	0.1	0	97	31.4	0.10	59.57
SAV-26T-Q12	1500733.3	725257.1	RS3-7069-LW012	1500758.2	725258	CORE	2	12	22.7	46	28.3	3	0.1	0	97	31.4	0.10	24.83
SAV-26T-Q13	1500782.3	725274.8	RS3-7069-LW012	1500758.2	725258	CORE	2	12	22.7	46	28.3	3	0.1	0	97	31.4	0.10	29.48
SAV-26T-Q15	1501372.6	725293.7	RS3-7069-LW004	1501313.1	725255.8	CORE	2	12	15.9	28.9	51.7	3.5	0	0	96.5	55.2	0.00	70.54
SAV-26T-Q2	1499092.0	724610.9	RS3-7069-VT212	1499013.7	724662.6	CORE	2	12	20.7	52.6	22.2	1.3	0.1	3.1	95.5	23.6	3.20	93.88
SAV-26T-Q3	1499034.0	724612.3	RS3-7069-VT212	1499013.7	724662.6	CORE	2	12	20.7	52.6	22.2	1.3	0.1	3.1	95.5	23.6	3.20	54.20
SAV-26T-Q4	1499100.1	724661.5	RS3-7069-VT212	1499013.7	724662.6	CORE	2	12	20.7	52.6	22.2	1.3	0.1	3.1	95.5	23.6	3.20	86.42
SAV-26T-Q6	1499072.3	724631.1	RS3-7069-VT212	1499013.7	724662.6	CORE	2	12	20.7	52.6	22.2	1.3	0.1	3.1	95.5	23.6	3.20	66.58
SAV-26T-Q7	1500498.5	725218.5	RS3-7069-LW015	1500482.6	725258.1	CORE	2	12	18.3	37	42.5	2.2	0	0	97.8	44.7	0.00	42.69
SAV-26T-Q8	1500546.1	725230.4	RS3-7069-LW015	1500482.6	725258.1	CORE	2	12	18.3	37	42.5	2.2	0	0	97.8	44.7	0.00	69.25

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Appendix H - Habitat Assessment Data (SAV-SSAP Grain Size)

Unconsolidated Bottom Samples			2002 - 2006 SSAP Grain Size Analyses															
Station Number	Northing	Easting	Core ID	Northing	Easting	Sample Type	Start Depth (in)	End Depth (in)	Clay	Silt	Fine Sand	Medium Sand	Coarse Sand	Gravel	Fines	Sands	Coarse	Distance to Station (ft)

Notes:

- All grain size data is in percent
- All SSAP data based on 2/14/2006 version of QEA export.
- Coordinates are in NAD83 NY State Plane East (feet)
- SSAP grain size analysis samples greater than 100 feet from station are not listed.
- Fines = % clay + % silt + % fine sand
- Sands = % fine sand + % medium sand + % coarse sand
- Coarse = % coarse sand + % gravel

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Appendix H - Habitat Assessment Data (SAV - Station Specific Results)

Station ID	Depth (cm)	Percent Cover	K (mg/L)	PO4 (mg/L)	NH4 (mg/L)
RS1-9089-SAV381-2008	55	30	NS	NS	NS
SAV-05T-2003-Q1	144	80	18.2	9.1	5.1
SAV-05T-2003-Q2	73	60	NS	NS	NS
SAV-05T-2003-Q3	70	80	NS	NS	NS
SAV-05T-2003-Q4	200	70	26.2	31.8	7.4
SAV-05T-2003-Q5	95	90	NS	NS	NS
SAV-05T-2003-Q6	209	60	NS	NS	NS
SAV-05T-2003-Q7	235	80	NS	NS	NS
SAV-05T-2003-Q8	190	50	NS	NS	NS
SAV-05T-2003-Q9	80	40	NS	NS	NS
SAV-07T-2003-Q1	126	70	43.2	71.4	11.7
SAV-07T-2003-Q2	70	60	29.6	30.3	12.0
SAV-07T-2003-Q3	194	90	23.5	27.5	5.9
SAV-07T-2003-Q4	64	80	NS	NS	NS
SAV-07T-2003-Q5	234	50	NS	NS	NS
SAV-07T-2003-Q6	67	60	NS	NS	NS
SAV-07T-2003-Q7	57	90	NS	NS	NS
SAV-07T-2003-Q8	243	80	NS	NS	NS
SAV-07T-2003-Q9	161	80	NS	NS	NS
SAV-08T-2003-Q1	52	80	27.4	28.2	9.1
SAV-08T-2003-Q2	57	80	NS	NS	NS
SAV-08T-2003-Q3	36	50	NS	NS	NS
SAV-08T-2003-Q4	115	50	NS	NS	NS
SAV-08T-2003-Q5	117	60	NS	NS	NS
SAV-08T-2003-Q6	171	60	37.7	26.0	12.8
SAV-08T-2003-Q7	171	60	28.6	43.3	7.9
SAV-08T-2003-Q8	127	50	NS	NS	NS
SAV-08T-2003-Q9	61	90	NS	NS	NS
SAV-09T-2003-Q1	45	90	59.2	29.4	33.1
SAV-09T-2003-Q2	169	70	68.2	33.9	16.3
SAV-09T-2003-Q3	174	40	NS	NS	NS
SAV-09T-2003-Q4	87	70	NS	NS	NS
SAV-09T-2003-Q5	137	30	15.8	12.2	2.4
SAV-09T-2003-Q6	97	70	NS	NS	NS
SAV-09T-2003-Q7	55	30	35.5	45.6	6.5
SAV-09T-2003-Q8	150	40	NS	NS	NS
SAV-09T-2003-Q9	150	30	NS	NS	NS
SAV-10T-2005-Q1	160	90	NS	NS	NS
SAV-10T-2005-Q10	125	90	NS	NS	NS
SAV-10T-2005-Q11	104	90	NS	NS	NS
SAV-10T-2005-Q12	105	80	NS	NS	NS
SAV-10T-2005-Q13	105	90	NS	NS	NS

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Appendix H - Habitat Assessment Data (SAV - Station Specific Results)

Station ID	Depth (cm)	Percent Cover	K (mg/L)	PO4 (mg/L)	NH4 (mg/L)
SAV-10T-2005-Q14	200	60	NS	NS	NS
SAV-10T-2005-Q15	148	70	NS	NS	NS
SAV-10T-2005-Q16	213	100	NS	NS	NS
SAV-10T-2005-Q17	202	90	NS	NS	NS
SAV-10T-2005-Q18	163	50	NS	NS	NS
SAV-10T-2005-Q2	172	90	11.5	18.6	17.4
SAV-10T-2005-Q3	178	80	NS	NS	NS
SAV-10T-2005-Q4	45	90	33.3	94.6	13.1
SAV-10T-2005-Q5	175	80	NS	NS	NS
SAV-10T-2005-Q6	175	70	NS	NS	NS
SAV-10T-2005-Q7	175	90	NS	NS	NS
SAV-10T-2005-Q8	164	60	NS	NS	NS
SAV-10T-2005-Q9	65	60	NS	NS	NS
SAV-10T-2006-Q1	52	10	NS	NS	NS
SAV-10T-2006-Q10	146	10	NS	NS	NS
SAV-10T-2006-Q11	140	10	NS	NS	NS
SAV-10T-2006-Q12	146	10	NS	NS	NS
SAV-10T-2006-Q13	186	10	NS	NS	NS
SAV-10T-2006-Q14	116	60	NS	NS	NS
SAV-10T-2006-Q15	161	40	NS	NS	NS
SAV-10T-2006-Q16	106	50	NS	NS	NS
SAV-10T-2006-Q17	116	20	NS	NS	NS
SAV-10T-2006-Q18	97	40	NS	NS	NS
SAV-10T-2006-Q2	49	10	NS	NS	NS
SAV-10T-2006-Q3	52	20	NS	NS	NS
SAV-10T-2006-Q4	58	10	NS	NS	NS
SAV-10T-2006-Q5	88	40	NS	NS	NS
SAV-10T-2006-Q6	67	20	NS	NS	NS
SAV-10T-2006-Q7	101	40	NS	NS	NS
SAV-10T-2006-Q8	91	20	NS	NS	NS
SAV-10T-2006-Q9	94	10	NS	NS	NS
SAV-11T-2005-Q1	180	100	NS	NS	NS
SAV-11T-2005-Q10	84	80	NS	NS	NS
SAV-11T-2005-Q11	197	80	NS	NS	NS
SAV-11T-2005-Q12	225	80	NS	NS	NS
SAV-11T-2005-Q13	174	70	NS	NS	NS
SAV-11T-2005-Q14	214	80	21.6	147.1	32.9
SAV-11T-2005-Q15	168	60	NS	NS	NS
SAV-11T-2005-Q16	220	50	NS	NS	NS
SAV-11T-2005-Q17	85	100	19.1	5.3	15.0
SAV-11T-2005-Q18	127	100	NS	NS	NS
SAV-11T-2005-Q2	200	30	17.4	83.8	22.8

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Appendix H - Habitat Assessment Data (SAV - Station Specific Results)

Station ID	Depth (cm)	Percent Cover	K (mg/L)	PO4 (mg/L)	NH4 (mg/L)
SAV-11T-2005-Q3	124	80	NS	NS	NS
SAV-11T-2005-Q4	190	100	NS	NS	NS
SAV-11T-2005-Q5	195	100	NS	NS	NS
SAV-11T-2005-Q6	142	90	NS	NS	NS
SAV-11T-2005-Q7	225	100	NS	NS	NS
SAV-11T-2005-Q8	208	50	NS	NS	NS
SAV-11T-2005-Q9	115	80	NS	NS	NS
SAV-12R-2005-Q1	183	60	NS	NS	NS
SAV-12R-2005-Q2	157	100	NS	NS	NS
SAV-12R-2005-Q3	148	100	27.6	26.0	17.1
SAV-12R-2005-Q4	181	90	NS	NS	NS
SAV-12R-2005-Q5	181	50	NS	NS	NS
SAV-12R-2005-Q6	183	70	NS	NS	NS
SAV-12R-2005-Q7	75	70	NS	NS	NS
SAV-12R-2005-Q8	125	20	13.5	52.4	21.2
SAV-12R-2005-Q9	58	40	NS	NS	NS
SAV-12T-Q1	129	70	NS	NS	NS
SAV-12T-Q2	115	60	9.2	17.0	18.4
SAV-12T-Q3	155	70	NS	NS	NS
SAV-12T-Q4	140	90	NS	NS	NS
SAV-12T-Q5	195	40	12.5	15.3	18.4
SAV-12T-Q6	157	70	NS	NS	NS
SAV-12T-Q7	154	80	NS	NS	NS
SAV-12T-Q8	106	70	11.6	13.3	20.3
SAV-12T-Q9	110	90	NS	NS	NS
SAV-13R-2006-Q1	179	50	NS	NS	NS
SAV-13R-2006-Q2	146	60	NS	NS	NS
SAV-13R-2006-Q3	141	60	NS	NS	NS
SAV-13R-2006-Q4	233	50	NS	NS	NS
SAV-13R-2006-Q5	123	30	NS	NS	NS
SAV-13R-2006-Q6	201	40	NS	NS	NS
SAV-13R-2006-Q7	214	30	NS	NS	NS
SAV-13R-2006-Q8	195	20	NS	NS	NS
SAV-13R-2006-Q9	92	50	NS	NS	NS
SAV-13T-Q1	105	90	10.9	4.9	17.4
SAV-13T-Q2	125	100	NS	NS	NS
SAV-13T-Q3	125	100	NS	NS	NS
SAV-13T-Q4	80	10	20.2	17.7	24.2
SAV-13T-Q5	145	80	NS	NS	NS
SAV-13T-Q6	150	60	NS	NS	NS
SAV-13T-Q7	255	70	12.3	15.9	16.0
SAV-13T-Q8	146	80	NS	NS	NS

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Appendix H - Habitat Assessment Data (SAV - Station Specific Results)

Station ID	Depth (cm)	Percent Cover	K (mg/L)	PO4 (mg/L)	NH4 (mg/L)
SAV-13T-Q9	128	90	NS	NS	NS
SAV-14R-2005-Q1	219	90	50.4	15.2	7.1
SAV-14R-2005-Q2	327	40	NS	NS	NS
SAV-14R-2005-Q3	201	100	NS	NS	NS
SAV-14R-2005-Q4	115	80	NS	NS	NS
SAV-14R-2005-Q5	212	80	NS	NS	NS
SAV-14R-2005-Q6	145	100	22.0	34.0	-6.7
SAV-14R-2005-Q7	186	90	18.0	59.8	-6.7
SAV-14R-2005-Q8	181	100	NS	NS	NS
SAV-14R-2005-Q9	192	70	NS	NS	NS
SAV-14T-2005-Q1	150	40	NS	NS	NS
SAV-14T-2005-Q2	100	70	NS	NS	NS
SAV-14T-2005-Q3	90	40	NS	NS	NS
SAV-14T-2005-Q4	165	60	NS	NS	NS
SAV-14T-2005-Q5	50	30	NS	NS	NS
SAV-14T-2005-Q6	110	90	NS	NS	NS
SAV-14T-2005-Q7	160	60	NS	NS	NS
SAV-14T-2005-Q8	85	90	89.4	35.6	41.5
SAV-14T-2005-Q9	165	40	36.7	11.6	32.4
SAV-15T-Q1	65	30	29.1	15.8	25.3
SAV-15T-Q2	100	60	NS	NS	NS
SAV-15T-Q3	150	40	NS	NS	NS
SAV-15T-Q4	170	20	NS	NS	NS
SAV-15T-Q5	130	80	NS	NS	NS
SAV-15T-Q6	165	90	41.9	40.9	35.3
SAV-15T-Q7	120	90	NS	NS	NS
SAV-15T-Q8	90	90	NS	NS	NS
SAV-15T-Q9	180	100	NS	NS	NS
SAV-16T-2005-Q1	133	60	NS	NS	NS
SAV-16T-2005-Q2	91	90	NS	NS	NS
SAV-16T-2005-Q3	112	60	NS	NS	NS
SAV-16T-2005-Q4	97	50	NS	NS	NS
SAV-16T-2005-Q5	100	70	NS	NS	NS
SAV-16T-2005-Q6	128	20	NS	NS	NS
SAV-16T-2005-Q7	89	30	NS	NS	NS
SAV-16T-2005-Q8	132	30	NS	NS	NS
SAV-16T-2005-Q9	95	50	NS	NS	NS
SAV-17T-Q1	109	20	NS	NS	NS
SAV-17T-Q2	106	20	NS	NS	NS
SAV-17T-Q3	112	10	NS	NS	NS
SAV-17T-Q4	101	40	NS	NS	NS
SAV-17T-Q5	87	40	NS	NS	NS

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Appendix H - Habitat Assessment Data (SAV - Station Specific Results)

Station ID	Depth (cm)	Percent Cover	K (mg/L)	PO4 (mg/L)	NH4 (mg/L)
SAV-17T-Q6	82	10	NS	NS	NS
SAV-17T-Q7	87	70	NS	NS	NS
SAV-17T-Q8	105	30	NS	NS	NS
SAV-17T-Q9	141	40	NS	NS	NS
SAV-18T-Q1	79	40	NS	NS	NS
SAV-18T-Q2	82	40	NS	NS	NS
SAV-18T-Q3	111	50	NS	NS	NS
SAV-18T-Q4	134	30	NS	NS	NS
SAV-18T-Q5	136	30	NS	NS	NS
SAV-18T-Q6	154	30	NS	NS	NS
SAV-18T-Q7	207	40	NS	NS	NS
SAV-18T-Q8	202	40	NS	NS	NS
SAV-18T-Q9	184	30	NS	NS	NS
SAV-19T-Q1	141	40	NS	NS	NS
SAV-19T-Q2	153	30	NS	NS	NS
SAV-19T-Q3	160	60	NS	NS	NS
SAV-19T-Q4	176	50	NS	NS	NS
SAV-19T-Q5	201	30	NS	NS	NS
SAV-19T-Q6	199	50	NS	NS	NS
SAV-19T-Q7	143	80	NS	NS	NS
SAV-19T-Q8	155	40	NS	NS	NS
SAV-19T-Q9	150	50	NS	NS	NS
SAV-20T-Q1	102	60	NS	NS	NS
SAV-20T-Q10	87	70	NS	NS	NS
SAV-20T-Q11	90	40	NS	NS	NS
SAV-20T-Q12	72	100	NS	NS	NS
SAV-20T-Q13	89	40	NS	NS	NS
SAV-20T-Q14	129	20	NS	NS	NS
SAV-20T-Q15	102	40	NS	NS	NS
SAV-20T-Q16	90	70	NS	NS	NS
SAV-20T-Q17	110	30	NS	NS	NS
SAV-20T-Q18	158	20	NS	NS	NS
SAV-20T-Q2	93	70	NS	NS	NS
SAV-20T-Q3	98	30	NS	NS	NS
SAV-20T-Q4	109	20	NS	NS	NS
SAV-20T-Q5	145	20	NS	NS	NS
SAV-20T-Q6	127	30	NS	NS	NS
SAV-20T-Q7	144	70	NS	NS	NS
SAV-20T-Q8	153	70	NS	NS	NS
SAV-20T-Q9	150	90	NS	NS	NS
SAV-21T-Q1	75	10	NS	NS	NS
SAV-21T-Q10	126	10	NS	NS	NS

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Appendix H - Habitat Assessment Data (SAV - Station Specific Results)

Station ID	Depth (cm)	Percent Cover	K (mg/L)	PO4 (mg/L)	NH4 (mg/L)
SAV-21T-Q11	96	20	NS	NS	NS
SAV-21T-Q12	87	10	NS	NS	NS
SAV-21T-Q13	85	30	NS	NS	NS
SAV-21T-Q14	108	20	NS	NS	NS
SAV-21T-Q15	73	10	NS	NS	NS
SAV-21T-Q16	85	10	NS	NS	NS
SAV-21T-Q17	124	10	NS	NS	NS
SAV-21T-Q18	90	10	NS	NS	NS
SAV-21T-Q2	73	10	NS	NS	NS
SAV-21T-Q3	64	40	NS	NS	NS
SAV-21T-Q4	75	40	NS	NS	NS
SAV-21T-Q5	62	20	NS	NS	NS
SAV-21T-Q6	57	10	NS	NS	NS
SAV-21T-Q7	61	10	NS	NS	NS
SAV-21T-Q8	72	10	NS	NS	NS
SAV-21T-Q9	62	30	NS	NS	NS
SAV-22T-Q1	115	20	NS	NS	NS
SAV-22T-Q2	67	70	NS	NS	NS
SAV-22T-Q3	140	40	NS	NS	NS
SAV-22T-Q4	81	10	NS	NS	NS
SAV-22T-Q5	156	10	NS	NS	NS
SAV-22T-Q6	102	20	NS	NS	NS
SAV-22T-Q7	89	10	NS	NS	NS
SAV-22T-Q8	64	20	NS	NS	NS
SAV-22T-Q9	72	20	NS	NS	NS
SAV-23T-Q1	101	60	NS	NS	NS
SAV-23T-Q2	127	10	NS	NS	NS
SAV-23T-Q3	102	50	NS	NS	NS
SAV-23T-Q4	87	10	NS	NS	NS
SAV-23T-Q5	71	30	NS	NS	NS
SAV-23T-Q6	90	20	NS	NS	NS
SAV-23T-Q7	65	20	NS	NS	NS
SAV-23T-Q8	83	30	NS	NS	NS
SAV-23T-Q9	77	10	NS	NS	NS
SAV-24T-Q1	156	20	NS	NS	NS
SAV-24T-Q2	72	10	NS	NS	NS
SAV-24T-Q3	55	60	NS	NS	NS
SAV-24T-Q4	72	50	NS	NS	NS
SAV-24T-Q5	110	40	NS	NS	NS
SAV-24T-Q6	51	40	NS	NS	NS
SAV-24T-Q7	110	50	NS	NS	NS
SAV-24T-Q8	85	20	NS	NS	NS

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Appendix H - Habitat Assessment Data (SAV - Station Specific Results)

Station ID	Depth (cm)	Percent Cover	K (mg/L)	PO4 (mg/L)	NH4 (mg/L)
SAV-24T-Q9	70	30	NS	NS	NS
SAV-25T-Q1	74	20	NS	NS	NS
SAV-25T-Q2	88	40	NS	NS	NS
SAV-25T-Q3	83	30	NS	NS	NS
SAV-25T-Q4	103	30	NS	NS	NS
SAV-25T-Q5	100	20	NS	NS	NS
SAV-25T-Q6	110	40	NS	NS	NS
SAV-25T-Q7	109	10	NS	NS	NS
SAV-25T-Q8	142	20	NS	NS	NS
SAV-25T-Q9	125	40	NS	NS	NS
SAV-26T-Q1	203	90	NS	NS	NS
SAV-26T-Q10	127	80	NS	NS	NS
SAV-26T-Q11	113	90	NS	NS	NS
SAV-26T-Q12	115	90	NS	NS	NS
SAV-26T-Q13	126	100	NS	NS	NS
SAV-26T-Q14	132	100	NS	NS	NS
SAV-26T-Q15	101	100	NS	NS	NS
SAV-26T-Q16	136	100	NS	NS	NS
SAV-26T-Q17	135	100	NS	NS	NS
SAV-26T-Q17	135	100	23.1	63.1	7.3
SAV-26T-Q18	125	100	NS	NS	NS
SAV-26T-Q2	264	90	NS	NS	NS
SAV-26T-Q3	260	40	NS	NS	NS
SAV-26T-Q4	164	90	NS	NS	NS
SAV-26T-Q5	154	80	NS	NS	NS
SAV-26T-Q6	241	90	NS	NS	NS
SAV-26T-Q7	117	100	NS	NS	NS
SAV-26T-Q8	124	100	NS	NS	NS
SAV-26T-Q9	125	90	NS	NS	NS

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Appendix H - Habitat Assessment Data (UCB-SSAP Other)

Unconsolidated Bottom Samples			2002 - 2006 SSAP Grain Size Analyses											
Station Number	Northing	Easting	Core ID	Northing	Easting	Distance to Station (ft)	Sampling Technique	Start Depth (in)	End Depth (in)	Texture Description	General Description	Bulk Density (g/cm ³)	Moisture Content (%)	TOC (mg/kg)
SAV-05T-2003-Q1	1599771.3	736738.5	RS1-9190-ET057	1599804.6	736738.5	33.26	CORE	0	2	CS/GR/SI/--	GRAY BROWN	1.4	23	4700
SAV-05T-2003-Q2	1599746.9	736753.4	RS1-9190-ET064	1599735.9	736753.4	28.89	CORE	0	2	MS/FS/CS/OR	DARK BROWN. TRACE GRAVEL. OR= ROOTS, VEGETATION.	1.4	25	3500
SAV-05T-2003-Q3	1599664.5	736817.9	RS1-9190-ET072	1599667.0	736817.9	3.76	CORE	0	2	MS/CS/OR/--	BROWN, OR- VEG, CLAMS	1.1	26	3500
SAV-05T-2003-Q4	1599762.2	736681.6	RS1-9190-TT218	1599803.1	736681.6	45.64	CORE	0	2	FS/--/OR/SI	BROWN, ORGANIC=WOOD	0.077	74	310000
SAV-05T-2003-Q5	1599766.6	736715.8	RS1-9190-ET057	1599804.6	736715.8	44.60	CORE	0	2	CS/GR/SI/--	GRAY BROWN	1.4	23	4700
SAV-05T-2003-Q6	1599539.6	736853.6	RS1-9190-ET087	1599528.7	736853.6	34.26	CORE	0	2	MS/FS/CS/--	DARK BROWN	1.5	22	4900
SAV-05T-2003-Q7	1599473.9	736902.8	RS1-9190-AR028	1599458.6	736902.8	43.98	CORE	0	2	FS/SI/GR/CS	BR	1.4	20	37000
SAV-05T-2003-Q8	1599459.3	736969.1	RS1-9190-AR226	1599451.1	736969.1	53.27	CORE	0	2	FS/MS/SI/CS	BROWN	1.4	26	3500
SAV-05T-2003-Q9	1599584.5	736938.5	RS1-9190-ET080	1599597.4	736938.5	13.04	CORE	0	2	FS/--/SI/OR	GREY BROWN. OR= WOOD.	0.8	41	16000
SAV-07T-2003-Q1	1593753.7	736688.9	RS1-9089-WT159	1593781.8	736688.9	29.20	CORE	0	2	FS/SI/--/--	GRAY BROWN	1.1	32	8000
SAV-07T-2003-Q2	1593629.2	736599.5	RS1-9089-WT172	1593644.4	736599.5	25.70	CORE	0	2	SI/--/FS/--	BROWN. ODOR	0.97	39	13000
SAV-07T-2003-Q3	1593389.5	736487.4	RS1-9089-WS717	1593388.9	736487.4	23.84	CORE	0	2	FS/SI/--/--	DARK GREY BROWN. SLIGHT ODOR	1.3	27	6500
SAV-07T-2003-Q4	1593286.7	736460.1	RS1-9089-TT248	1593294.0	736460.1	34.37	CORE	0	2	FS/--/MS/SI	G BROWN	1.2	25	3100
SAV-07T-2003-Q5	1593389.4	736498.4	RS1-9089-WS717	1593388.9	736498.4	12.87	CORE	0	2	FS/SI/--/--	DARK GREY BROWN. SLIGHT ODOR	1.3	27	6500
SAV-07T-2003-Q6	1593316.2	736461.4	RS1-9089-TT248	1593294.0	736461.4	41.38	CORE	0	2	FS/--/MS/SI	G BROWN	1.2	25	3100
SAV-07T-2003-Q7	1593161.7	736411.5	RS1-9089-WS213	1593153.9	736411.5	12.41	CORE	0	2	SI/FS/CS/MS	BROWN. TRACE ORGANICS= VEGETATION, CLAM.	1	25	5400
SAV-07T-2003-Q8	1593137.2	736420.3	RS1-9089-WS213	1593153.9	736420.3	16.73	CORE	0	2	SI/FS/CS/MS	BROWN. TRACE ORGANICS= VEGETATION, CLAM.	1	25	5400
SAV-07T-2003-Q9	1593051.0	736397.0	RS1-9089-WT218	1593082.6	736397.0	35.19	CORE	0	2	FS/SI/MS/OR	DARK BROWN. OR= ROOTS.	0.8	40	27000
SAV-08T-2003-Q1	1565515.0	735809.9	RS2-8483-WT152	1565469.7	735809.9	45.97	CORE	0	2	FS/SI/--/OR	DARK BROWN; O-TWIGS, ROOTS	0.85	43.2	35000
SAV-08T-2003-Q2	1565541.6	735824.9	RS2-8483-WT152	1565469.7	735824.9	72.23	CORE	0	2	FS/SI/--/OR	DARK BROWN; O-TWIGS, ROOTS	0.85	43.2	35000
SAV-08T-2003-Q3	1565596.7	735823.3	RS2-8483-AR041	1565606.9	735823.3	49.20	CORE	0	2	FS/MS/SI/OR	GRAY-BROWN, OR-WOOD, TR CS.	0.61	41.4	130000

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Unconsolidated Bottom Samples			2002 - 2006 SSAP Grain Size Analyses											
Station Number	Northing	Easting	Core ID	Northing	Easting	Distance to Station (ft)	Sampling Technique	Start Depth (in)	End Depth (in)	Texture Description	General Description	Bulk Density (g/cm ³)	Moisture Content (%)	TOC (mg/kg)
SAV-08T-2003-Q4	1565457.3	735829.4	RS2-8483-WT152	1565469.7	735829.4	16.91	CORE	0	2	FS/SI/--/OR	DARK BROWN; O-TWIGS, ROOTS	0.85	43.2	35000
SAV-08T-2003-Q5	1565486.2	735836.0	RS2-8483-WT152	1565469.7	735836.0	24.50	CORE	0	2	FS/SI/--/OR	DARK BROWN; O-TWIGS, ROOTS	0.85	43.2	35000
SAV-08T-2003-Q6	1565525.5	735852.0	RS2-8483-WT152	1565469.7	735852.0	65.33	CORE	0	2	FS/SI/--/OR	DARK BROWN; O-TWIGS, ROOTS	0.85	43.2	35000
SAV-08T-2003-Q7	1565825.4	736277.5	RS2-8483-ET136	1565814.7	736277.5	22.48	CORE	0	2	SI/--/--	GRAY-BROWN	0.55	56.8	57000
SAV-08T-2003-Q8	1565806.7	736263.0	RS2-8483-ET136	1565814.7	736263.0	9.54	CORE	0	2	SI/--/--	GRAY-BROWN	0.55	56.8	57000
SAV-08T-2003-Q9	1565703.1	736327.2	RS2-8483-ET144	1565672.4	736327.2	32.74	CORE	0	2	FS/SI/OR/--	GRAY-BROWN; SOME WOOD; LITTLE ROOTS	1	39	16000
SAV-09T-2003-Q1	1566674.0	734873.7	RS2-8483-WT076	1566648.9	734873.7	35.94	CORE	0	2	FS/SI/--/CL	BROWN; O-ROOTS	0.62	49	27000
SAV-09T-2003-Q2	1566693.4	734912.0	RS2-8483-WT076	1566648.9	734912.0	46.16	CORE	0	2	FS/SI/--/CL	BROWN; O-ROOTS	0.62	49	27000
SAV-09T-2003-Q3	1566717.5	734904.9	RS2-8483-WT076	1566648.9	734904.9	68.77	CORE	0	2	FS/SI/--/CL	BROWN; O-ROOTS	0.62	49	27000
SAV-09T-2003-Q4	1567019.9	735315.6	RS2-8483-ET046	1566996.8	735315.6	30.88	CORE	0	2	FS/--/--/SI	GRAY BROWN	1.2	19	6500
SAV-09T-2003-Q5	1566986.1	735382.7	RS2-8483-ET047	1566989.8	735382.7	35.26	CORE	0	2	SI/FS/OR/--	BROWN; SOME WOOD	0.91	46.4	15000
SAV-09T-2003-Q6	1566783.4	735440.6	RS2-8483-ET069	1566786.0	735440.6	16.23	CORE	0	2	FS/SI/MS/OR	BROWN. OR= TWIGS, CLAM	1.1	30	9200
SAV-09T-2003-Q7	1567828.0	735271.8	RS2-8584-ET133	1567824.9	735271.8	16.24	CORE	0	2	SI/OR/--/--	OLIVE BROWN, OR=VEG, TRACE SHEEN	0.26	75.6	150000
SAV-09T-2003-Q8	1567853.9	735238.6	RS2-8584-ET133	1567824.9	735238.6	33.81	CORE	0	2	SI/OR/--/--	OLIVE BROWN, OR=VEG, TRACE SHEEN	0.26	75.6	150000
SAV-09T-2003-Q9	1567917.6	735217.9	RS2-8584-ET130	1567895.8	735217.9	22.05	CORE	0	2	SI/--/FS/--	GRAY BROWN	0.62	52.8	34000
SAV-10T-2005-Q1	1609680.6	733469.7	RS1-9493-GR116	1609647.2	733469.7	34.08	CORE	0	2	FS/GR/SI/MS	DARK BR, TRACE OR (CLAM)	1.3	18	4600
SAV-10T-2005-Q10	1609370.3	733260.8	RS1-9392-WT602	1609363.0	733260.8	38.14	CORE	0	2	FS/GR/MS/SI	GREY; TRACE CLAMS	1.3	21	5300
SAV-10T-2005-Q11	1609373.4	733226.4	RS1-9392-AR006	1609363.1	733226.4	11.64	CORE	0	2	FS/SI/CS/GR	BR, TR VEG, CS IS SLAG	1.2	29	16000
SAV-10T-2005-Q12	1609371.2	733222.4	RS1-9392-AR006	1609363.1	733222.4	8.19	CORE	0	2	FS/SI/CS/GR	BR, TR VEG, CS IS SLAG	1.2	29	16000
SAV-10T-2005-Q13	1609352.6	733198.8	RS1-9392-WT025	1609363.7	733198.8	20.67	CORE	0	2	FS/CS/--/--	BROWN	1.4	31.5	3100
SAV-10T-2005-Q14	1609231.9	733186.9	RS1-9392-WT043	1609221.5	733186.9	35.08	CORE	0	2	FS/GR/CS/--	GRAY-BROWN	1.7	16	1700
SAV-10T-2005-Q15	1609204.8	733156.7	RS1-9392-WT042	1609225.5	733156.7	26.59	CORE	0	2	FS/SI/--/OR	VERY DARK BROWN, OR=WOOD CHIPS	1	33	11000

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Station Number	Northing	Easting	Core ID	Northing	Easting	Distance to Station (ft)	Sampling Technique	Start Depth (in)	End Depth (in)	Texture Description	General Description	Bulk Density (g/cm ³)	Moisture Content (%)	TOC (mg/kg)
SAV-10T-2005-Q16	1609115.1	733103.8	RS1-9392-WT059	1609092.1	733103.8	41.44	CORE	0	2	FS/GR/CS/--	OLIVE BROWN, TRACE SHEEN	1.5	20	6200
SAV-10T-2005-Q17	1609044.2	733050.5	RS1-9392-WT066	1609016.6	733050.5	41.56	CORE	0	2	FS/--/SI/OR	OLIVE BROWN, OR=VEG, TRACE GRAVEL	1.2	17	6600
SAV-10T-2005-Q18	1609083.9	733007.4	RS1-9392-WT057	1609087.4	733007.4	25.89	CORE	0	2	FS/--/--/CS	OLIVE BROWN, TRACE SLAG (CS)	1.3	29	3500
SAV-10T-2005-Q2	1609643.4	733451.9	RS1-9493-GR116	1609647.2	733451.9	11.52	CORE	0	2	FS/GR/SI/MS	DARK BR, TRACE OR (CLAM)	1.3	18	4600
SAV-10T-2005-Q3	1609594.5	733424.7	RS1-9392-WT008	1609577.1	733424.7	19.11	CORE	0	2	SI/GR/OR/--	DARK GRAY; SMALL PIECES OF WOOD	0.97	29	21000
SAV-10T-2005-Q4	1609658.1	733301.9	RS1-9392-WT003	1609643.5	733301.9	14.78	CORE	0	2	SI/--/--/--	DARK BROWN	0.32	72	97000
SAV-10T-2005-Q5	1609567.2	733405.2	RS1-9392-WT008	1609577.1	733405.2	15.34	CORE	0	2	SI/GR/OR/--	DARK GRAY; SMALL PIECES OF WOOD	0.97	29	21000
SAV-10T-2005-Q6	1609535.4	733380.2	RS1-9392-WT013	1609502.5	733380.2	33.39	CORE	0	2	FS/GR/--/--	GRAY-BROWN	1.1	33	23000
SAV-10T-2005-Q7	1609481.1	733356.6	RS1-9392-WT013	1609502.5	733356.6	36.09	CORE	0	2	FS/GR/--/--	GRAY-BROWN	1.1	33	23000
SAV-10T-2005-Q8	1609466.7	733311.0	RS1-9392-WT012	1609502.9	733311.0	38.86	CORE	0	2	SI/FS/--/--	GRAY-BROWN	0.79	44	16000
SAV-10T-2005-Q9	1609475.5	733263.0	RS1-9392-WT019	1609436.6	733263.0	39.10	CORE	0	2	SI/FS/CS/--	GRAY-BROWN	1.3	32.2	13000
SAV-10T-2006-Q1	1609566.0	733241.6	RS1-9392-WT007	1609575.9	733241.6	19.08	CORE	0	2	FS/MS/GR/OR	DARK BROWN; O-ROOTS	1.3	24	3700
SAV-10T-2006-Q10	1609571.1	733342.0	RS1-9392-WT008	1609577.1	733342.0	75.14	CORE	0	2	SI/GR/OR/--	DARK GRAY; SMALL PIECES OF WOOD	0.97	29	21000
SAV-10T-2006-Q11	1609575.6	733360.2	RS1-9392-WT008	1609577.1	733360.2	56.69	CORE	0	2	SI/GR/OR/--	DARK GRAY; SMALL PIECES OF WOOD	0.97	29	21000
SAV-10T-2006-Q12	1609505.8	733301.2	RS1-9392-WT012	1609502.9	733301.2	5.09	CORE	0	2	SI/FS/--/--	GRAY-BROWN	0.79	44	16000
SAV-10T-2006-Q13	1609487.0	733322.9	RS1-9392-WT012	1609502.9	733322.9	30.40	CORE	0	2	SI/FS/--/--	GRAY-BROWN	0.79	44	16000
SAV-10T-2006-Q14	1609467.5	733281.8	RS1-9392-WT019	1609436.6	733281.8	38.27	CORE	0	2	SI/FS/CS/--	GRAY-BROWN	1.3	32.2	13000
SAV-10T-2006-Q15	1609450.9	733287.8	RS1-9392-WT019	1609436.6	733287.8	31.95	CORE	0	2	SI/FS/CS/--	GRAY-BROWN	1.3	32.2	13000
SAV-10T-2006-Q16	1609462.1	733252.3	RS1-9392-WT019	1609436.6	733252.3	26.46	CORE	0	2	SI/FS/CS/--	GRAY-BROWN	1.3	32.2	13000
SAV-10T-2006-Q17	1609449.7	733246.9	RS1-9392-WT019	1609436.6	733246.9	17.97	CORE	0	2	SI/FS/CS/--	GRAY-BROWN	1.3	32.2	13000
SAV-10T-2006-Q18	1609474.9	733238.8	RS1-9392-WT011	1609509.3	733238.8	37.07	CORE	0	2	FS/SI/OR/--	GRAY-BROWN; SOME SMALL PIECES OF WOOD	0.73	44	8800
SAV-10T-2006-Q2	1609576.7	733289.5	RS1-9392-WT007	1609575.9	733289.5	31.57	CORE	0	2	FS/MS/GR/OR	DARK BROWN; O-ROOTS	1.3	24	3700

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Station Number	Northing	Easting	Core ID	Northing	Easting	Distance to Station (ft)	Sampling Technique	Start Depth (in)	End Depth (in)	Texture Description	General Description	Bulk Density (g/cm ³)	Moisture Content (%)	TOC (mg/kg)
SAV-10T-2006-Q3	1609608.9	733274.3	RS1-9392-WT007	1609575.9	733274.3	36.87	CORE	0	2	FS/MS/GR/OR	DARK BROWN; O-ROOTS	1.3	24	3700
SAV-10T-2006-Q4	1609609.5	733299.0	RS1-9392-WT003	1609643.5	733299.0	34.31	CORE	0	2	SI/--/--	DARK BROWN	0.32	72	97000
SAV-10T-2006-Q5	1609640.6	733290.9	RS1-9392-WT003	1609643.5	733290.9	13.51	CORE	0	2	SI/--/--	DARK BROWN	0.32	72	97000
SAV-10T-2006-Q6	1609640.9	733314.9	RS1-9392-WT003	1609643.5	733314.9	11.10	CORE	0	2	SI/--/--	DARK BROWN	0.32	72	97000
SAV-10T-2006-Q7	1609666.1	733318.7	RS1-9392-WT003	1609643.5	733318.7	26.91	CORE	0	2	SI/--/--	DARK BROWN	0.32	72	97000
SAV-10T-2006-Q8	1609659.0	733337.1	RS1-9392-WT003	1609643.5	733337.1	36.50	CORE	0	2	SI/--/--	DARK BROWN	0.32	72	97000
SAV-10T-2006-Q9	1609679.5	733357.0	RS1-9493-WT249	1609714.0	733357.0	39.48	CORE	0	2	SI/FS/OR/--	BROWN; PLANT DEBRIS PRESENT	1	35	9500
SAV-11T-2005-Q1	1608406.0	732580.6	RS1-9392-WT131	1608395.3	732580.6	10.71	CORE	0	2	OR/--/SI/FS	GREY-BROWN; O-WOOD, WOOD PULP	0.26	76.4	110000
SAV-11T-2005-Q10	1607997.7	732357.9	RS1-9392-WT174	1607980.9	732357.9	27.85	CORE	0	2	FS/SI/OR/--	GRAY-BROWN; SOME WEEDS	0.86	37.2	19000
SAV-11T-2005-Q11	1607990.0	732486.9	RS1-9392-WT176	1607981.3	732486.9	18.04	CORE	0	2	SI/OR/--/--	DARK GRAY; SOME WOOD	0.42	60.4	98000
SAV-11T-2005-Q12	1607922.2	732454.6	RS1-9392-WT184	1607909.0	732454.6	15.94	CORE	0	2	FS/OR/--/--	GRAY-BROWN, SOME WOOD, WEEDS	1.1	27.9	18000
SAV-11T-2005-Q13	1607847.4	732439.9	RS1-9392-WT191	1607841.8	732439.9	19.38	CORE	0	2	SI/OR/--/--	GRAY-BROWN, WOOD	0.31	72.3	70000
SAV-11T-2005-Q14	1607821.1	732360.9	RS1-9392-WT190	1607837.3	732360.9	26.57	CORE	0	2	SI/--/--/FS	DARK OLIVE BROWN	0.34	73	90000
SAV-11T-2005-Q15	1607770.8	732398.5	RS1-9392-WT198	1607773.4	732398.5	19.87	CORE	0	2	SI/--/--/FS	DARK OLIVE	0.76	47.2	26000
SAV-11T-2005-Q16	1607652.2	732421.8	RS1-9392-WT213	1607637.0	732421.8	39.73	CORE	0	2	FS/SI/OR/--	GRAY-BROWN; LARGE PIECE OF WOOD	1.1	23.5	18000
SAV-11T-2005-Q17	1607382.2	732311.4	RS1-9392-WT239	1607357.7	732311.4	26.57	CORE	0	2	FS/CS/--/--	GRAY-BROWN	1.3	14	2400
SAV-11T-2005-Q18	1607277.6	732344.6	RS1-9392-WT243	1607287.4	732344.6	10.35	CORE	0	2	MS/FS/GR/SI	GREY.	1.3	18	5900
SAV-11T-2005-Q2	1608362.6	732588.8	RS1-9392-WT131	1608395.3	732588.8	33.70	CORE	0	2	OR/--/SI/FS	GREY-BROWN; O-WOOD, WOOD PULP	0.26	76.4	110000
SAV-11T-2005-Q3	1608393.4	732444.2	RS1-9392-WT129	1608396.7	732444.2	19.78	CORE	0	2	SI/FS/--/CL	BROWN; O-WOOD, VEGETATION	0.48	61.5	31000
SAV-11T-2005-Q4	1608254.9	732558.5	RS1-9392-WT146	1608259.4	732558.5	19.04	CORE	0	2	OR/SI/FS/--	BLACK-GREY, ORG=WOOD CHIPS AND VEG AND BIOTA(CLAM)	0.6	51.7	23000
SAV-11T-2005-Q5	1608247.6	732503.0	RS1-9392-TT231	1608259.8	732503.0	12.28	CORE	0	2	FS/SI/MS/OR	DARK BROWN GRAY; ORG-VEG/ROOTS	0.88	36	11000

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Station Number	Northing	Eastings	Core ID	Northing	Eastings	Distance to Station (ft)	Sampling Technique	Start Depth (in)	End Depth (in)	Texture Description	General Description	Bulk Density (g/cm ³)	Moisture Content (%)	TOC (mg/kg)
SAV-11T-2005-Q6	1608252.7	732396.0	RS1-9392-WT144	1608257.7	732396.0	21.01	CORE	0	2	SI/FS/--/OR	DARK BRWON, OR= ROOTS	0.64	55.9	37000
SAV-11T-2005-Q7	1608114.7	732486.3	RS1-9392-WT161	1608120.8	732486.3	12.67	CORE	0	2	FS/--/--/OR	OLIVE BROWN, OR=VEG	1.2	31	18000
SAV-11T-2005-Q8	1608077.5	732466.1	RS1-9392-WT169	1608050.2	732466.1	27.75	CORE	0	2	SI/FS/--/OR	DARK BROWN, OR=VEG	0.34	68	55000
SAV-11T-2005-Q9	1608110.8	732309.4	RS1-9392-TT234	1608114.9	732309.4	32.97	CORE	0	2	FS/SI/--/OR	DARK BROWN; O-SHELL FRAG, VEGETATION	0.9	46	27000
SAV-12R-2005-Q1	1594371.1	737453.3	RS1-9089-CS099	1594542.8	737453.3	186.45	CORE	0	2	CL/GR/--/FS	GRAY, TRACE CS	1.1	26.5	5500
SAV-12R-2005-Q2	1594204.8	737363.9	RS1-9089-AR232	1594188.6	737363.9	271.17	CORE	0	2	CS/MS/SI/GR	DARK GREY BROWN	1.3	26	64000
SAV-12R-2005-Q3	1594128.3	737314.9	RS1-9089-AR232	1594188.6	737314.9	229.72	CORE	0	2	CS/MS/SI/GR	DARK GREY BROWN	1.3	26	64000
SAV-12R-2005-Q4	1594072.6	737263.8	RS1-9089-AR232	1594188.6	737263.8	206.29	CORE	0	2	CS/MS/SI/GR	DARK GREY BROWN	1.3	26	64000
SAV-12R-2005-Q5	1593985.1	737198.2	RS1-9089-AR232	1594188.6	737198.2	229.02	CORE	0	2	CS/MS/SI/GR	DARK GREY BROWN	1.3	26	64000
SAV-12R-2005-Q6	1593745.7	737066.9	RS1-9089-AR017	1593828.5	737066.9	219.36	CORE	0	2	GR/MS/FS/SI	DARK GREY BR, TRACE CS	1.5	19	6400
SAV-12R-2005-Q7	1593706.5	737049.8	RS1-9089-AR017	1593828.5	737049.8	222.48	CORE	0	2	GR/MS/FS/SI	DARK GREY BR, TRACE CS	1.5	19	6400
SAV-12R-2005-Q8	1593275.8	736916.4	RS1-9089-AR019	1593363.0	736916.4	164.55	CORE	0	2	GR/SI/MS/CS	BR, TRACE FS	1.1	25	8900
SAV-12R-2005-Q9	1593067.1	736852.7	RS1-9089-ET219	1593084.8	736852.7	19.55	CORE	0	2	SI/--/--/OR	DARK BROWN, OR=VEG	0.76	47	20000
SAV-12T-Q1	1604703.8	733532.8	RS1-9392-ET451	1604722.8	733532.8	38.58	CORE	0	2	CS/GR/--/--	DARK BROWN	1.3	9.2	24000
SAV-12T-Q2	1604643.4	733579.2	RS1-9291-ET006	1604660.8	733579.2	41.59	CORE	0	2	FS/CS/OR/--	BROWN-GREY; O-WOOD, VEGETATION	0.77	40.9	28000
SAV-12T-Q3	1604592.3	733556.0	RS1-9291-ET013	1604588.4	733556.0	22.94	CORE	0	2	GR/CS/FS/--	OLIVEBROWN	0.85	27.5	7700
SAV-12T-Q4	1604529.1	733602.6	RS1-9291-ET021	1604516.0	733602.6	23.66	CORE	0	2	FS/SI/CS/GR	DARK GRAY, TRACE OR=VEG	1.4	25.9	5400
SAV-12T-Q5	1604507.9	733586.3	RS1-9291-ET021	1604516.0	733586.3	36.91	CORE	0	2	FS/SI/CS/GR	DARK GRAY, TRACE OR=VEG	1.4	25.9	5400
SAV-12T-Q6	1604478.6	733617.9	RS1-9291-ET021	1604516.0	733617.9	37.68	CORE	0	2	FS/SI/CS/GR	DARK GRAY, TRACE OR=VEG	1.4	25.9	5400
SAV-12T-Q7	1604403.8	733644.3	RS1-9291-ET038	1604373.8	733644.3	40.24	CORE	0	2	FS/GR/SI/--	GRAY-BROWN	1.3	15.3	19000
SAV-12T-Q8	1604405.3	733684.7	RS1-9291-ET039	1604378.1	733684.7	30.87	CORE	0	2	FS/SI/OR/GR	BROWN; O-WOOD, VEGETATION, SHELLS FRAG.	1.4	22.6	2900
SAV-12T-Q9	1604362.4	733710.4	RS1-9291-ET039	1604378.1	733710.4	19.26	CORE	0	2	FS/SI/OR/GR	BROWN; O-WOOD, VEGETATION, SHELLS FRAG.	1.4	22.6	2900
SAV-13R-2006-Q1	1591006.1	735999.5	RS1-9089-WT365	1591004.8	735999.5	16.83	CORE	0	2	SI/FS/MS/OR	DARK GRAY	1.2	30	10000

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Appendix H - Habitat Assessment Data (UCB-SSAP Other)

Unconsolidated Bottom Samples			2002 - 2006 SSAP Grain Size Analyses											
Station Number	Northing	Easting	Core ID	Northing	Easting	Distance to Station (ft)	Sampling Technique	Start Depth (in)	End Depth (in)	Texture Description	General Description	Bulk Density (g/cm ³)	Moisture Content (%)	TOC (mg/kg)
SAV-13R-2006-Q2	1590922.2	735918.3	RS1-9089-WT372	1590936.5	735918.3	27.04	CORE	0	2	FS/GR/MS/OR	BROWN, OR-CLAMS (BIOTA)	1.2	21	5200
SAV-13R-2006-Q3	1590789.8	735850.3	RS1-9089-WT388	1590797.1	735850.3	10.01	CORE	0	2	FS/SI/OR/GR	BROWN. OR= WOOD.	0.55	56	24000
SAV-13R-2006-Q4	1590717.1	735874.8	RS1-9089-EP329	1590668.7	735874.8	78.12	CORE	0	2	SI/--/FS/OR	BROWN, TRACE WOOD PULP+ ROOTS	0.64	52	32000
SAV-13R-2006-Q5	1590561.9	735925.5	RS1-9089-WS411	1590522.6	735925.5	79.32	CORE	0	2	FS/SI/--/GR	DARK BROWN	1.3	32	6200
SAV-13R-2006-Q6	1590615.7	735961.5	RS1-9089-WS402	1590661.3	735961.5	49.98	CORE	0	2	CS/GR/--/SI	DARK GRAY/BROWN	1.1	16	1800
SAV-13R-2006-Q7	1590863.8	735929.1	RS1-9089-WT380	1590866.2	735929.1	24.29	CORE	0	2	SI/FS/OR/--	GRAY BROWN, ORGANICS/BARK	0.75	50	31000
SAV-13R-2006-Q8	1591097.0	736049.0	RS1-9089-CL049	1591106.8	736049.0	14.96	CORE	0	2	GR/MS/FS/SI	DK BR	1.4	19	0
SAV-13R-2006-Q9	1591149.4	736071.9	RS1-9089-WT350	1591146.8	736071.9	9.20	CORE	0	2	SI/FS/--/OR	DARK BROWN. OR= WOOD.	0.49	58	30000
SAV-13T-Q1	1603744.7	734388.5	RS1-9291-ET121	1603753.7	734388.5	13.48	CORE	0	2	FS/MS/--/SI	BROWN;TRACE SHELL FRAGS	1.3	23	1600
SAV-13T-Q2	1603715.3	734437.7	RS1-9291-TT244	1603688.0	734437.7	32.36	CORE	0	2	FS/--/GR/OR	GRAY BROWN;SOME GRAVEL;ORG-WOOD	0.64	17	4500
SAV-13T-Q3	1603688.7	734498.6	RS1-9291-ET133	1603687.0	734498.6	4.64	CORE	0	2	FS/--/SI/OR	GRAY BROWN, ORGANICS/ROOTS	1.1	31	4700
SAV-13T-Q4	1603690.1	734550.9	RS1-9291-ET133	1603687.0	734550.9	48.05	CORE	0	2	FS/--/SI/OR	GRAY BROWN, ORGANICS/ROOTS	1.1	31	4700
SAV-13T-Q5	1603701.0	734609.8	RS1-9291-ET124	1603753.8	734609.8	53.67	CORE	0	2	FS/OR/SI/MS	DARK GRAY BROWN, ORGANICS/WOOD, SLIGHT ODOR	0.77	53	130000
SAV-13T-Q6	1603690.2	734647.1	RS1-9291-ET135	1603687.2	734647.1	16.14	CORE	0	2	FS/--/MS/CS	DARK GRAY BROWN	1.2	21	1900
SAV-13T-Q7	1603565.7	734676.2	RS1-9291-ET149	1603543.8	734676.2	26.60	CORE	0	2	FS/--/--/OR	DARK GRAY, ORGANICS/LEAF LITTER & ROOTS	1.2	27	2200
SAV-13T-Q8	1603490.4	734807.9	RS1-9291-ET155	1603477.5	734807.9	30.27	CORE	0	2	FS/--/SI/CS	DARK GRAY BROWN, CLAM	2.2	55	8300
SAV-13T-Q9	1603365.7	734941.5	RS1-9291-TT248	1603340.6	734941.5	25.20	CORE	0	2	FS/--/SI/OR	BROWN, ORGANIC=VEGETATION	1.1	31	58000
SAV-14R-2005-Q1	1590039.8	735765.6	RS1-8988-WS016	1590106.0	735765.6	68.31	CORE	0	2	SI/CL/MS/CS	GRAY BROWN, TRACE ORGANICS/WOOD	1.4	25	2700
SAV-14R-2005-Q2	1589851.5	735722.3	RS1-8988-AR013	1589882.6	735722.3	38.45	CORE	0	2	FS/GR/CS/SI	GR, SOME SI	1.2	28	6700
SAV-14R-2005-Q3	1589747.7	735794.6	RS1-8988-WS037	1589694.2	735794.6	82.20	CORE	0	2	FS/OR/--/--	GRAY-BROWN; OR-SOME WOOD	1.4	12	2600
SAV-14R-2005-Q4	1589647.6	735641.3	RS1-8988-WS036	1589690.6	735641.3	71.33	CORE	0	2	FS/MS/CS/GR	GRAY-BROWN; SOME MS TO CS	1.5	18	3300

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Unconsolidated Bottom Samples			2002 - 2006 SSAP Grain Size Analyses											
Station Number	Northing	Eastings	Core ID	Northing	Eastings	Distance to Station (ft)	Sampling Technique	Start Depth (in)	End Depth (in)	Texture Description	General Description	Bulk Density (g/cm ³)	Moisture Content (%)	TOC (mg/kg)
SAV-14R-2005-Q5	1589417.6	735620.6	RS1-8988-WS047	1589408.4	735620.6	79.98	CORE	0	2	CS/GR/SI/FS	GREY-BROWN	1.3	16	5900
SAV-14R-2005-Q6	1589283.9	735615.0	RS1-8988-TT224	1589276.7	735615.0	7.65	CORE	0	2	SI/CS/MS/FS	BROWN;TRACE ORG-ROOTS	1.2	26	9300
SAV-14R-2005-Q7	1589289.8	735746.3	RS1-8988-WS053	1589275.9	735746.3	41.16	CORE	0	2	FS/MS/GR/--	DARK BROWN; FS TO MS	1.6	19	3400
SAV-14R-2005-Q8	1589156.6	735791.5	RS1-8988-AR028	1589179.6	735791.5	29.90	CORE	0	2	FS/--/--/SI	DARK BROWN	1.1	32	9400
SAV-14R-2005-Q9	1588944.6	735767.9	RS1-8988-AR039	1588925.7	735767.9	34.89	CORE	0	2	FS/SI/MS/--	BROWN	1.4	28	5700
SAV-15T-Q1	1599664.5	736092.8	RS1-9190-WT065	1599665.6	736092.8	7.08	CORE	0	2	SI/--/CL/FS	GRAY BROWN, TRACE ORGANICS/ROOTS, LEAVES, VEGETATION & WORMS	0.46	55	290000
SAV-15T-Q2	1599664.5	736092.8	RS1-9190-WT065	1599665.6	736092.8	7.08	CORE	0	2	SI/--/CL/FS	GRAY BROWN, TRACE ORGANICS/ROOTS, LEAVES, VEGETATION & WORMS	0.46	55	290000
SAV-15T-Q3	1599629.7	736135.1	RS1-9190-WT073	1599598.4	736135.1	31.76	CORE	0	2	SI/FS/--/OR	BROWN, ORGANICS/LEAF LITTER, ODOR	0.53	56	31000
SAV-15T-Q4	1599600.4	736157.8	RS1-9190-WT073	1599598.4	736157.8	17.76	CORE	0	2	SI/FS/--/OR	BROWN, ORGANICS/LEAF LITTER, ODOR	0.53	56	31000
SAV-15T-Q5	1599582.8	736164.4	RS1-9190-WT073	1599598.4	736164.4	28.84	CORE	0	2	SI/FS/--/OR	BROWN, ORGANICS/LEAF LITTER, ODOR	0.53	56	31000
SAV-15T-Q6	1599525.3	736243.6	RS1-9190-WT082	1599528.9	736243.6	17.38	CORE	0	2	SI/FS/GR/OR	DARK GREY. OR= ROOTS, CLAMS.	1.1	27	7500
SAV-15T-Q7	1599479.7	736230.1	RS1-9190-TT224	1599458.2	736230.1	22.79	CORE	0	2	FS/SI/--/OR	GREY BROWN,ORGANIC=VEGETATION	0.78	45	34000
SAV-15T-Q8	1599486.1	736219.9	RS1-9190-TT224	1599458.2	736219.9	28.01	CORE	0	2	FS/SI/--/OR	GREY BROWN,ORGANIC=VEGETATION	0.78	45	34000
SAV-15T-Q9	1599487.5	736219.9	RS1-9190-TT224	1599458.2	736219.9	29.32	CORE	0	2	FS/SI/--/OR	GREY BROWN,ORGANIC=VEGETATION	0.78	45	34000
SAV-17T-Q1	1592533.8	736843.9	RS1-9089-AR262	1592530.8	736843.9	6.67	CORE	0	2	FS/SI/OR/--	BROWN;ORG-TWIGS	1	34	12000
SAV-17T-Q2	1592575.1	736832.8	RS1-9089-AR262	1592530.8	736832.8	44.54	CORE	0	2	FS/SI/OR/--	BROWN;ORG-TWIGS	1	34	12000
SAV-17T-Q3	1592623.3	736829.6	RS1-9089-ET243	1592670.8	736829.6	67.90	CORE	0	2	SI/OR/--/--	GRAY-BROWN; OR-SOME WOOD & LEAVES	0.31	72	52000
SAV-17T-Q4	1592673.0	736824.4	RS1-9089-ET243	1592670.8	736824.4	43.33	CORE	0	2	SI/OR/--/--	GRAY-BROWN; OR-SOME WOOD & LEAVES	0.31	72	52000

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Unconsolidated Bottom Samples			2002 - 2006 SSAP Grain Size Analyses											
Station Number	Northing	Eastings	Core ID	Northing	Eastings	Distance to Station (ft)	Sampling Technique	Start Depth (in)	End Depth (in)	Texture Description	General Description	Bulk Density (g/cm ³)	Moisture Content (%)	TOC (mg/kg)
SAV-17T-Q5	1592718.0	736821.5	RS1-9089-ET241	1592744.1	736821.5	27.03	CORE	0	2	SI/FS/--/OR	BROWN; OR-TRACE ROOTS	0.73	40	17000
SAV-17T-Q6	1592751.2	736826.2	RS1-9089-ET241	1592744.1	736826.2	13.46	CORE	0	2	SI/FS/--/OR	BROWN; OR-TRACE ROOTS	0.73	40	17000
SAV-17T-Q7	1592882.0	736848.1	RS1-9089-ET234	1592877.5	736848.1	26.11	CORE	0	2	SI/FS/OR/--	DARK BROWN; OR-SOME LEAVES & TWIGS	0.59	53	3800
SAV-17T-Q8	1592918.8	736843.6	RS1-9089-ET228	1592947.2	736843.6	32.65	CORE	0	2	SI/FS/--/OR	DARK BROWN; O-ROOTS	1.2	32	13000
SAV-17T-Q9	1593013.2	736857.1	RS1-9089-ET224	1593014.6	736857.1	31.70	CORE	0	2	SI/OR/FS/--	BROWN; OR-SOME LEAVES & TWIGS	0.54	56	27000
SAV-18T-Q1	1590210.2	736398.9	RS1-8988-WT014	1590171.6	736398.9	42.38	CORE	0	2	SI/--/FS/OR	GRAY BROWN, ORGANICS/SNAIL	0.52	59	34000
SAV-18T-Q2	1590181.8	736391.3	RS1-8988-WT014	1590171.6	736391.3	14.17	CORE	0	2	SI/--/FS/OR	GRAY BROWN, ORGANICS/SNAIL	0.52	59	34000
SAV-18T-Q3	1590130.9	736365.5	RS1-8988-WT020	1590114.5	736365.5	29.57	CORE	0	2	SI/FS/--/OR	BROWN. OR= ROOTS, WOOD CHIPS & SEED POD	0.37	63	35000
SAV-18T-Q4	1590092.5	736345.3	RS1-8988-WT020	1590114.5	736345.3	22.40	CORE	0	2	SI/FS/--/OR	BROWN. OR= ROOTS, WOOD CHIPS & SEED POD	0.37	63	35000
SAV-18T-Q5	1590063.4	736340.4	RS1-8988-AR008	1590035.3	736340.4	46.33	CORE	0	2	CS/MS/SI/OR	DK GRAY, LITTLE FS, TR=VEG	1.3	26	10000
SAV-18T-Q6	1590022.8	736339.2	RS1-8988-AR008	1590035.3	736339.2	37.81	CORE	0	2	CS/MS/SI/OR	DK GRAY, LITTLE FS, TR=VEG	1.3	26	10000
SAV-18T-Q7	1590162.0	736298.7	RS1-8988-WT013	1590172.5	736298.7	10.62	CORE	0	2	SI/FS/--/OR	DARK GREY BROWN. OR= ROOTS.	0.39	63	44000
SAV-18T-Q8	1590124.2	736297.0	RS1-8988-WS019	1590108.5	736297.0	41.22	CORE	0	2	SI/OR/GR/CL	GRAY-BROWN; OR-WOOD; TRANSITION TO GRAY-BROWN CLAY AT 2 IN MARK	0.76	43	44000
SAV-18T-Q9	1590197.0	736309.7	RS1-8988-WT013	1590172.5	736309.7	26.29	CORE	0	2	SI/FS/--/OR	DARK GREY BROWN. OR= ROOTS.	0.39	63	44000
SAV-19T-Q1	1583440.8	736105.5	RS2-8887-AR234	1583387.6	736105.5	66.17	CORE	0	2	MS/OR/FS/--	BROWN;ORG-WOOD CHIPS/GRASS	0.7	40	12000
SAV-19T-Q2	1583497.5	736125.0	RS2-8887-WS056	1583557.1	736125.0	67.71	CORE	0	2	FS/--/--/OR	DARK BROWN,OR CLAM AND WOOD,SLAG	0.82	36	47000
SAV-19T-Q3	1583542.8	736130.5	RS2-8887-WS056	1583557.1	736130.5	40.33	CORE	0	2	FS/--/--/OR	DARK BROWN,OR CLAM AND WOOD,SLAG	0.82	36	47000
SAV-19T-Q4	1583575.9	736136.0	RS2-8887-WS056	1583557.1	736136.0	47.12	CORE	0	2	FS/--/--/OR	DARK BROWN,OR CLAM AND WOOD,SLAG	0.82	36	47000
SAV-19T-Q5	1583608.3	736140.5	RS2-8887-AR031	1583624.7	736140.5	16.85	CORE	0	2	CS/MS/FS/SI	GREY BR, TR CLAMS	0.93	27	63000
SAV-19T-Q6	1583659.3	736175.1	RS2-8887-WS050	1583692.1	736175.1	33.81	CORE	0	2	FS/--/SI/OR	DARK GREY BROWN. OR= WOOD CHIPS.	1.1	32	19000

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Unconsolidated Bottom Samples			2002 - 2006 SSAP Grain Size Analyses											
Station Number	Northing	Eastings	Core ID	Northing	Eastings	Distance to Station (ft)	Sampling Technique	Start Depth (in)	End Depth (in)	Texture Description	General Description	Bulk Density (g/cm ³)	Moisture Content (%)	TOC (mg/kg)
SAV-19T-Q7	1583732.6	736231.3	RS2-8887-AR027	1583693.5	736231.3	50.95	CORE	0	2	FS/--/MS/CS	GREY BROWN. TRACE GR, VEG, WOOD, CLAM	0.67	47.2	37000
SAV-19T-Q8	1583811.1	736259.0	RS2-8887-CL001	1583816.8	736259.0	11.71	CORE	0	2	SI/--/FS/OR	DARK GREY BROWN. O=VEG, WOOD	0.56	57.6	0
SAV-19T-Q9	1583891.4	736292.8	RS2-8887-AR016	1583902.4	736292.8	43.36	CORE	0	2	FS/--/--/MS	GREY BROWN. TRACE SI, VEG, CLAM	1	35.4	24000
SAV-20T-Q1	1577063.4	737946.9	RS2-8685-ET032	1577041.4	737946.9	23.17	CORE	0	2	FS/SI/--/OR	DARK BROWN GREY . OR= ROOTS, VEGETATION	0.66	50	31000
SAV-20T-Q10	1577077.5	737980.2	RS2-8685-ET025	1577104.4	737980.2	27.65	CORE	0	2	SI/--/OR/FS	BROWN, OR TWIGS ROOTS LEAF LITTER	0.58	55	53000
SAV-20T-Q11	1577098.4	737967.9	RS2-8685-TT212	1577105.3	737967.9	7.48	CORE	0	2	SI/--/OR/FS	BROWN;ORG-WOOD,PULP	0.39	63	68000
SAV-20T-Q12	1577130.4	737969.5	RS2-8685-TT212	1577105.3	737969.5	25.15	CORE	0	2	SI/--/OR/FS	BROWN;ORG-WOOD,PULP	0.39	63	68000
SAV-20T-Q13	1577146.2	737955.8	RS2-8685-ET020	1577183.4	737955.8	41.61	CORE	0	2	SI/OR/FS/--	BROWN, OR WOOD TWIGS	0.42	67	55000
SAV-20T-Q14	1577165.4	737941.6	RS2-8685-ET020	1577183.4	737941.6	18.49	CORE	0	2	SI/OR/FS/--	BROWN, OR WOOD TWIGS	0.42	67	55000
SAV-20T-Q15	1577168.2	737949.7	RS2-8685-ET020	1577183.4	737949.7	19.66	CORE	0	2	SI/OR/FS/--	BROWN, OR WOOD TWIGS	0.42	67	55000
SAV-20T-Q16	1577336.7	737818.3	RS2-8685-ET010	1577320.7	737818.3	46.71	CORE	0	2	MS/SI/--/OR	DARK BROWN, OR-ROOTS, VEG	0.62	48	39000
SAV-20T-Q17	1577341.6	737809.9	RS2-8685-ET010	1577320.7	737809.9	41.21	CORE	0	2	MS/SI/--/OR	DARK BROWN, OR-ROOTS, VEG	0.62	48	39000
SAV-20T-Q18	1577321.6	737780.2	RS2-8685-ET010	1577320.7	737780.2	5.90	CORE	0	2	MS/SI/--/OR	DARK BROWN, OR-ROOTS, VEG	0.62	48	39000
SAV-20T-Q2	1577080.9	737936.5	RS2-8685-TT213	1577099.2	737936.5	35.07	CORE	0	2	SI/FS/--/OR	BROWN;ORG-ROOTS	0.71	44	45000
SAV-20T-Q3	1577104.1	737938.8	RS2-8685-TT212	1577105.3	737938.8	32.08	CORE	0	2	SI/--/OR/FS	BROWN;ORG-WOOD,PULP	0.39	63	68000
SAV-20T-Q4	1577132.5	737930.9	RS2-8685-LW002	1577104.7	737930.9	39.06	CORE	0	2	SI/--/FS/OR	BR, OR=VEG, TR BIOTA	0	51	0
SAV-20T-Q5	1577146.4	737902.1	RS2-8685-LW002	1577104.7	737902.1	41.72	CORE	0	2	SI/--/FS/OR	BR, OR=VEG, TR BIOTA	0	51	0
SAV-20T-Q6	1577148.1	737926.9	RS2-8685-ET020	1577183.4	737926.9	36.78	CORE	0	2	SI/OR/FS/--	BROWN, OR WOOD TWIGS	0.42	67	55000
SAV-20T-Q7	1577321.8	737803.4	RS2-8685-ET010	1577320.7	737803.4	29.00	CORE	0	2	MS/SI/--/OR	DARK BROWN, OR-ROOTS, VEG	0.62	48	39000
SAV-20T-Q8	1577333.6	737787.2	RS2-8685-ET010	1577320.7	737787.2	18.16	CORE	0	2	MS/SI/--/OR	DARK BROWN, OR-ROOTS, VEG	0.62	48	39000
SAV-20T-Q9	1577309.0	737794.9	RS2-8685-ET010	1577320.7	737794.9	23.62	CORE	0	2	MS/SI/--/OR	DARK BROWN, OR-ROOTS, VEG	0.62	48	39000

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Unconsolidated Bottom Samples			2002 - 2006 SSAP Grain Size Analyses											
Station Number	Northing	Eastng	Core ID	Northing	Eastng	Distance to Station (ft)	Sampling Technique	Start Depth (in)	End Depth (in)	Texture Description	General Description	Bulk Density (g/cm ³)	Moisture Content (%)	TOC (mg/kg)
SAV-21T-Q1	1569176.3	735099.8	RS2-8584-AR048	1569172.2	735099.8	23.61	CORE	0	2	SI/--/FS/--	BR	0.46	58	35000
SAV-21T-Q10	1569108.0	735089.9	RS2-8584-AR048	1569172.2	735089.9	65.51	CORE	0	2	SI/--/FS/--	BR	0.46	58	35000
SAV-21T-Q11	1569042.1	735094.5	RS2-8584-ES098	1569007.6	735094.5	53.33	CORE	0	2	SI/--/--/--	BROWN	0.45	64.1	48000
SAV-21T-Q12	1568977.9	735090.7	RS2-8584-ES098	1569007.6	735090.7	47.32	CORE	0	2	SI/--/--/--	BROWN	0.45	64.1	48000
SAV-21T-Q13	1568905.9	735084.6	RS2-8584-ES098	1569007.6	735084.6	106.23	CORE	0	2	SI/--/--/--	BROWN	0.45	64.1	48000
SAV-21T-Q14	1568733.8	735097.7	RS2-8584-ES104	1568722.3	735097.7	43.68	CORE	0	2	SI/--/--/--	GRAY-BROWN	0.35	68	65000
SAV-21T-Q15	1568857.3	735093.8	RS2-8584-ES101	1568870.0	735093.8	116.82	CORE	0	2	SI/FS/--/OR	BROWN; O-ROOTS, WOOD CHIPS	0.68	47.9	25000
SAV-21T-Q16	1568774.1	735096.6	RS2-8584-ES104	1568722.3	735096.6	66.08	CORE	0	2	SI/--/--/--	GRAY-BROWN	0.35	68	65000
SAV-21T-Q17	1568686.4	735098.7	RS2-8584-ES104	1568722.3	735098.7	56.16	CORE	0	2	SI/--/--/--	GRAY-BROWN	0.35	68	65000
SAV-21T-Q18	1568625.9	735116.5	RS2-8584-AR056	1568569.7	735116.5	65.40	CORE	0	2	SI/--/--/FS	GRAY-BROWN	0.43	60	43000
SAV-21T-Q2	1569142.9	735104.2	RS2-8584-AR048	1569172.2	735104.2	40.30	CORE	0	2	SI/--/FS/--	BR	0.46	58	35000
SAV-21T-Q3	1569023.2	735102.9	RS2-8584-ES098	1569007.6	735102.9	51.40	CORE	0	2	SI/--/--/--	BROWN	0.45	64.1	48000
SAV-21T-Q4	1569062.0	735103.8	RS2-8584-ES098	1569007.6	735103.8	73.84	CORE	0	2	SI/--/--/--	BROWN	0.45	64.1	48000
SAV-21T-Q5	1568941.7	735095.3	RS2-8584-ES098	1569007.6	735095.3	77.83	CORE	0	2	SI/--/--/--	BROWN	0.45	64.1	48000
SAV-21T-Q6	1568837.8	735096.8	RS2-8584-ES104	1568722.3	735096.8	122.62	CORE	0	2	SI/--/--/--	GRAY-BROWN	0.35	68	65000
SAV-21T-Q7	1568814.3	735100.2	RS2-8584-ES104	1568722.3	735100.2	102.27	CORE	0	2	SI/--/--/--	GRAY-BROWN	0.35	68	65000
SAV-21T-Q8	1568710.1	735110.0	RS2-8584-ES104	1568722.3	735110.0	55.84	CORE	0	2	SI/--/--/--	GRAY-BROWN	0.35	68	65000
SAV-21T-Q9	1568665.0	735113.1	RS2-8584-ES104	1568722.3	735113.1	81.23	CORE	0	2	SI/--/--/--	GRAY-BROWN	0.35	68	65000
SAV-22T-Q1	1540167.4	738944.4	RS3-7978-ES442	1540153.6	738944.4	26.28	CORE	0	2	SI/--/--/OR	DARK BROWN. OR=VEGETATION.	1.6	82	44000
SAV-22T-Q2	1540193.1	738961.3	RS3-7978-VT213	1540209.0	738961.3	18.46	CORE	0	2	SI/--/FS/OR	BROWN;ORG-ROOTS	1.18	53.5	33000
SAV-22T-Q3	1540211.1	738950.3	RS3-7978-ES078	1540211.1	738950.3	2.66	CORE	0	2	SI/FS/OR/--	GRAY; OR-LITTLE VEGETATION	0.47	62	38000
SAV-22T-Q4	1540241.0	738976.3	RS3-7978-ES078	1540211.1	738976.3	37.96	CORE	0	2	SI/FS/OR/--	GRAY; OR-LITTLE VEGETATION	0.47	62	38000
SAV-22T-Q5	1540250.4	738952.9	RS3-7978-ES078	1540211.1	738952.9	39.27	CORE	0	2	SI/FS/OR/--	GRAY; OR-LITTLE VEGETATION	0.47	62	38000

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Appendix H - Habitat Assessment Data (UCB-SSAP Other)

Unconsolidated Bottom Samples			2002 - 2006 SSAP Grain Size Analyses											
Station Number	Northing	Easting	Core ID	Northing	Easting	Distance to Station (ft)	Sampling Technique	Start Depth (in)	End Depth (in)	Texture Description	General Description	Bulk Density (g/cm ³)	Moisture Content (%)	TOC (mg/kg)
SAV-22T-Q6	1540307.8	738972.9	RS3-7978-ES075	1540334.2	738972.9	29.43	CORE	0	2	SI/FS/--/OR	DARK BROWN, OR-VEG	0.92	57.5	33500
SAV-22T-Q7	1540336.0	738978.4	RS3-7978-ES075	1540334.2	738978.4	18.57	CORE	0	2	SI/FS/--/OR	DARK BROWN, OR-VEG	0.92	57.5	33500
SAV-22T-Q8	1540366.0	738988.8	RS3-7978-ES075	1540334.2	738988.8	42.88	CORE	0	2	SI/FS/--/OR	DARK BROWN, OR-VEG	0.92	57.5	33500
SAV-22T-Q9	1540395.4	738986.0	RS3-7978-ES436	1540419.7	738986.0	24.62	CORE	0	2	SI/--/FS	BROWN. TRACE VEG	0.48	61	46000
SAV-23T-Q1	1537930.7	736612.4	RS3-7877-WS025	1537946.1	736612.4	25.79	CORE	0	2	SI/--/FS/OR	BROWN; OR-TRACE ROOTS	0.76	45	26000
SAV-23T-Q2	1537923.7	736635.9	RS3-7877-WS025	1537946.1	736635.9	22.63	CORE	0	2	SI/--/FS/OR	BROWN; OR-TRACE ROOTS	0.76	45	26000
SAV-23T-Q3	1537954.7	736654.9	RS3-7877-WS025	1537946.1	736654.9	23.53	CORE	0	2	SI/--/FS/OR	BROWN; OR-TRACE ROOTS	0.76	45	26000
SAV-23T-Q4	1537986.6	736665.2	RS3-7877-WS425	1538023.0	736665.2	36.64	CORE	0	2	SI/--/FS	DARK BROWN;TRACE VEG	0.58	54	39000
SAV-23T-Q5	1538013.3	736679.5	RS3-7877-WS425	1538023.0	736679.5	21.03	CORE	0	2	SI/--/FS	DARK BROWN;TRACE VEG	0.58	54	39000
SAV-23T-Q6	1538001.6	736705.9	RS3-7877-WS023	1538001.1	736705.9	26.80	CORE	0	2	SI/FS/--/OR	BROWN, OR-ROOTS	0.9	37	18000
SAV-23T-Q7	1538043.4	736709.4	RS3-7877-WS423	1538064.2	736709.4	44.30	CORE	0	2	SI/--/FS/OR	DARK BROWN. OR=VEGETATION.	0.76	45	30000
SAV-23T-Q8	1538031.1	736747.4	RS3-7877-WS423	1538064.2	736747.4	33.19	CORE	0	2	SI/--/FS/OR	DARK BROWN. OR=VEGETATION.	0.76	45	30000
SAV-23T-Q9	1538061.8	736755.1	RS3-7877-WS423	1538064.2	736755.1	7.01	CORE	0	2	SI/--/FS/OR	DARK BROWN. OR=VEGETATION.	0.76	45	30000
SAV-24T-Q1	1533460.4	735385.3	RS3-7776-WS030	1533488.1	735385.3	32.93	CORE	0	2	FS/--/SI/OR	DARK BROWN. OR= TWIGS, ROOTS, LEAVES.	0.61	50	25000
SAV-24T-Q2	1533445.8	735322.9	RS3-7776-WS032	1533430.3	735322.9	15.72	CORE	0	2	SI/--/FS/OR	DARK BROWN, OR-TWIGS	0.81	44	23000
SAV-24T-Q3	1533465.3	735304.2	RS3-7776-EP200	1533480.0	735304.2	28.09	CORE	0	2	SI/--/FS/OR	DK GR BR, OR=VEG	0.64	46	23000
SAV-24T-Q4	1533413.8	735301.7	RS3-7776-WS032	1533430.3	735301.7	28.96	CORE	0	2	SI/--/FS/OR	DARK BROWN, OR-TWIGS	0.81	44	23000
SAV-24T-Q5	1533401.0	735331.4	RS3-7776-WS032	1533430.3	735331.4	29.83	CORE	0	2	SI/--/FS/OR	DARK BROWN, OR-TWIGS	0.81	44	23000
SAV-24T-Q6	1533422.3	735277.4	RS3-7776-WS421	1533451.4	735277.4	33.00	CORE	0	2	SI/--/FS	DARK BROWN; TR VEG	0.61	54	33000
SAV-24T-Q7	1533346.7	735305.2	RS3-7776-WS035	1533328.7	735305.2	28.13	CORE	0	2	SI/FS/--/OR	BROWN; OR-TRACE ROOTS & VEGETATION	0.59	53	25000
SAV-24T-Q8	1533368.7	735285.3	RS3-7776-WS034	1533362.9	735285.3	47.50	CORE	0	2	SI/FS/--/OR	GREY BROWN. O=SHELL FRAG, VEG	1.41	89	44000
SAV-24T-Q9	1533383.8	735261.4	RS3-7776-WS034	1533362.9	735261.4	31.27	CORE	0	2	SI/FS/--/OR	GREY BROWN. O=SHELL FRAG, VEG	1.41	89	44000

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Appendix H - Habitat Assessment Data (UCB-SSAP Other)

Unconsolidated Bottom Samples			2002 - 2006 SSAP Grain Size Analyses											
Station Number	Northing	Easting	Core ID	Northing	Easting	Distance to Station (ft)	Sampling Technique	Start Depth (in)	End Depth (in)	Texture Description	General Description	Bulk Density (g/cm ³)	Moisture Content (%)	TOC (mg/kg)
SAV-25T-Q1	1528225.7	735510.7	RS3-7675-ES433	1528193.2	735510.7	32.48	CORE	0	2	SI/--/FS/--	BROWN	1.57	85	54000
SAV-25T-Q2	1528206.2	735504.3	RS3-7675-ES433	1528193.2	735504.3	14.14	CORE	0	2	SI/--/FS/--	BROWN	1.57	85	54000
SAV-25T-Q3	1528172.4	735518.5	RS3-7675-ES433	1528193.2	735518.5	22.58	CORE	0	2	SI/--/FS/--	BROWN	1.57	85	54000
SAV-25T-Q4	1528153.2	735513.8	RS3-7675-ES433	1528193.2	735513.8	40.20	CORE	0	2	SI/--/FS/--	BROWN	1.57	85	54000
SAV-25T-Q5	1528146.4	735517.6	RS3-7675-ES433	1528193.2	735517.6	47.44	CORE	0	2	SI/--/FS/--	BROWN	1.57	85	54000
SAV-25T-Q6	1528131.8	735517.2	RS3-7675-ES022	1528090.1	735517.2	44.19	CORE	0	2	SI/OR/--/--	GRAY-BROWN; OR-SOME LEAVES & TWIGS	0.55	58	33000
SAV-25T-Q7	1528106.6	735532.0	RS3-7675-ES022	1528090.1	735532.0	33.66	CORE	0	2	SI/OR/--/--	GRAY-BROWN; OR-SOME LEAVES & TWIGS	0.55	58	33000
SAV-25T-Q8	1528087.0	735517.3	RS3-7675-ES022	1528090.1	735517.3	15.02	CORE	0	2	SI/OR/--/--	GRAY-BROWN; OR-SOME LEAVES & TWIGS	0.55	58	33000
SAV-25T-Q9	1528077.5	735527.5	RS3-7675-ES022	1528090.1	735527.5	27.93	CORE	0	2	SI/OR/--/--	GRAY-BROWN; OR-SOME LEAVES & TWIGS	0.55	58	33000
SAV-26T-Q1	1499149.5	724623.0	RS3-7069-ET301	1499164.7	724623.0	41.59	CORE	0	2	SI/FS/OR/--	BROWN. OR= VEGETATION, ROOTS, WATER CHEST NUTS.	0.56	57	33000
SAV-26T-Q10	1500653.9	725250.3	RS3-7069-LW013	1500625.9	725250.3	29.48	CORE	0	2	SI/--/--/FS	BR, TR VEG	0	67.1	0
SAV-26T-Q11	1500699.0	725251.3	RS3-7069-ET115	1500686.3	725251.3	45.13	CORE	0	2	SI/FS/OR/--	BROWN. OR= ROOTS, WATER CHESTNUTS, CLAM	0.58	48	22000
SAV-26T-Q12	1500733.3	725257.1	RS3-7069-ET107	1500756.8	725257.1	23.49	CORE	0	2	SI/OR/--/--	GRAY-BROWN; OR-SOME ROOTS & WEEDS	1.13	53.5	32500
SAV-26T-Q13	1500782.3	725274.8	RS3-7069-LW012	1500758.2	725274.8	29.48	CORE	0	2	SI/--/--/FS	BR, TR VEG	0	57.3	0
SAV-26T-Q14	1500857.2	725278.2	RS3-7069-ET089	1500897.9	725278.2	46.00	CORE	0	2	SI/FS/OR/--	BROWN. OR= ROOTS	0.64	51	27000
SAV-26T-Q15	1501372.6	725293.7	RS3-7069-ET037	1501382.0	725293.7	10.15	CORE	0	2	FS/SI/OR/--	DARK BROWN. OR= ROOTS, VEGETATION	0.58	52	30000
SAV-26T-Q16	1501402.7	725305.6	RS3-7069-LW003	1501384.1	725305.6	20.32	CORE	0	2	SI/--/OR/FS	BROWN, OR-WATER CHESTNUTS AND ROOTS, SLIGHT ODOR.	0	52.6	0
SAV-26T-Q17	1501437.1	725321.9	RS3-7069-ET029	1501452.4	725321.9	21.19	CORE	0	2	FS/SI/--/OR	DARK BROWN, OR-ROOTS	0.98	36	8100
SAV-26T-Q18	1501481.8	725341.6	RS3-7069-ET029	1501452.4	725341.6	29.83	CORE	0	2	FS/SI/--/OR	DARK BROWN, OR-ROOTS	0.98	36	8100
SAV-26T-Q2	1499092.0	724610.9	RS3-7069-ET308	1499099.6	724610.9	77.43	CORE	0	2	FS/MS/--/GR	DARK BROWN	1.3	20	3000
SAV-26T-Q3	1499034.0	724612.3	RS3-7069-ET319	1499021.1	724612.3	36.10	CORE	0	2	FS/SI/OR/--	DARK BROWN. OR= ROOTS, VEGETATION	1.19	52.5	33000

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Appendix H - Habitat Assessment Data (UCB-SSAP Other)

Unconsolidated Bottom Samples			2002 - 2006 SSAP Grain Size Analyses											
Station Number	Northing	Easting	Core ID	Northing	Easting	Distance to Station (ft)	Sampling Technique	Start Depth (in)	End Depth (in)	Texture Description	General Description	Bulk Density (g/cm ³)	Moisture Content (%)	TOC (mg/kg)
SAV-26T-Q4	1499100.1	724661.5	RS3-7069-ET310	1499099.6	724661.5	35.20	CORE	0	2	FS/SI/OR/--	BROWN, OR= WATER CHEST NUTS, ROOTS, VEGETATION	0.44	65	48000
SAV-26T-Q5	1499179.4	724684.9	RS3-7069-ET301	1499164.7	724684.9	27.45	CORE	0	2	SI/FS/OR/--	BROWN, OR= VEGETATION, ROOTS, WATER CHEST NUTS.	0.56	57	33000
SAV-26T-Q6	1499072.3	724631.1	RS3-7069-ET320	1499021.1	724631.1	58.37	CORE	0	2	SI/OR/--/--	GREY BROWN, OR WEEDS ROOTS TWIGS	0.57	53	22000
SAV-26T-Q7	1500498.5	725218.5	RS3-7069-LW015	1500482.6	725218.5	42.69	CORE	0	2	SI/--/--/FS	LIGHT BROWN	0	48	0
SAV-26T-Q8	1500546.1	725230.4	RS3-7069-ET133	1500549.1	725230.4	12.56	CORE	0	2	SI/FS/OR/--	BROWN;O -ROOTS, TWIGS	0.54	55	28000
SAV-26T-Q9	1500600.2	725240.9	RS3-7069-ET124	1500621.0	725240.9	27.36	CORE	0	2	SI/OR/--/--	DARK BROWN, ORGANICS/TWIGS, LEAVES & WATER CHESTNUTS	0.57	51	22000

Notes:

- All SSAP data based on 2/14/2006 version of QEA export.
- Coordinates are in NAD83 NY State Plane East (feet)
- CL = clay; SI = silt; FS = fine sand; MS = medium sand; CS = coarse sand; GR = gravel; OR = organic

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Appendix H - Habitat Assessment Data (SAV - Species Specific Results)

Station ID	Total Biomass (g/m ²)	Total Stem Density	Species	Stem Length Statistics					Species Biomass (g/m ²)	No. Stems SPP
				Count	Min	Max	Avg	St. Dev.		
SAV-05T-2003-Q1	39.52	152	Va	5	44.8	73.7	58.78	12.37	2.2	8
			Ppf	5	34.5	103.3	65.7	30.04	2.74	11
SAV-05T-2003-Q2	119.76	464	Ppf	2	75.4	105.2	90.3	21.07	1.06	2
			Va	5	62	79.1	69.16	7.86	13.91	56
SAV-05T-2003-Q3	92.48	328	Va	5	53.4	79	69.8	10.15	11.56	41
SAV-05T-2003-Q4	35.44	96	Va	5	41	156.4	72.58	48.97	4.43	12
SAV-05T-2003-Q5	145.76	416	Va	5	91.2	108	100.66	6.42	18.22	52
SAV-05T-2003-Q6	105.84	360	Va	5	72.7	108.5	94.24	13.19	13.23	45
SAV-05T-2003-Q7	33.68	216	Va	5	32.3	90.4	63.06	21.44	4.21	27
SAV-05T-2003-Q8	31.52	160	Va	5	45.6	85.6	64	14.41	3.94	20
SAV-05T-2003-Q9	54.4	120	Va	5	49	71.2	59.2	8.40	6.8	15
SAV-07T-2003-Q1	65.84	272	Va	5	29.6	67.2	46.26	13.85	4.87	16
			Pg	5	66.5	108.1	86.32	16.31	3.36	18
SAV-07T-2003-Q2	42.24	296	Ec	5	24	42.8	33.94	8.20	0.96	7
			Va	5	46.8	69	57.34	7.96	4.32	30
SAV-07T-2003-Q3	111.44	240	Va	5	109.1	156.2	128.34	18.98	13.93	30
SAV-07T-2003-Q4	37.04	304	Va	5	31.9	43.2	37.96	5.16	4.63	38
SAV-07T-2003-Q5	95.36	200	Va	5	78.2	122.4	94.58	19.31	11.92	25
SAV-07T-2003-Q6	42.16	256	Va	5	48.5	71.9	56.66	9.44	5.27	32
SAV-07T-2003-Q7	61.04	344	Va	5	34.1	54.2	45.38	8.29	7.63	43
SAV-07T-2003-Q8	117.92	296	Va	5	106.8	141.4	124.2	15.99	14.74	37
SAV-07T-2003-Q9	62.48	240	Va	5	84	95.9	87.38	4.93	7.81	30
SAV-08T-2003-Q1	60.8	216	Pn	5	62	80.3	68.06	7.35	7.6	27
SAV-08T-2003-Q2	56.64	320	Pn	5	66.3	96.2	77.82	12.19	4.4	15
			Va	5	21	45.3	32	9.85	2.68	25
SAV-08T-2003-Q3	20.56	168	Pn	5	42.4	56.7	46.06	6.00	2.57	21
SAV-08T-2003-Q4	51.04	360	Ec	5	18.9	40.7	26.82	8.30	0.56	8
			Va	5	34.7	58.8	44.54	10.21	5.82	37
SAV-08T-2003-Q5	66.96	416	Ec	5	20.3	32.5	24.58	4.63	0.34	7
			Va	5	63.2	92.1	77	10.86	8.03	45

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Appendix H - Habitat Assessment Data (SAV - Species Specific Results)

Station ID	Total Biomass (g/m ²)	Total Stem Density	Species	Stem Length Statistics					Species Biomass (g/m ²)	No. Stems SPP
				Count	Min	Max	Avg	St. Dev.		
SAV-08T-2003-Q6	71.12	296	Va	5	59.4	109.3	84.92	20.09	8.89	37
SAV-08T-2003-Q7	67.52	408	Ec	5	21.7	48.8	32.22	10.94	3.7	26
			Va	5	36.2	49.5	43.42	6.42	4.74	25
SAV-08T-2003-Q8	52.4	208	Va	5	55.7	75.5	64.38	7.67	6.55	26
SAV-08T-2003-Q9	118.88	224	Ec	1	49.2	49.2	49.2		0.21	1
			Va	5	47.4	82.9	67.48	15.33	14.65	27
SAV-09T-2003-Q1	56.32	296	Va	5	33.5	48.9	41.26	6.19	7.04	37
SAV-09T-2003-Q2	228.24	304	Va	5	111.1	137.3	124.5	9.52	28.53	38
SAV-09T-2003-Q3	71.52	456	Va	5	75.1	120.8	93.18	17.46	8.94	57
SAV-09T-2003-Q4	193.6	456	Va	5	76.3	104.9	92.32	11.28	24.2	57
SAV-09T-2003-Q5	85.76	368	Va	5	53.9	69.7	59.48	7.17	10.72	46
SAV-09T-2003-Q6	155.2	208	Va	5	102.3	127.1	117.08	9.80	19.4	26
SAV-09T-2003-Q7	16.32	136	Va	5	28.4	41.4	34.62	6.13	2.04	17
SAV-09T-2003-Q8	18.16	136	Va	5	47.1	68.9	56.52	9.05	2.27	17
SAV-09T-2003-Q9	55.76	168	Va	5	56.8	87.4	75.6	11.85	6.97	21
SAV-10T-2005-Q1	448	488	Va	10	48.8	135.1	76.46	29.04	56	61
SAV-10T-2005-Q10	202.88	432	Va	9	42.8	70	55.744444	8.35	25.36	54
SAV-10T-2005-Q11	368.64	720	Va	8	48.3	92.6	74.8625	15.32	39.34	89
SAV-10T-2005-Q12	282.48	280	Ec	4	7.3	17.7	10.175	5.03	6.79	4
			Va	10	37.4	112.4	71.12	20.94	28.52	31
SAV-10T-2005-Q13	358.24	592	Va	10	26.1	157	80.62	45.60	44.78	74
SAV-10T-2005-Q14	212.24	248	Va	10	52.3	114.8	86.85	19.11	26.53	31
SAV-10T-2005-Q15	210.08	448	Va	10	35	104.2	62.72	21.16	26.26	56
SAV-10T-2005-Q16	507.52	632	Va	10	37	138.1	86.19	35.93	63.44	79
SAV-10T-2005-Q17	489.04	512	Va	10	57.5	134.4	96.68	30.57	61.13	64
SAV-10T-2005-Q18	226.08	200	Ec	10	5.6	29.2	15.96	8.04	7.37	11
			Va	10	22.4	70.6	45.46	13.82	20.89	14
SAV-10T-2005-Q2	239.28	472	Va	10	39.8	89.8	69.18	14.36	29.91	59
SAV-10T-2005-Q3	242.96	512	Va	10	35.1	127.5	60.21	26.66	30.37	64
SAV-10T-2005-Q4	478.32	728	Ec	4	20.9	56.5	38.275	15.44	11.88	4

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Station ID	Total Biomass (g/m ²)	Total Stem Density	Species	Stem Length Statistics					Species Biomass (g/m ²)	No. Stems SPP
				Count	Min	Max	Avg	St. Dev.		
SAV-10T-2005-Q4	478.32	728	Va	10	42.5	76	57.01	10.87	47.91	87
SAV-10T-2005-Q5	353.76	800	Va	10	64	131.2	94.77	21.70	44.22	100
SAV-10T-2005-Q6	511.84	528	Va	10	50.1	183	99.31	40.51	63.98	66
SAV-10T-2005-Q7	263.12	584	Va	10	54	84.1	70.72	9.42	32.89	73
SAV-10T-2005-Q8	225.76	168	Va	10	34.6	115	60.67	22.89	21.06	20
SAV-10T-2005-Q9	251.2	376	Va	10	41.5	60.2	47.4	6.17	31.4	47
SAV-10T-2006-Q1	85.84	232	Va	10	27.7	64.4	44.56	12.38	10.73	29
SAV-10T-2006-Q10	73.28	104	Va	10	27.3	73.2	50.58	14.01	9.16	13
SAV-10T-2006-Q11	107.52	216	Va	10	32	95.9	71.73	20.16	13.44	27
SAV-10T-2006-Q12	75.76	256	Va	10	31.9	51.3	38.57	6.03	9.47	32
SAV-10T-2006-Q13	68.32	152	Va	10	15.7	64.8	30.05	15.45	8.54	19
SAV-10T-2006-Q14	312	1184	Va	10	54.4	89.5	67.47	11.51	39	148
SAV-10T-2006-Q15	426.16	584	Va	10	58	107.1	80.19	14.41	53.27	73
SAV-10T-2006-Q16	284.64	504	Va	10	60.9	126.2	91.33	21.60	35.58	63
SAV-10T-2006-Q17	102.96	184	Va	10	27	63.5	40.11	12.17	12.87	23
SAV-10T-2006-Q18	258.16	432	Va	10	50.5	95.2	72.11	15.94	32.27	54
SAV-10T-2006-Q2	190.64	152	Nyp	10	42.2	150.3	92.08	31.03		
SAV-10T-2006-Q3	159.04	232	Va	10	26.4	54.2	37.82	8.52	19.88	29
SAV-10T-2006-Q4	161.76	264	Nyp	10	58.7	109.3	81.65	14.72		
SAV-10T-2006-Q5	272.8	296	Va	10	64.6	108.9	80.57	12.54	34.1	37
SAV-10T-2006-Q6	81.28	144	Va	10	30.1	44.2	37.58	5.24	10.16	18
SAV-10T-2006-Q7	86	328	Va	10	35.5	56.5	42.7	5.95	10.75	41
SAV-10T-2006-Q8	63.36	64	Va	8	23.4	40.2	33.7625	6.67	7.92	8
SAV-10T-2006-Q9	76.96	64	Va	8	28.2	53.3	40.85	9.66	9.62	8
SAV-11T-2005-Q1	450	392	Va	10	59.8	133.2	92.61	21.31	56.25	49
SAV-11T-2005-Q10	562.48	272	Ec	10	26.3	74.1	45.01	15.11	48.72	30
			Va	4	17.1	79.1	55.875	29.20	21.59	4
SAV-11T-2005-Q11	294.48	328	Va	10	41.1	132.4	74.2	31.35	36.81	41
SAV-11T-2005-Q12	205.04	104	Va	10	41.2	112.1	79.27	23.75	25.63	13
SAV-11T-2005-Q13	220.4	112	Va	10	37.1	117	78.29	31.73	27.55	14

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Station ID	Total Biomass (g/m ²)	Total Stem Density	Species	Stem Length Statistics					Species Biomass (g/m ²)	No. Stems SPP
				Count	Min	Max	Avg	St. Dev.		
SAV-11T-2005-Q15	282.88	208	Va	10	30.4	87.6	61.44	19.65	35.36	26
SAV-11T-2005-Q16	215.2	112	Va	10	23.9	131	68.18	32.90	26.9	14
SAV-11T-2005-Q17	664.16	712	Va	10	66.2	113.9	93.76	17.66	83.02	89
SAV-11T-2005-Q18	673.6	1368	79	1	63	63	63		13.99	1
			Va	10	41.1	81.6	61.13	13.46	70.21	170
SAV-11T-2005-Q2	333.84	144	Pn	10	21.5	176	74.91	46.35	41.73	18
SAV-11T-2005-Q3	280	144	Va	10	32.6	98.2	55.14	22.90	35	18
SAV-11T-2005-Q4	652.24	440	Va	10	85.3	182	138.37	27.53	81.53	55
SAV-11T-2005-Q5	264.64	248	Va	10	40.4	129.8	83.89	27.81	33.08	31
SAV-11T-2005-Q6	510.24	48	Va	6	20.5	80.5	53.85	23.58	63.78	6
SAV-11T-2005-Q7	462.24	616	Va	10	52.9	156.3	94.62	35.56	57.78	77
SAV-11T-2005-Q8	251.76	104	Va	10	24.3	134.6	84.73	42.90	31.47	13
SAV-11T-2005-Q9	395.12	416	Ec	6	7.9	27.3	13.933333	7.00	19.28	6
			Va	10	11.1	114.8	56.66	25.29	30.11	46
SAV-12R-2005-Q1	292.8	336	Va	10	29.8	81.5	55.7	18.09	36.6	42
SAV-12R-2005-Q2	275.36	504	Va	10	35.4	125	80.54	26.37	34.42	63
SAV-12R-2005-Q3	590.96	744	Pep	10	29.6	112.3	64.84	26.75	38.7	52
			Va	10	58.3	155.3	108.51	30.94	35.17	41
SAV-12R-2005-Q4	391.44	592	Va	10	36.1	150	75.72	33.76	48.93	74
SAV-12R-2005-Q5	214.88	392	Va	10	36.6	95.7	61.82	18.25	26.86	49
SAV-12R-2005-Q6	195.76	352	Va	10	30.5	112.3	73.02	25.94	24.47	44
SAV-12R-2005-Q7	309.76	632	Va	10	41	92.3	65.87	15.45	38.72	79
SAV-12R-2005-Q8	423.92	432	Ec	4	20.2	98.4	57.7	34.24	14.4	4
			Va	10	44.1	96.4	66.1	15.93	38.59	50
SAV-12R-2005-Q9	166.4	184	Va	10	25.1	76.2	50.64	16.06	20.8	23
SAV-12T-Q1	382.08	624	Va	10	47.8	109.2	76.82	18.05	47.76	78
SAV-12T-Q2	620.4	536	Va	10	53.8	112.2	79.49	23.03	69.44	66
			Ec	1	16.9	16.9	16.9		8.11	1
SAV-12T-Q3	759.52	568	Va	10	47.4	108.4	87.48	18.57	94.94	71
SAV-12T-Q4	735.68	760	Va	10	57.7	109.2	78.49	14.63	91.96	95

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				Count	Min	Max	Avg	St. Dev.		
SAV-12T-Q5	423.04	336	Ppf	10	94.6	212.9	178.9	36.69	52.88	42
SAV-12T-Q6	708.4	544	Ppf	10	61.8	193.3	156.68	44.42	25.5	26
			Va	9	105.8	132.6	115.76667	8.68	43.06	25
SAV-12T-Q7	528.4	576	Va	10	92.4	141.5	109.52	14.11	66.05	72
SAV-12T-Q8	392.64	504	Va	10	51.3	90.5	71.36	13.69	33.53	37
			Pep	10	108.6	156	142.26	14.83	15.55	26
SAV-12T-Q9	348.4	608	Va	10	64	101.9	83.14	11.45	43.55	76
SAV-13R-2006-Q1	452	1096	Va	10	123.2	215.6	167.8	30.75	56.5	137
SAV-13R-2006-Q2	509.68	1104	Va	10	75.2	137.4	104.11	20.97	63.71	138
SAV-13R-2006-Q3	275.12	496	Va	10	81.7	130.7	104.06	17.20	34.39	62
SAV-13R-2006-Q4	193.36	456	Va	10	35.1	108.2	60.48	25.70	24.17	57
SAV-13R-2006-Q5	274.08	1104	Va	10	53	91.5	73.72	14.72	34.26	138
SAV-13R-2006-Q6	280	472	Va	10	83.4	129.7	108.16	12.81	35	59
SAV-13R-2006-Q7	169.76	336	Va	10	43.5	106.2	71.26	19.40	21.22	42
SAV-13R-2006-Q8	412.24	616	Va	10	76.4	112	93.91	12.00	51.53	77
SAV-13R-2006-Q9	270	880	Va	10	41.8	80.3	64.45	12.84	33.75	110
SAV-13T-Q1	556.32	312	Pep	6	28.9	123.6	78.016667	37.26	8.94	6
			Va	10	55.4	105.6	78.19	16.07	52.55	32
SAV-13T-Q2	667.84	376	Pep	10	58.1	142.1	107.31	24.88	25.77	23
			Va	10	72	136.2	99.82	25.45	57.71	24
SAV-13T-Q3	885.76	640	Va	10	98.7	142.2	128.53	14.64	110.72	80
SAV-13T-Q4	872.48	320	Nyp	10	105.5	149.5	140.93	13.20		
			Va	6	26.2	108.9	58.983333	29.95	9.36	6
SAV-13T-Q5	319.12	280	Va	10	45.1	112.6	72.46	22.36	39.89	35
SAV-13T-Q6	199.52	288	Va	10	25.6	60.2	41.29	10.99	24.94	36
SAV-13T-Q7	231.04	312	Va	10	51.5	96.3	75.47	14.93	28.88	39
SAV-13T-Q8	499.36	272	Ec	5	7.7	33.9	17.72	10.45	6.91	5
			Va	10	36.2	81.3	65.54	15.34	55.51	29
SAV-13T-Q9	362.24	312	Va	10	45.2	90.5	63.71	15.00	45.28	39
SAV-14R-2005-Q1	895.76	800	Va	10	48.9	131.8	100.6	24.59	111.97	100

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				Count	Min	Max	Avg	St. Dev.		
SAV-14R-2005-Q2	204	264	Va	10	32.6	117.5	78.01	26.60	25.5	33
SAV-14R-2005-Q3	449.2	760	Va	10	55.4	135.1	90.51	25.58	56.15	95
SAV-14R-2005-Q4	438	584	Ppf	10	26.4	141.3	83.45	41.45	13.03	11
			Va	10	50.3	120.3	89.52	23.38	41.72	62
SAV-14R-2005-Q5	205.6	240	Va	10	33.7	103.1	78.1	21.37	25.7	30
SAV-14R-2005-Q6	458.24	464	Ppf	10	86.5	141.9	120.28	15.50	24.71	13
			Va	10	16.2	113.1	74.32	31.25	25.69	42
			Ec	3	27.4	77.3	55.666667	25.60	6.88	3
SAV-14R-2005-Q7	229.52	312	Va	10	40.8	134.9	82.07	35.45	28.69	39
SAV-14R-2005-Q8	476.8	616	Va	10	55.6	107.1	77.54	13.44	59.6	77
SAV-14R-2005-Q9	348.4	392	Ppf	10	29	250.6	109.89	69.38	32.45	40
			Va	9	30.4	184.3	107.38889	46.89	11.1	9
SAV-14T-2005-Q1	204.08	120	Va	10	50.4	145.1	79.94	28.05	25.51	15
SAV-14T-2005-Q2	242.64	104	Va	10	65.3	156.1	97.31	25.94	30.33	13
SAV-14T-2005-Q3	164.56	64	Va	8	46.1	94.9	59.3375	16.75	20.57	8
SAV-14T-2005-Q4	286.16	248	Va	10	77.4	139.9	115.25	19.07	35.77	31
SAV-14T-2005-Q5	76.16	96	Va	10	17.9	70.1	42.25	18.73	9.52	12
SAV-14T-2005-Q6	229.6	112	Va	10	44.1	100.4	79.93	15.79	21.8	13
			Ec	1	26.1	26.1	26.1		6.9	1
SAV-14T-2005-Q7	285.2	184	Ec	2	10.8	12.2	11.5	0.99	6.77	2
			Va	10	30.1	127.1	88.76	33.29	28.88	21
SAV-14T-2005-Q8	213.2	200	Va	10	36.7	123.1	72.56	29.87	26.65	25
SAV-14T-2005-Q9	120.4	64	Va	8	30.3	133.8	76.7125	36.11	15.05	8
SAV-15T-Q1	376.72	304	Nyp	9	46.2	106.8	89.166667	19.10		
			Va	10	19.7	149.8	41.43	38.78	12.87	21
SAV-15T-Q2	704.56	1552	Ec	10	12.3	69.5	33.89	18.89	22.16	166
			Nyp	10	72.4	166.8	128.93	30.75		
SAV-15T-Q3	660.72	4296	Ec	10	22	57.5	43.26	10.47	36.35	498
			Va	10	70.5	155.3	109.23	25.39	46.24	39
SAV-15T-Q4	130.08	136	Va	4	16.3	79.5	40.55	27.20	7.72	4

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				Count	Min	Max	Avg	St. Dev.		
SAV-15T-Q4	130.08	136	Ec	10	10.2	34.8	18.13	7.02	8.54	13
SAV-15T-Q5	281.76	1152	Ec	10	28.6	55.9	41.07	8.28	22.93	131
			Va	10	35.1	119.1	67.9	24.59	12.29	13
SAV-15T-Q6	332.88	336	Va	10	79.2	131.2	98.92	14.71	41.61	42
SAV-15T-Q7	297.92	176	Va	10	72.6	127.4	102.73	19.51	37.24	22
SAV-15T-Q8	444.16	408	Ec	10	6.9	112.8	25.77	32.28	7.39	16
			Va	10	14.1	88.5	62.17	21.42	26.16	23
SAV-15T-Q9	221.36	96	Va	10	33.7	115.8	73.88	24.55	27.67	12
SAV-16T-2005-Q1	235.12	192	Va	10	48.5	106.4	73.7	20.89	29.39	24
SAV-16T-2005-Q2	271.1912	344	Va	10	28.2	130	78.37	36.97	31.36	41
			Nyp	2	78.2	126	102.1	33.80		
SAV-16T-2005-Q3	478.48	376	Nyp	5	38.7	138.1	89.68	35.63		
			Va	10	22.1	121.7	80.14	32.78	50.36	42
SAV-16T-2005-Q4	301.04	176	Nyp	6	85.4	153.4	127.26667	27.06		
			Va	10	44.2	117	81.15	26.62	26.02	16
SAV-16T-2005-Q5	645.36	280	Ec	1	57.1	57.1	57.1		6.99	1
			Nyp	10	50.1	124.5	85.22	22.65		
			Va	10	58.8	113.3	83.8	21.16	63.43	22
SAV-16T-2005-Q6	138.8	72	Va	9	19.8	79.8	53.833333	18.21	17.35	9
SAV-16T-2005-Q7	213.04	160	Nyp	10	38.9	88.3	69.71	16.33		
			Va	10	10.1	92	42.6	26.87	17.84	10
SAV-16T-2005-Q8	164.08	168	Va	10	22	78	44.07	19.72	20.51	21
SAV-16T-2005-Q9	155.2	256	Va	10	29.2	82.9	55.4	15.72	19.4	32
SAV-17T-Q1	137.28	64	Va	8	26.8	69.9	48.1375	16.47	17.16	8
SAV-17T-Q2	87.28	144	Va	10	25.1	61.3	46.65	10.84	10.91	18
SAV-17T-Q3	76.72	152	Va	10	30.2	75.1	49.31	12.51	9.59	19
SAV-17T-Q4	78.88	96	Va	10	17.5	49.8	30.9	9.03	9.86	12
SAV-17T-Q5	200.8	256	Va	10	22.8	80.8	60.32	19.86	25.1	32
SAV-17T-Q6	93.6	104	Va	10	27.1	72.9	48.31	15.81	11.7	13
SAV-17T-Q7	177.2	360	Va	10	18	46.8	30.81	9.47	22.15	45

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				Count	Min	Max	Avg	St. Dev.		
SAV-17T-Q8	126.8	216	Va	10	30.7	103	62.54	22.10	15.85	27
SAV-17T-Q9	110.08	432	Va	10	18.8	102	49.66	23.06	13.76	54
SAV-18T-Q1	442.32	3936	Ec	10	11.2	87.3	43.41	26.52	55.29	492
SAV-18T-Q2	266.5552	256	Ec	8	6.1	39.6	22.0625	11.07	2.9094	8
			Va	10	32.5	102.8	65.17	24.59	30.41	24
SAV-18T-Q3	201.9576	368	Ec	10	8.6	43.1	23.91	11.05	2.8947	18
			Va	10	15	92.5	54.21	28.04	22.35	28
SAV-18T-Q4	181.5248	104	Ec	4	6.4	16	10.775	4.76	3.4306	4
			Va	9	22.1	90.2	53.411111	22.10	19.26	9
SAV-18T-Q5	170.32	168	Va	10	29	145	81.45	38.87	21.29	21
SAV-18T-Q6	174.8528	208	Ppf	2	70.3	100.5	85.4	21.35	2.3366	2
			Va	10	22.5	84.7	60.89	21.93	19.52	24
SAV-18T-Q7	19.2368	40	Va	5	19.8	52.8	36.06	16.18	2.4046	5
SAV-18T-Q8	23.604	16	Va	2	29.7	36.3	33	4.67	2.9505	2
SAV-18T-Q9	200.32	360	Va	10	30.2	118.9	79.08	28.25	25.04	45
SAV-19T-Q1	189.52	192	Va	10	50.4	140.2	93.8	27.87	23.69	24
SAV-19T-Q2	179.36	72	Va	9	55.7	102.8	83.833333	15.25	22.42	9
SAV-19T-Q3	249.44	192	Va	10	76.7	106.9	93.75	10.45	31.18	24
SAV-19T-Q4	194.96	312	Va	10	38.3	104.4	74.64	19.95	24.37	39
SAV-19T-Q5	85.92	152	Va	10	27.9	75.2	48.79	17.55	10.74	19
SAV-19T-Q6	172.96	168	Va	10	43.2	84.8	56.48	15.28	21.62	21
SAV-19T-Q7	545.84	384	Va	10	73.4	143.5	107.19	24.83	68.23	48
SAV-19T-Q8	181.12	296	Va	10	29.7	72.2	49.58	15.15	22.64	37
SAV-19T-Q9	187.68	280	Va	10	32.8	83.4	60.88	15.10	23.46	35
SAV-20T-Q1	276.48	448	Va	10	26.3	99.1	59.15	22.29	34.56	56
SAV-20T-Q10	202.24	272	Va	10	21.4	105.3	59.67	29.08	25.28	34
SAV-20T-Q11	360.64	416	Va	10	36.2	84	62.46	14.74	45.08	52
SAV-20T-Q12	823.68	296	Va	10	71.5	122.4	95.52	15.75	102.96	37
SAV-20T-Q13	241.36	208	Va	10	40.7	90.5	72.05	15.49	30.17	26
SAV-20T-Q14	87.84	136	Va	10	19	67.3	39.42	14.17	10.98	17

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Appendix H - Habitat Assessment Data (SAV - Species Specific Results)

Station ID	Total Biomass (g/m ²)	Total Stem Density	Species	Stem Length Statistics					Species Biomass (g/m ²)	No. Stems SPP
				Count	Min	Max	Avg	St. Dev.		
SAV-20T-Q15	151.92	96	Va	10	24.8	84.7	53.83	17.96	18.99	12
SAV-20T-Q16	334.72	512	Va	10	38	108.7	75.42	17.96	41.84	64
SAV-20T-Q17	287.84	272	Va	10	65.9	98.4	77.69	8.72	35.98	34
SAV-20T-Q18	207.84	272	Va	10	28	124.1	83.35	30.41	25.98	34
SAV-20T-Q2	297.2	504	Va	10	32.5	94.4	67.84	21.42	37.15	63
SAV-20T-Q3	201.28	232	Va	10	31.1	113.4	61.87	25.99	25.16	29
SAV-20T-Q4	93.36	176	Va	10	24.5	67	44.02	15.84	11.67	22
SAV-20T-Q5	164.08	168	Va	10	10.8	108.5	61.53	31.48	20.51	21
SAV-20T-Q6	151.28	128	Va	10	14.9	70	44.04	16.68	18.91	16
SAV-20T-Q7	436.72	680	Va	10	42.6	113.8	80.16	26.98	54.59	85
SAV-20T-Q8	316	504	Va	10	41.5	118.8	85.12	25.47	39.5	63
SAV-20T-Q9	827.6	496	Va	10	64.8	145.4	107.2	22.37	103.45	62
SAV-21T-Q1	46.72	112	Va	10	20.6	123.8	75.46	34.27	5.84	14
SAV-21T-Q10	12.32	32	Va	4	29	87.2	58.675	26.80	1.54	4
SAV-21T-Q11	49.6	136	Va	10	30.3	95.9	68.34	21.64	6.2	17
SAV-21T-Q12	18.8	96	Va	10	17.3	66.7	36.26	15.18	2.35	12
SAV-21T-Q13	26	96	Va	10	16.7	67.6	36.69	14.79	3.25	12
SAV-21T-Q14	62.4	64	Nyp	7	52.2	188.2	125.97143	53.82		
			Va	1	85.3	85.3	85.3		0.84	1
SAV-21T-Q15	20.08	136	Va	10	14.2	53.8	35.37	14.01	2.51	17
SAV-21T-Q16	6.16	40	Va	5	19	35.4	26.06	6.61	0.77	5
SAV-21T-Q17	19.2	56	Va	7	4.3	94	49.514286	30.96	2.4	7
SAV-21T-Q18	28.96	80	Va	10	6.5	69.6	42.05	18.51	3.62	10
SAV-21T-Q2	29.12	80	Va	10	9.3	73.1	33.64	20.75	3.64	10
SAV-21T-Q3	92.72	152	Va	10	34.7	85	58.07	15.50	11.59	19
SAV-21T-Q4	57.36	136	Va	10	31.5	63.8	47.86	10.42	7.17	17
SAV-21T-Q5	42.32	136	Va	10	13	67.1	36.98	16.12	5.29	17
SAV-21T-Q6	52.8	144	Va	10	14.9	60.4	36.91	14.58	6.6	18
SAV-21T-Q7	39.44	128	Va	10	16.2	72.2	37.25	16.78	4.93	16
SAV-21T-Q8	45.12	128	Va	10	19.6	57	35.46	10.39	3.94	14

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Appendix H - Habitat Assessment Data (SAV - Species Specific Results)

Station ID	Total Biomass (g/m ²)	Total Stem Density	Species	Stem Length Statistics					Species Biomass (g/m ²)	No. Stems SPP
				Count	Min	Max	Avg	St. Dev.		
SAV-21T-Q8	45.12	128	Za	2	105.8	131	118.4	17.82	1.7	2
SAV-21T-Q9	82.24	96	Va	10	13.5	93.9	42.89	21.97	10.28	12
SAV-22T-Q1	71.4432	80	Va	6	19.4	78.9	40.316667	22.64	3.6125	6
			Pam	1	75.4	75.4	75.4			
			Pob	3	22.3	34.3	27.733333	6.08	2.4989	3
SAV-22T-Q2	627.7448	416	25	1	48.4	48.4	48.4		2.39	1
			Ec	2	21.9	24.9	23.4	2.12	2.7981	2
			Pob	5	36.6	102	62.06	25.25	10.4	5
			Va	10	23.9	105.5	58.39	31.05	62.88	44
SAV-22T-Q3	344.728	152	25	1	41.8	41.8	41.8		2.351	1
			Ec	3	9.6	28.4	17.4	9.80	21.01	3
			Va	10	21.9	92.3	61.71	22.50	19.73	15
SAV-22T-Q4	20.904	64	Nyp	8	54	119.8	77.4875	20.40		
SAV-22T-Q5	80.188	72	Va	1	67.2	67.2	67.2		2.629	1
			Ec	4	2.6	17.5	12.225	6.58	2.3381	4
			25	1	61.1	61.1	61.1		2.5843	1
			78	3	23.7	42.5	30.6	10.35	2.4721	3
SAV-22T-Q6	204.984	128	25	1	19	19	19		2.2148	1
			78	3	39	81.3	60.033333	21.15	2.6691	3
			Ec	3	3.5	39.1	15.533333	20.41	2.3791	3
			Va	9	17	68	46.488889	15.99	18.36	9
SAV-22T-Q7	160.6256	112	78	4	18	105.2	49	38.47	2.8599	4
			Pot	5	21.8	67.6	40.34	16.90	2.2839	5
			25	1	144.5	144.5	144.5		9.44	1
			Va	2	19.6	43.7	31.65	17.04	2.6502	2
			74	2	25.3	39.1	32.2	9.76	2.8442	2
SAV-22T-Q8	266.5544	136	25	2	58.6	130.4	94.5	50.77	10.68	2
			78	9	10.6	69.7	27.022222	21.56	2.4913	9
			Ec	1	22.8	22.8	22.8		2.288	1
			Va	5	13.4	91	54.64	33.45	17.86	5
SAV-22T-Q9	192.536	120	78	3	29.2	44.1	35.266667	7.83	2.3669	3

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Appendix H - Habitat Assessment Data (SAV - Species Specific Results)

Station ID	Total Biomass (g/m ²)	Total Stem Density	Species	Stem Length Statistics					Species Biomass (g/m ²)	No. Stems SPP
				Count	Min	Max	Avg	St. Dev.		
SAV-22T-Q9	192.536	120	Pob	1	52.3	52.3	52.3		2.5301	1
			Va	10	15	97.2	48.78	26.11	19.17	11
SAV-23T-Q1	119.44	88	Va	10	32	100.4	69.52	23.88	14.93	11
SAV-23T-Q2	61.44	56	Va	7	14.1	57.1	36.557143	17.53	7.68	7
SAV-23T-Q3	304	176	Va	10	23.4	123.4	67.12	36.29	38	22
SAV-23T-Q4	194.24	40	Nyp	1	156.5	156.5	156.5			
			Va	4	59.8	88.4	75.45	14.33	15.61	4
SAV-23T-Q5	361.2	80	Va	10	24.8	85.2	52.98	24.14	45.15	10
SAV-23T-Q6	428.24	72	Va	9	20.8	84.9	42.322222	21.38	53.53	9
SAV-23T-Q7	101.2	80	Va	10	17.6	55	40.32	13.41	12.65	10
SAV-23T-Q8	448.88	224	Va	10	27	118.1	68.01	32.40	56.11	28
SAV-23T-Q9	67.28	24	Va	3	33.5	64	50.9	15.70	8.41	3
SAV-24T-Q1	344.4	128	Va	10	19.5	105.1	54.19	26.67	43.05	16
SAV-24T-Q2	83.52	72	Va	9	34.9	80.4	53.655556	15.27	10.44	9
SAV-24T-Q3	148.4	88	Va	7	26.7	91.6	54.071429	21.45	11.55	7
			78	4	22.8	67	43.425	18.12	7	4
SAV-24T-Q4	376.4	152	Va	10	26.1	94.7	55.49	23.76	47.05	19
SAV-24T-Q5	344.56	96	Va	10	24.2	97.5	52.09	24.46	43.07	12
SAV-24T-Q6	473.68	464	78	7	29.5	87.9	47.357143	21.96	8.27	7
			Ec	10	15.6	41.5	23.21	8.19	10.39	45
			Va	6	37.8	92	61.616667	18.96	40.55	6
SAV-24T-Q7	474.8	392	Va	10	39	96.8	67.32	18.87	59.35	49
SAV-24T-Q8	84.8	80	Va	10	14.6	61	43.61	14.94	10.6	10
SAV-24T-Q9	172.96	160	Va	10	10	78.1	43.52	23.33	12.2	10
			78	10	21.2	55.7	34.3	10.94	9.42	10
SAV-25T-Q1	266.8	136	Ppc	2	34	42.6	38.3	6.08	6.73	2
			Va	10	18.2	87.9	55.71	26.29	26.62	15
SAV-25T-Q2	91.76	128	Va	10	14	82.4	50.52	22.73	11.47	16
SAV-25T-Q3	312.32	232	Va	10	20.2	96.5	57.85	24.70	39.04	29
SAV-25T-Q4	105.12	88	Va	10	20.4	88.7	57.1	21.99	13.14	11

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Appendix H - Habitat Assessment Data (SAV - Species Specific Results)

Station ID	Total Biomass (g/m ²)	Total Stem Density	Species	Stem Length Statistics					Species Biomass (g/m ²)	No. Stems SPP
				Count	Min	Max	Avg	St. Dev.		
SAV-25T-Q5	110.56	88	Va	10	19.6	81.2	51.2	23.50	13.82	11
SAV-25T-Q6	260.64	216	Nyp	1	113	113	113			
			Va	10	19.8	110.7	61.06	27.64	20.13	26
SAV-25T-Q7	82.88	40	Va	5	37.9	89.9	64.42	19.87	10.36	5
SAV-25T-Q8	103.04	144	Va	10	28	105.1	66.91	27.22	12.88	18
SAV-25T-Q9	116.8	176	Va	10	45.8	119.1	78.91	25.05	14.6	22

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Appendix H - Habitat Assessment Data (SAV - Water Quality Results)

Station ID	Measurement Location	Temperature (°C)	Conductivity	Dissolved Oxygen	pH	Turbidity (ntu)	ORP (mv)
SAV-05T-2003	CENTER	19.5	0.14	7.09	7.3	-3.2	-10
SAV-05T-2003	OUTSIDE	19.3	0.137	6.77	7.27	-5.6	-13
SAV-07T-2003	CENTER	19.54	0.137	6.83	7.18	-1.8	-31
SAV-07T-2003	OUTSIDE	19.27	0.131	7.069	7.32	-4.5	-39
SAV-08T-2003	CENTER	18.26	0.178	7.3	7.53	20.8	-67
SAV-08T-2003	OUTSIDE	18.17	0.172	7.4	7.41	20.3	-68
SAV-09T-2003	CENTER	18.15	0.174	7.14	7.48	23.3	-81
SAV-09T-2003	OUTSIDE	18.17	0.172	7.4	7.41	20.3	-68
SAV-10T-2005	CENTER	19.67	0.1	8.69	6.29	0.2	-999
SAV-10T-2005	CENTER	19.67	0.1	8.7	6.34	0	-999
SAV-10T-2005	OUTSIDE	19.48	0.099	8.59	5.81	0.2	-999
SAV-10T-2005	OUTSIDE	19.51	0.099	8.63	6.36	0.2	-999
SAV-10T-2006	CENTER	22.38	0.082	9	7.04	-999	123
SAV-10T-2006	CENTER	22.38	0.083	8.95	6.95	-999	-999
SAV-10T-2006	OUTSIDE	22.36	0.084	8.87	6.81	-999	-999
SAV-10T-2006	OUTSIDE	22.36	0.085	8.83	6.7	-999	-999
SAV-11T-2005	CENTER	19.41	0.099	8.02	5.85	0	-999
SAV-11T-2005	CENTER	19.43	0.099	8.06	6.09	0	-999
SAV-11T-2005	OUTSIDE	19.45	0.1	8.31	6.19	0.2	-999
SAV-11T-2005	OUTSIDE	19.52	0.1	8.3	5.62	0	-999
SAV-12R-2005	CENTER	18.24	0.102	7.85	6.73	0	-999
SAV-12R-2005	CENTER	18.24	0.103	7.87	6.91	0	-999
SAV-12R-2005	OUTSIDE	18.26	0.102	7.9	6.72	0.1	-999
SAV-12R-2005	OUTSIDE	18.26	0.102	8.33	6.91	0.1	-999
SAV-12T	CENTER	22.56	0.099	2.91	7.14	3.3	-999
SAV-12T	CENTER	22.56	0.99	3.01	6.91	2.8	-999
SAV-12T	OUTSIDE	22.45	0.1	2.91	6.75	3.2	-999
SAV-12T	OUTSIDE	22.47	0.1	2.87	7.14	2.9	-999
SAV-13R-2006	CENTER	22.58	0.085	8.8	6.81	0	-999
SAV-13R-2006	CENTER	22.58	0.085	8.81	6.74	0	-999
SAV-13R-2006	OUTSIDE	22.54	0.084	8.81	7.01	0.4	-999
SAV-13R-2006	OUTSIDE	22.56	0.084	8.8	7.02	0.6	-999
SAV-13T	CENTER	22	0.09	2.68	7.23	2.5	-999
SAV-13T	CENTER	22	0.09	2.68	7.23	2.6	-999
SAV-13T	OUTSIDE	21.95	0.097	3.29	6.28	1	-999
SAV-13T	OUTSIDE	21.96	0.097	2.68	6.99	3	-999
SAV-14R-2005	CENTER	19.95	0.117	8.36	5.99	0	-999
SAV-14R-2005	CENTER	19.96	0.117	8.45	6.02	0.9	-999

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Appendix H - Habitat Assessment Data (SAV - Water Quality Results)

Station ID	Measurement Location	Temperature (°C)	Conductivity	Dissolved Oxygen	pH	Turbidity (ntu)	ORP (mv)
SAV-14R-2005	OUTSIDE	19.91	0.117	8.57	6.15	0	-999
SAV-14R-2005	OUTSIDE	19.93	0.116	8.43	5.67	0.1	-999
SAV-14T	CENTER	22.32	0.017	2.62	6.61	0.02	-999
SAV-14T	CENTER	22.32	0.107	2.62	6.61	0.02	-999
SAV-14T	OUTSIDE	22.08	0.105	2.59	5.86	1.4	-999
SAV-14T	OUTSIDE	22.17	0.106	2.62	5.97	2	-999
SAV-15T	CENTER	22.32	0.17	2.09	6.24	0.7	-999
SAV-15T	CENTER	22.33	0.07	1.88	6.28	2.9	-999
SAV-15T	OUTSIDE	22.31	0.106	2.03	6.05	2.7	-999
SAV-15T	OUTSIDE	22.34	0.107	2.04	6.03	3	-999
SAV-16T	CENTER	24.61	0.087	9.6	7.18	0.4	-999
SAV-16T	CENTER	24.62	0.088	9.59	7.24	0	-999
SAV-16T	OUTSIDE	24.6	0.088	9.59	7.21	0.2	-999
SAV-16T	OUTSIDE	24.61	0.087	9.61	7.12	0	-999
SAV-17T	CENTER	24.05	0.081	9.34	7.37	0.4	-999
SAV-17T	CENTER	24.05	0.081	9.34	7.37	0.4	-999
SAV-17T	OUTSIDE	24.07	0.081	9.44	7.28	0.2	-999
SAV-17T	OUTSIDE	24.07	0.081	9.46	7.3	0.1	-999
SAV-18T	CENTER	24.67	0.084	9.62	7.53	0.2	-999
SAV-18T	CENTER	24.69	0.084	9.61	7.6	0	-999
SAV-18T	OUTSIDE	24.66	0.087	9.54	7.26	0.3	-999
SAV-18T	OUTSIDE	24.67	0.087	9.56	7.27	0.1	-999
SAV-19T	CENTER	23.68	0.084	9.87	7.28	0.1	-999
SAV-19T	CENTER	23.7	0.084	9.92	7.31	0.1	-999
SAV-19T	OUTSIDE	23.64	0.083	9.81	7.32	0.1	-999
SAV-19T	OUTSIDE	23.64	0.084	9.83	7.27	0.1	-999
SAV-20T	CENTER	24.25	0.087	9.97	7.45	5.1	-999
SAV-20T	CENTER	24.27	0.087	10.1	7.54	3.8	-999
SAV-20T	OUTSIDE	24.14	0.087	9.87	7.38	0	-999
SAV-20T	OUTSIDE	24.15	0.087	9.9	7.58	0	-999
SAV-21T	CENTER	25.19	0.087	8.89	6.71	20.5	-999
SAV-21T	CENTER	25.19	0.087	8.9	7.15	21.2	-999
SAV-21T	OUTSIDE	24.72	0.087	8.82	7.01	0.7	-999
SAV-21T	OUTSIDE	24.97	0.087	8.82	7.01	0.7	-999
SAV-22T	CENTER	23.5	0.115	9.93	7.48	8.2	-999
SAV-22T	CENTER	23.55	0.115	9.94	7.49	6.1	-999
SAV-22T	OUTSIDE	23.56	0.116	9.93	7.48	8.2	-999
SAV-22T	OUTSIDE	23.67	0.116	9.94	7.44	3.7	-999

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Appendix H - Habitat Assessment Data (SAV - Water Quality Results)

Station ID	Measurement Location	Temperature (°C)	Conductivity	Dissolved Oxygen	pH	Turbidity (ntu)	ORP (mv)
SAV-23T	CENTER	-999	-999	-999	-999	-999	-999
SAV-23T	CENTER	24.28	0.14	9.7	7.41	16.4	-999
SAV-23T	OUTSIDE	23.79	0.135	9.78	7.5	5.6	-999
SAV-23T	OUTSIDE	24.29	0.142	9.58	7.46	4.7	-999
SAV-24T	CENTER	23.23	0.123	9.16	7.64	9	-999
SAV-24T	CENTER	23.23	0.123	9.23	7.69	3.7	-999
SAV-24T	OUTSIDE	23.24	0.124	9.2	7.82	5.9	-999
SAV-25T	CENTER	-999	-999	-999	-999	-999	-999
SAV-25T	CENTER	23.19	0.122	10.03	7.24	15.7	-999
SAV-25T	OUTSIDE	22.85	0.122	10.02	7.4	4.4	-999
SAV-25T	OUTSIDE	22.86	0.122	1.02	7.41	4.1	-999
SAV-26T	CENTER	22.49	0.125	9.62	7.8	5.8	-999
SAV-26T	CENTER	22.5	0.126	9.69	8.04	2.2	-999
SAV-26T	OUTSIDE	22.47	0.123	9.74	7.45	2.4	-999
SAV-26T	OUTSIDE	22.47	0.123	9.74	7.49	2	-999

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Appendix H - Habitat Assessment Data (Shoreline-Bank Data)

Station ID	Offshore Easting	Offshore Northing	Bank Easting	Bank Northing	Distance A to B (ft)	Bank Assessment Components				Bank Vegetation Components			
						Stable	Mod. Stable	Mod. Unstable	Unstable Bank	Optimal	Suboptimal	Marginal	Poor
SHO-05T-2003-01	736728.8	1597875.7	736714.5	1597864.0	5.00	100	0	0	0	0	100	0	0
SHO-05T-2003-02	736746.0	1597679.6	736729.6	1597686.4	5.00	100	0	0	0	0	100	0	0
SHO-05T-2003-03	736752.8	1597518.2	736734.4	1597523.3	5.00	100	0	0	0	20	80	0	0
SHO-06R-01	735587.6	1589729.6	735570.4	1589734.6	1.67	90	10	0	0	90	10	0	0
SHO-06R-02	735659.3	1590065.4	735633.7	1590068.8	2.40	90	10	0	0	80	20	0	0
SHO-06R-03	735556.5	1589399.8	735540.0	1589401.7	1.54	90	10	0	0	80	20	0	0
SHO-07R-01	736322.1	1588991.7	736341.3	1588997.4	1.86	70	20	10	0	100	0	0	0
SHO-07R-02	736526.8	1588708.9	736534.8	1588726.3	1.78	100	0	0	0	100	0	0	0
SHO-07R-03	736257.5	1589316.8	736274.5	1589317.6	1.58	70	20	10	0	100	0	0	0
SHO-07T-2003-01	736141.3	1595001.7	736156.3	1594995.9	5.00	0	30	70	0	100	0	0	0
SHO-07T-2003-02	736125.8	1594875.8	736141.0	1594874.5	4.00	0	20	80	0	100	0	0	0
SHO-07T-2003-03	736109.5	1594745.9	736140.5	1594743.8	4.00	0	30	70	0	100	0	0	0
SHO-08R-2005-01	736940.3	1585450.4	736928.7	1585451.0	1.08	90	10	0	0	0	20	80	0
SHO-08R-2005-02	737021.8	1585777.0	737010.4	1585781.1	1.13	90	10	0	0	0	20	80	0
SHO-08R-2005-03	736806.3	1585145.8	736800.4	1585156.3	1.13	90	10	0	0	0	20	80	0
SHO-08T-2003-01	737821.4	1594975.1	737838.3	1594963.3	5.00	100	0	0	0	50	30	20	0
SHO-08T-2003-02	737669.3	1594791.9			3.00	80	10	10	0	100	0	0	0
SHO-08T-2003-03	737617.8	1594669.0	737640.3	1594676.0	5.00	90	10	0	0	60	40	0	0
SHO-09R-2005-01	736072.8	1585053.5	736064.2	1585054.2	0.81	80	20	0	0	0	40	60	0
SHO-09R-2005-02	736106.4	1585383.5	736097.0	1585384.8	0.88	90	10	0	0	0	50	50	0
SHO-09R-2005-03	736068.8	1584731.8	736060.1	1584734.5	0.84	90	10	0	0	0	40	60	0
SHO-11T-2003-01	736307.1	1565807.8	736327.3	1565821.6	4.00	70	30	0	0	50	50	0	0
SHO-11T-2003-02	736385.4	1565659.7	736386.1	1565677.2	5.00	80	20	0	0	20	80	0	0
SHO-11T-2003-03	736487.9	1565405.9	736507.0	1565404.8	5.00	90	10	0	0	100	0	0	0
SHO-13T-01	733119.1	1609575.4	733104.2	1609579.5	1.43	80	20	0	0	80	20	0	0

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Appendix H - Habitat Assessment Data (Shoreline-Bank Data)

Station ID	Offshore Easting	Offshore Northing	Bank Easting	Bank Northing	Distance A to B (ft)	Bank Assessment Components				Bank Vegetation Components			
						Stable	Mod. Stable	Mod. Unstable	Unstable Bank	Optimal	Suboptimal	Marginal	Poor
SHO-13T-02	732911.5	1609294.1	732904.5	1609299.0	0.79	85	15	0	0	60	40	0	0
SHO-13T-03	733310.0	1609849.7	733297.6	1609861.9	1.61	90	10	0	0	100	0	0	0
SHO-14T-01	732412.6	1606511.2	732404.0	1606504.8	3.10	80	20	0	0	20	80	0	0
SHO-14T-02	732566.0	1606199.6	732539.1	1606204.6	8.30	15	60	25	0	10	60	30	0
SHO-14T-03	732320.5	1606811.7	732304.7	1606808.1	5.20	15	70	15	0	10	50	40	0
SHO-16R-01	735126.5	1569766.6	735149.9	1569762.6	2.20	40	50	10	0	20	60	20	0
SHO-16R-02	735154.7	1570092.4	735170.8	1570086.3	1.59	40	50	10	0	20	60	20	0
SHO-16R-03	735115.9	1569433.9	735133.1	1569437.2	1.63	40	60	0	0	20	60	20	0
SHO-16T-01	734231.2	1604389.2	734247.6	1604397.6	1.71	90	10	0	0	60	40	0	0
SHO-16T-02	734037.7	1604650.5	734050.7	1604648.8	1.22	90	10	0	0	70	30	0	0
SHO-16T-03	734438.1	1604117.7	734453.2	1604127.6	1.68	80	20	0	0	60	40	0	0
SHO-17R-01	737156.3	1599098.9	737167.4	1599100.7	1.04	95	5	0	0	90	0	10	0
SHO-17R-02	737066.7	1599411.8	737083.7	1599417.4	1.71	85	15	0	0	10	5	15	70
SHO-17R-03	737248.7	1598773.1	737261.9	1598777.1	1.28	90	10	0	0	40	5	15	40
SHO-17T-01	734896.1	1603630.9	734910.6	1603639.6	1.57	65	35	0	0	90	10	0	0
SHO-17T-02	734656.4	1603866.9	734661.1	1603875.3	0.90	80	20	0	0	80	20	0	0
SHO-17T-03	735105.9	1603397.5	735114.7	1603400.9	0.88	75	25	0	0	75	25	0	0
SHO-18R-01	735708.6	1566892.5	735724.2	1566896.7	1.50	100	0	0	0	30	0	70	0
SHO-18R-02	735617.2	1567204.1	735637.9	1567218.1	2.32	100	0	0	0	90	10	0	0
SHO-18R-03	735918.5	1566661.4	735941.8	1566690.2	3.44	100	0	0	0	40	60	0	0
SHO-18T-01	736189.1	1601785.9	736207.1	1601786.7	1.67	60	40	0	0	100	0	0	0
SHO-18T-02	736070.6	1602085.0	736093.8	1602100.0	2.57	90	10	0	0	100	0	0	0
SHO-18T-03	736287.9	1601466.3	736307.0	1601470.2	1.82	70	0	30	0	100	0	0	0
SHO-19R-01	737646.4	1574359.0	737661.7	1574348.8	1.71	90	10	0	0	0	30	70	0
SHO-19R-02	737841.2	1574616.9	737861.7	1574606.2	2.21	90	10	0	0	0	40	60	0

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Appendix H - Habitat Assessment Data (Shoreline-Bank Data)

Station ID	Offshore Easting	Offshore Northing	Bank Easting	Bank Northing	Distance A to B (ft)	Bank Assessment Components				Bank Vegetation Components			
						Stable	Mod. Stable	Mod. Unstable	Unstable Bank	Optimal	Suboptimal	Marginal	Poor
SHO-19R-03	737450.0	1574087.9	737472.7	1574072.6	2.54	90	10	0	0	0	30	70	0
SHO-19T-01	736460.6	1600371.2	736476.2	1600375.5	1.51	90	10	0	0	90	10	0	0
SHO-19T-02	736359.5	1600692.5	736374.4	1600696.9	1.44	80	20	0	0	70	30	0	0
SHO-19T-03	736558.7	1600063.2	736573.8	1600072.9	1.67	85	15	0	0	80	20	0	0
SHO-20T-01	736678.3	1598657.5	736660.7	1598659.6	1.64	70	30	0	0	0	60	40	0
SHO-20T-02	736649.5	1598989.4	736624.9	1598978.2	2.51	90	10	0	0	20	60	20	0
SHO-20T-03	736700.5	1598329.0	736680.3	1598332.9	1.91	90	10	0	0	0	60	40	0
SHO-21T-01	736930.2	1593231.8	736943.1	1593228.0	1.25	10	80	10	0	0	10	20	70
SHO-21T-02	737018.8	1593559.0	737030.1	1593556.5	1.08	85	15	0	0	0	10	10	80
SHO-21T-03	736851.1	1592909.2	736868.3	1592906.7	1.62	30	70	0	0	0	10	10	80
SHO-22T-01	736822.8	1592245.8	736837.7	1592246.1	1.38	5	90	5	0	0	5	70	25
SHO-22T-02	736853.4	1592582.6	736875.3	1592583.0	2.03	5	60	10	25	0	15	60	25
SHO-22T-03	736921.4	1591946.5	736930.3	1591962.8	1.73	45	50	0	5	25	70	0	5
SHO-23T-01	736760.8	1591588.7	736783.8	1591584.5	2.17	60	40	0	0	90	10	0	0
SHO-23T-02	736922.0	1591833.0	736923.3	1591822.8	0.84	60	40	0	0	90	10	0	0
SHO-23T-03	736706.9	1591271.5	736730.8	1591259.3	2.49	80	20	0	0	100	0	0	0
SHO-24T-01	736824.0	1588711.4	736826.5	1588724.8	1.26	80	20	0	0	40	60	0	0
SHO-24T-02	0.0	0.0	0.0	0.0	-999.00	-999	-999	-999	-999	-999	-999	-999	-999
SHO-24T-03	737028.0	1588533.7	737042.8	1588546.1	1.79	20	80	0	0	10	90	0	0
SHO-25T-01	735386.5	1581831.0	735375.7	1581834.7	1.06	95	5	0	0	90	10	0	0
SHO-25T-02	735525.2	1582119.8	735514.5	1582122.4	1.02	90	10	0	0	75	25	0	0
SHO-25T-03	735224.6	1581543.9	735212.6	1581553.8	1.46	95	5	0	0	80	20	0	0
SHO-26T-01	738233.9	1576158.0	738241.4	1576169.1	1.25	100	0	0	0	0	40	60	0
SHO-26T-02	738098.2	1576444.2	738112.0	1576444.6	1.28	100	0	0	0	0	30	70	0
SHO-26T-03	738251.0	1575844.7	738264.7	1575845.3	1.28	100	0	0	0	0	40	60	0

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Appendix H - Habitat Assessment Data (Shoreline-Bank Data)

Station ID	Offshore Easting	Offshore Northing	Bank Easting	Bank Northing	Distance A to B (ft)	Bank Assessment Components				Bank Vegetation Components			
						Stable	Mod. Stable	Mod. Unstable	Unstable Bank	Optimal	Suboptimal	Marginal	Poor
SHO-27T-2006-01	735735.4	1572403.0	735752.4	1572402.5	5.18	80	20	0	0	100	0	0	0
SHO-27T-2006-02	735575.3	1572111.2	735592.2	1572097.3	6.67	80	20	0	0	100	0	0	0
SHO-27T-2006-03	735371.0	1571771.9	735386.4	1571754.9	7.00	70	30	0	0	100	0	0	0
SHO-28T-01	735134.1	1569363.1	735120.7	1569371.1	4.73	10	90	0	0	0	50	50	0
SHO-28T-02	735121.2	1569011.7	735112.3	1569014.0	2.80	10	90	0	0	0	50	50	0
SHO-28T-03	735138.6	1568679.2	735128.3	1568682.4	3.28	0	90	10	0	0	70	30	0
SHO-29T-01	735315.2	1567770.3	735314.0	1567773.3	0.96	80	20	0	0	90	0	10	0
SHO-29T-02	735459.9	1567476.9	735453.6	1567480.0	2.16	80	20	0	0	90	0	10	0
SHO-29T-03	735658.5	1567239.8	735660.1	1567241.8	0.80	90	10	0	0	90	0	10	0
SHO-30T-01	738858.5	1558464.9	738871.7	1558463.0	4.05	85	15	0	0	100	0	0	0
SHO-30T-02	738849.5	1558121.0	738860.1	1558123.8	3.34	80	20	0	0	90	0	10	0
SHO-30T-03	738937.0	1557797.4	738947.3	1557795.9	3.18	80	20	0	0	60	0	40	0
SHO-31T-01	738998.0	1540958.3	738976.6	1540955.0	6.61	100	0	0	0	20	80	0	0
SHO-31T-02	739024.4	1540609.1	739005.0	1540612.1	5.98	100	0	0	0	10	90	0	0
SHO-31T-03	739024.3	1540290.7	739011.4	1540303.7	5.59	100	0	0	0	20	20	0	60
SHO-32T-01	731124.2	1515831.0	731108.4	1515825.7	5.06	90	10	0	0	0	20	80	0
SHO-32T-02	731158.0	1515496.0	731128.9	1515490.5	9.03	70	30	0	0	0	30	70	0
SHO-32T-03	731110.0	1515178.7	731091.2	1515178.2	5.74	80	20	0	0	20	70	10	0
SHO-33T-01	715982.8	1459422.6	715966.5	1459411.6	5.99	90	10	0	0	10	30	60	0
SHO-33T-02	716033.4	1459273.3	716015.7	1459267.2	5.73	80	20	0	0	0	20	0	80
SHO-33T-03	716077.6	1459116.3	716068.5	1459112.3	3.03	90	10	0	0	0	20	0	80
SHO-34T-01	737295.6	1598665.4	737310.0	1598683.6	5.50	90	10	0	0	90	10	0	0
SHO-34T-02	737324.8	1598608.1	737338.5	1598603.1	3.50	90	10	0	0	100	0	0	0
SHO-34T-03	737331.1	1598469.6	737348.6	1598457.7	5.00	90	10	0	0	90	10	0	0

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Appendix H - Habitat Assessment Data (Shoreline-Substrate Data)

Station ID	Inorganic Substrate Components							Organic Substrate Components						Organic Substrate Components		
	Bedrock	Boulder	Cobble	Gravel	Sand	Silt	Clay	Detritus	Muck-Mud	Marl	Vegetated	Woody Debris		Canopy	Understory	Herbacious
												Number	Length (ft)			
SHO-01R-2003-01	0	0	0	0	60	40	-888	20	80	0	0	11	76	76	76	76
SHO-01R-2003-02	0	0	10	60	30	-888	0	20	80	0	0	3	60	60	60	60
SHO-01R-2003-03	0	0	20	50	30	-888	0	10	90	0	0	2	35	35	35	35
SHO-01R-2006-01	0	0	0	0	60	40	0	100	0	0	0	3	90	90	90	90
SHO-01R-2006-02	0	0	0	50	40	10	0	100	0	0	-888	4	115	115	115	115
SHO-01R-2006-03	0	0	10	10	50	30	0	100	0	0	-888	3	310	310	310	310
SHO-01R-2007-01	0	0	0	5	60	35	0	100	0	0	0	4	46	46	46	46
SHO-01R-2007-02	0	0	0	45	45	10	0	100	0	0	0	3	42	42	42	42
SHO-01R-2007-03	0	0	10	20	40	30	0	100	0	0	-888	3	39	39	39	39
SHO-01T-2003-01	0	0	0	0	40	20	40	20	60	0	20	7	100	100	100	100
SHO-01T-2003-02	0	0	0	0	20	40	40	10	80	0	10	5	62	62	62	62
SHO-01T-2003-03	0	0	0	0	30	50	20	-888	80	0	20	4	44	44	44	44
SHO-02R-01	0	0	0	20	60	20	0	0	0	0	100	2	65	65	65	65
SHO-02R-02	0	0	-888	40	60	-888	0	0	0	0	0	2	30	30	30	30
SHO-02T-2003-01	0	0	0	0	90	10	0	-888	100	0	0	3	95	95	95	95
SHO-02T-2003-02	0	0	0	0	90	10	0	10	90	0	0	2	23	23	23	23
SHO-02T-2004-01	0	0	0	0	70	20	-888	0	0	0	0	6	147	147	147	147
SHO-02T-2004-02	0	0	0	0	70	20	-888	0	0	0	0	7	300	300	300	300
SHO-02T-2006-01	0	0	0	0	0	70	30	100	0	0	0	6	147	147	147	147
SHO-02T-2006-02	0	0	0	0	0	70	30	100	0	-888	0	5	310	310	310	310
SHO-02T-2006-03	0	50	0	10	10	30	0	70	0	0	30	1	6	6	6	6
SHO-02T-2007-01	0	0	0	0	0	70	30	100	0	0	0	5	200	200	200	200
SHO-02T-2007-02	0	0	0	0	0	60	40	100	0	0	-888	7	132	132	132	132
SHO-02T-2007-03	0	40	0	20	10	30	0	80	0	0	20	2	8.83	8.83	8.83	8.83
SHO-03R-2003-01	0	0	0	20	50	10	20	0	-888	100	-888	12	151	151	151	151

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Appendix H - Habitat Assessment Data (Shoreline-Substrate Data)

Station ID	Inorganic Substrate Components							Organic Substrate Components						Organic Substrate Components		
	Bedrock	Boulder	Cobble	Gravel	Sand	Silt	Clay	Detritus	Muck-Mud	Marl	Vegetated	Woody Debris		Canopy	Understory	Herbacious
												Number	Length (ft)			
SHO-03R-2003-02	0	0	0	-888	20	40	40	0	-888	100	-888	5	46	46	46	46
SHO-03R-2003-03	0	0	-888	10	50	10	20	20	-888	80	-888	56	205	205	205	205
SHO-03T-2003-01	0	0	0	0	60	30	10	20	50	0	30	11	283	283	283	283
SHO-03T-2003-02	0	0	0	0	60	30	10	30	60	0	10	15	235	235	235	235
SHO-03T-2003-03	0	0	0	0	80	10	10	20	80	0	-888	7	165	165	165	165
SHO-03T-2006-01	0	0	0	0	10	80	10	80	0	0	20	3	203	203	203	203
SHO-03T-2006-02	0	0	0	0	10	80	10	80	0	0	20	7	125	125	125	125
SHO-03T-2006-03	0	0	0	0	20	80	0	30	0	0	70	4	100	100	100	100
SHO-03T-2007-01	0	0	0	0	40	60	0	50	0	0	50	3	43	43	43	43
SHO-03T-2007-02	0	0	0	0	20	70	10	60	0	0	40	7	256.5	256.5	256.5	256.5
SHO-03T-2007-03	0	0	0	0	20	80	0	20	0	0	80	4	116.5	116.5	116.5	116.5
SHO-03T-2008-01	0	0	0	0	80	20	0	88	12	-888	0	2	45	45	45	45
SHO-03T-2008-02	0	-888	-888	0	80	20	0	80	10	-888	10	5	55	55	55	55
SHO-03T-2008-03	0	0	0	0	70	30	0	50	20	0	30	3	21	21	21	21
SHO-04R-2005-01	0	0	10	0	50	40	0	5	0	0	95	1	8	8	8	8
SHO-04R-2005-02	0	0	5	15	50	30	0	95	0	0	5	7	208	208	208	208
SHO-04R-2005-03	0	5	15	40	30	10	0	0	0	0	100	1	5	5	5	5
SHO-04R-2006-01	0	0	70	20	10	0	0	60	0	0	40	7	75	75	75	75
SHO-04R-2006-02	0	20	10	20	50	0	0	0	0	0	100	1	6	6	6	6
SHO-04R-2007-01	0	5	15	70	10	0	0	0	0	0	100	1	3	3	3	3
SHO-04R-2007-02	0	0	5	60	30	5	0	10	0	0	90	3	24	24	24	24
SHO-04R-2007-03	0	0	0	0	70	30	0	90	0	0	10	5	140	140	140	140
SHO-04R-2008-01	0	0	0	-888	70	30	0	-888	-888	0	0	1	10	10	10	10
SHO-04R-2008-02	0	0	40	10	40	10	0	50	-888	0	50	1	5	5	5	5
SHO-04R-2008-03	0	0	0	-888	70	30	0	50	-888	0	50	5	55	55	55	55

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Appendix H - Habitat Assessment Data (Shoreline-Substrate Data)

Station ID	Inorganic Substrate Components							Organic Substrate Components						Organic Substrate Components		
	Bedrock	Boulder	Cobble	Gravel	Sand	Silt	Clay	Detritus	Muck-Mud	Marl	Vegetated	Woody Debris		Canopy	Understory	Herbacious
												Number	Length (ft)			
SHO-04T-2003-01	0	0	-888	10	90	-888	0	10	90	0	-888	3	45	45	45	45
SHO-04T-2003-02	0	0	0	10	90	0	0	20	80	0	-888	2	18	18	18	18
SHO-04T-2003-03	0	0	0	10	90	0	0	10	90	0	-888	1	15	15	15	15
SHO-05R-2005-01	0	10	50	30	5	5	0	-888	0	0	100	7	83	83	83	83
SHO-05R-2005-02	0	5	55	30	5	5	0	5	0	0	95	8	115	115	115	115
SHO-05R-2005-03	0	25	10	60	5	0	0	5	0	0	95	13	154	154	154	154
SHO-05R-2006-01	0	15	10	-888	65	10	0	0	0	0	100	2	22	22	22	22
SHO-05R-2006-02	0	15	10	5	60	10	0	0	0	0	100	3	150	150	150	150
SHO-05R-2006-03	0	15	10	10	65	-888	0	0	0	0	100	2	25	25	25	25
SHO-05R-2007-01	0	10	15	10	50	15	0	0	0	0	100	3	160	160	160	160
SHO-05R-2007-02	0	20	20	10	50	-888	0	0	0	0	100	3	125	125	125	125
SHO-05R-2007-03	0	10	10	30	50	-888	0	0	0	0	100	2	48	48	48	48
SHO-05R-2008-01	0	10	30	40	20	0	0	-888	0	0	0	1	8	8	8	8
SHO-05R-2008-02	0	10	30	40	20	0	0	-888	0	0	0	4	40	40	40	40
SHO-05R-2008-03	0	10	10	40	40	0	0	-888	0	0	0	4	36	36	36	36
SHO-06R-01	0	0	0	0	0	60	40	90	0	0	10	10	123	123	123	123
SHO-06R-02	0	0	5	0	0	55	40	95	0	0	5	6	92	92	92	92
SHO-06R-03	0	0	0	0	0	60	40	30	0	0	70	10	183	183	183	183
SHO-06T-2003-02	0	0	0	10	80	10	0	40	40	20	0	6	88	88	88	88
SHO-06T-2003-03	0	0	0	10	90	-888	0	20	70	10	-888	3	8	8	8	8
SHO-06T-2006-01	25	-888	20	25	30	0	0	30	0	0	70	2	90	90	90	90
SHO-06T-2006-02	0	0	0	0	100	0	0	20	0	0	80	2	30	30	30	30
SHO-06T-2006-03	0	0	5	65	35	0	0	10	0	0	90	3	65	65	65	65
SHO-06T-2007-01	20	-888	25	25	30	0	0	10	0	0	90	2	50	50	50	50
SHO-06T-2007-02	0	0	0	0	90	10	0	10	0	0	90	3	55	55	55	55

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Appendix H - Habitat Assessment Data (Shoreline-Substrate Data)

Station ID	Inorganic Substrate Components							Organic Substrate Components						Organic Substrate Components		
	Bedrock	Boulder	Cobble	Gravel	Sand	Silt	Clay	Detritus	Muck-Mud	Marl	Vegetated	Woody Debris		Canopy	Understory	Herbacious
												Number	Length (ft)			
SHO-06T-2007-03	0	0	0	50	40	10	0	5	0	0	95	2	35	35	35	35
SHO-06T-2008-01	10	10	10	30	30	10	0	33	0	67	0	3	34	34	34	34
SHO-06T-2008-02	0	0	0	10	90	0	0	83	0	17	-888	3	40	40	40	40
SHO-06T-2008-03	0	0	0	60	40	0	0	88	0	12	-888	7	68	68	68	68
SHO-07R-01	5	10	10	35	5	30	5	5	0	0	95	9	48	48	48	48
SHO-07R-02	5	5	5	0	5	40	40	35	5	0	60	5	63	63	63	63
SHO-07R-03	0	5	10	55	5	15	10	5	0	0	95	3	34	34	34	34
SHO-07T-2003-01	0	0	0	0	-888	100	-888	10	60	0	30	5	38	38	38	38
SHO-07T-2003-03	0	0	0	0	-888	100	-888	10	60	0	30	5	10	10	10	10
SHO-08R-2005-01	0	0	0	0	90	10	0	40	0	0	60	4	135	135	135	135
SHO-08R-2005-02	0	0	0	0	90	10	0	30	0	0	70	3	19	19	19	19
SHO-08R-2005-03	0	0	0	0	90	10	0	30	0	0	70	2	50	50	50	50
SHO-08R-2006-01	25	0	0	0	60	15	0	0	0	0	100	2	35	35	35	35
SHO-08R-2006-02	0	0	0	0	90	10	0	0	0	0	100	1	50	50	50	50
SHO-08R-2006-03	0	0	0	0	80	20	0	-888	0	0	100	4	52	52	52	52
SHO-08T-2003-02	0	0	-888	70	20	10	0	0	0	100	0	7	21	21	21	21
SHO-08T-2003-03	20	0	10	60	10	0	0	0	0	100	0	2	30	30	30	30
SHO-09R-2005-01	0	0	10	0	50	30	10	40	0	0	60	1	5	5	5	5
SHO-09R-2005-02	0	0	10	60	30	0	0	40	0	0	60	6	31	31	31	31
SHO-09R-2005-03	0	0	0	0	40	50	10	40	0	0	60	2	13	13	13	13
SHO-09R-2006-01	0	0	0	0	60	40	0	10	20	0	70	3	118	118	118	118
SHO-09R-2006-02	0	0	0	0	40	60	0	20	0	0	80	3	120	120	120	120
SHO-09R-2006-03	0	0	0	0	90	10	0	0	0	0	100	2	25	25	25	25
SHO-09T-2003-01	0	0	0	10	50	10	30	40	10	50	-888	10	22	22	22	22
SHO-09T-2003-02	0	0	0	10	50	10	30	10	10	80	-888	3	60	60	60	60

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Appendix H - Habitat Assessment Data (Shoreline-Substrate Data)

Station ID	Inorganic Substrate Components							Organic Substrate Components						Organic Substrate Components		
	Bedrock	Boulder	Cobble	Gravel	Sand	Silt	Clay	Detritus	Muck-Mud	Marl	Vegetated	Woody Debris		Canopy	Understory	Herbacious
												Number	Length (ft)			
SHO-09T-2003-03	0	0	-888	30	40	-888	30	10	10	80	-888	4	26	26	26	26
SHO-10R-01	0	0	0	0	40	60	0	60	0	0	40	20	179	179	179	179
SHO-10R-02	0	5	0	15	30	50	0	70	0	0	30	18	282	282	282	282
SHO-10R-03	0	0	0	0	40	60	0	60	0	0	40	15	149	149	149	149
SHO-10T-2003-01	0	0	0	0	80	20	0	10	-888	90	0	8	68	68	68	68
SHO-10T-2003-02	0	0	0	0	80	20	0	-888	-888	100	0	6	20	20	20	20
SHO-10T-2003-03	0	0	0	0	80	20	0	-888	-888	100	0	3	11	11	11	11
SHO-11R-01	0	0	0	0	70	15	15	60	0	0	40	8	520	520	520	520
SHO-11R-02	0	0	0	0	70	15	15	70	0	0	30	14	430	430	430	430
SHO-11R-03	0	0	0	0	30	30	40	60	0	0	40	8	119	119	119	119
SHO-11T-2003-01	0	0	0	0	20	50	30	20	20	60	-888	9	66	66	66	66
SHO-11T-2003-02	0	0	0	0	20	50	30	20	20	50	10	3	10	10	10	10
SHO-11T-2003-03	0	0	0	0	20	60	20	-888	20	40	40	2	20	20	20	20
SHO-12R-01	0	0	0	5	55	20	20	70	0	0	30	12	413	413	413	413
SHO-12R-02	0	5	5	5	60	15	10	70	0	0	30	15	421	421	421	421
SHO-12R-03	0	0	0	0	60	20	20	70	0	0	30	15	384	384	384	384
SHO-12T-01	0	10	5	10	55	20	0	10	0	0	90	6	349	349	349	349
SHO-12T-02	5	5	5	5	75	5	0	5	0	0	95	5	136	136	136	136
SHO-12T-03	0	0	0	0	80	20	0	10	0	0	90	7	273	273	273	273
SHO-13R-01	0	0	0	0	70	30	0	20	0	0	80	9	297	297	297	297
SHO-13R-02	0	0	5	5	70	20	0	20	0	0	80	6	132	132	132	132
SHO-13R-03	0	0	0	0	80	20	0	20	0	0	80	9	384	384	384	384
SHO-13T-01	0	0	0	10	80	10	0	100	0	0	0	22	269	269	269	269
SHO-13T-02	0	0	0	5	85	10	0	95	0	0	5	13	141	141	141	141
SHO-13T-03	0	0	0	10	80	10	0	95	0	0	5	23	271	271	271	271

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Appendix H - Habitat Assessment Data (Shoreline-Substrate Data)

Station ID	Inorganic Substrate Components							Organic Substrate Components						Organic Substrate Components		
	Bedrock	Boulder	Cobble	Gravel	Sand	Silt	Clay	Detritus	Muck-Mud	Marl	Vegetated	Woody Debris		Canopy	Understory	Herbacious
												Number	Length (ft)			
SHO-14R-01	0	0	0	0	60	20	20	35	0	0	65	5	264	264	264	264
SHO-14R-02	0	0	0	5	70	20	5	50	0	5	45	2	270	270	270	270
SHO-14R-03	0	0	0	0	30	40	30	5	0	0	95	10	409	409	409	409
SHO-14T-01	0	5	10	85	0	0	0	20	0	20	60	2	26	26	26	26
SHO-14T-02	0	5	10	15	40	15	15	60	0	0	40	19	220	220	220	220
SHO-14T-03	10	5	5	70	5	5	0	20	0	5	75	11	85	85	85	85
SHO-15R-01	0	0	5	50	35	5	5	50	0	5	45	10	138	138	138	138
SHO-15R-02	0	0	5	55	35	5	0	50	0	5	45	8	84	84	84	84
SHO-15R-03	0	0	10	40	45	5	0	50	0	0	50	7	95	95	95	95
SHO-15T-01	0	45	20	20	10	5	0	5	0	5	90	6	64	64	64	64
SHO-15T-02	0	0	5	35	45	15	0	5	0	5	90	6	29	29	29	29
SHO-15T-03	5	30	5	40	10	10	0	5	0	0	95	7	52	52	52	52
SHO-16R-01	0	0	0	0	70	30	0	40	0	0	60	6	49	49	49	49
SHO-16R-02	0	0	0	0	60	40	0	30	0	0	70	5	58	58	58	58
SHO-16R-03	0	0	5	25	40	30	0	40	0	0	60	3	23	23	23	23
SHO-16T-01	0	0	0	0	0	60	40	10	80	0	10	5	20	20	20	20
SHO-16T-02	0	0	0	0	0	60	40	20	80	0	0	29	202	202	202	202
SHO-16T-03	0	0	0	0	0	60	40	10	30	0	60	13	204	204	204	204
SHO-17R-02	5	0	0	50	35	10	0	10	0	5	85	5	72	72	72	72
SHO-17R-03	40	30	10	10	0	10	0	15	0	5	80	10	96	96	96	96
SHO-17T-01	0	0	0	0	60	25	15	60	0	0	40	6	190	190	190	190
SHO-17T-02	0	0	0	0	50	35	15	40	0	0	60	17	393	393	393	393
SHO-17T-03	0	0	0	0	80	10	10	80	0	0	20	5	67	67	67	67
SHO-18R-01	0	5	10	10	65	5	5	15	0	0	85	7	240	240	240	240
SHO-18R-02	0	0	0	0	10	80	10	10	20	0	70	7	315	315	315	315

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Appendix H - Habitat Assessment Data (Shoreline-Substrate Data)

Station ID	Inorganic Substrate Components							Organic Substrate Components						Organic Substrate Components		
	Bedrock	Boulder	Cobble	Gravel	Sand	Silt	Clay	Detritus	Muck-Mud	Marl	Vegetated	Woody Debris		Canopy	Understory	Herbacious
												Number	Length (ft)			
SHO-18R-03	0	10	5	5	15	45	20	40	0	0	60	11	332	332	332	332
SHO-18T-01	0	10	0	50	30	10	0	20	0	10	70	10	108	108	108	108
SHO-18T-02	0	0	0	40	50	10	0	50	0	30	20	11	121	121	121	121
SHO-18T-03	0	0	0	10	70	20	0	80	0	0	20	11	73	73	73	73
SHO-19R-01	0	0	0	0	80	20	0	10	0	0	90	9	78	78	78	78
SHO-19R-02	0	0	10	0	50	30	10	45	0	5	50	5	43	43	43	43
SHO-19R-03	0	0	0	0	90	10	0	10	0	0	90	5	30	30	30	30
SHO-19T-01	0	0	0	10	80	10	0	70	0	10	20	1	4	4	4	4
SHO-19T-02	5	15	5	30	40	5	0	20	0	10	70	6	109	109	109	109
SHO-19T-03	0	0	5	15	70	10	0	10	0	50	40	2	55	55	55	55
SHO-20R-01	0	0	5	50	45	0	0	5	0	0	95	9	467	467	467	467
SHO-20R-02	0	0	5	50	45	0	0	5	0	0	95	10	259	259	259	259
SHO-20R-03	0	0	25	0	15	0	0	5	0	5	90	6	307	307	307	307
SHO-20T-01	0	10	50	30	5	5	0	40	0	0	60	6	63	63	63	63
SHO-20T-02	0	0	0	5	70	15	10	20	0	0	80	5	76	76	76	76
SHO-20T-03	0	5	35	50	5	5	0	20	0	0	80	2	11	11	11	11
SHO-21R-01	0	0	5	0	90	5	0	10	0	0	90	8	555	555	555	555
SHO-21R-02	0	10	5	0	85	0	0	10	0	0	90	8	219	219	219	219
SHO-21R-03	0	0	0	0	95	5	0	5	0	0	95	5	190	190	190	190
SHO-21T-01	5	5	10	20	50	5	5	75	0	0	25	10	164	164	164	164
SHO-21T-02	50	25	10	10	5	0	0	85	0	0	15	2	8	8	8	8
SHO-21T-03	0	5	10	35	40	5	5	50	0	0	50	6	75	75	75	75
SHO-22R-01	0	0	0	0	20	80	0	10	0	0	90	5	118	118	118	118
SHO-22R-02	0	-888	10	20	60	10	0	0	0	50	50	6	167	167	167	167
SHO-22R-03	0	5	0	0	0	10	85	0	0	100	0	7	98	98	98	98

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Appendix H - Habitat Assessment Data (Shoreline-Substrate Data)

Station ID	Inorganic Substrate Components							Organic Substrate Components						Organic Substrate Components		
	Bedrock	Boulder	Cobble	Gravel	Sand	Silt	Clay	Detritus	Muck-Mud	Marl	Vegetated	Woody Debris		Canopy	Understory	Herbacious
												Number	Length (ft)			
SHO-22T-01	0	40	10	25	20	5	0	35	0	0	65	2	16	16	16	16
SHO-22T-02	0	0	0	10	70	15	5	90	0	0	10	11	141	141	141	141
SHO-22T-03	0	10	0	0	70	20	0	20	0	0	80	9	193	193	193	193
SHO-23R-01	0	0	0	10	60	30	0	10	0	-888	90	6	137	137	137	137
SHO-23R-02	0	0	0	0	-888	100	0	20	0	-888	80	8	136	136	136	136
SHO-23R-03	0	0	0	0	10	90	0	10	0	0	90	8	297	297	297	297
SHO-23T-01	0	0	0	0	70	20	10	90	0	0	10	7	101	101	101	101
SHO-23T-02	0	0	0	0	70	20	10	40	0	0	60	11	111	111	111	111
SHO-23T-03	0	25	25	0	40	5	5	40	0	0	60	7	48	48	48	48
SHO-24R-01	0	10	90	0	0	0	0	0	0	0	0	5	125	125	125	125
SHO-24R-03	0	0	0	20	80	0	0	0	0	0	100	2	35	35	35	35
SHO-24T-01	0	0	0	0	10	60	30	0	20	0	80	6	51	51	51	51
SHO-24T-03	5	5	0	0	10	50	30	10	20	0	70	3	40	40	40	40
SHO-25R-01	0	0	0	-888	10	90	0	40	0	0	60	5	82	82	82	82
SHO-25R-02	0	0	0	0	-888	100	0	20	0	0	80	4	94	94	94	94
SHO-25R-03	0	0	0	-888	10	90	0	40	0	0	60	7	233	233	233	233
SHO-25T-01	0	0	0	0	75	20	5	80	0	0	20	14	176	176	176	176
SHO-25T-02	0	0	0	0	70	25	5	80	0	0	20	11	251	251	251	251
SHO-25T-03	0	0	0	0	70	30	0	75	15	0	10	8	275	275	275	275
SHO-26R-01	10	0	0	0	30	60	0	10	0	20	70	4	175	175	175	175
SHO-26R-02	40	0	0	0	0	60	0	0	0	20	80	1	5	5	5	5
SHO-26R-03	0	0	0	0	80	20	0	0	0	-888	100	1	3	3	3	3
SHO-26T-01	0	5	15	45	30	5	0	20	0	0	80	16	625	625	625	625
SHO-26T-02	0	0	15	70	15	0	0	10	0	0	90	8	273	273	273	273
SHO-26T-03	0	0	5	10	25	60	0	20	0	0	80	3	270	270	270	270

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Station ID	Inorganic Substrate Components							Organic Substrate Components						Organic Substrate Components		
	Bedrock	Boulder	Cobble	Gravel	Sand	Silt	Clay	Detritus	Muck-Mud	Marl	Vegetated	Woody Debris		Canopy	Understory	Herbacious
												Number	Length (ft)			
SHO-27R-01	0	0	0	0	90	10	0	10	0	0	90	3	90	90	90	90
SHO-27R-02	0	0	0	0	100	0	0	0	0	0	100	3	80	80	80	80
SHO-27R-03	0	0	0	0	90	10	0	0	0	0	100	3	130	130	130	130
SHO-27T-2005-01	0	0	0	0	85	0	15	55	0	0	45	11	650	650	650	650
SHO-27T-2005-02	0	0	5	0	80	0	15	55	0	0	45	11	520	520	520	520
SHO-27T-2005-03	0	0	0	0	70	5	25	40	0	0	60	8	345	345	345	345
SHO-27T-2006-01	0	0	0	0	80	20	0	70	0	0	30	4	605	605	605	605
SHO-27T-2006-02	0	0	0	0	90	10	0	100	0	0	0	8	623	623	623	623
SHO-27T-2006-03	0	0	0	0	60	40	0	70	0	0	30	6	180	180	180	180
SHO-28R-01	0	0	0	0	100	0	0	0	0	100	0	3	75	75	75	75
SHO-28R-02	0	0	0	0	40	-888	60	0	0	100	0	3	38	38	38	38
SHO-28R-03	0	0	0	0	90	10	0	0	0	100	0	2	50	50	50	50
SHO-28T-01	0	0	10	70	20	0	0	0	0	85	15	5	529	529	529	529
SHO-28T-02	5	5	5	40	45	0	0	0	0	90	10	6	39	39	39	39
SHO-28T-03	0	0	10	70	20	0	0	20	0	70	10	6	296	296	296	296
SHO-29R-01	0	0	0	0	100	0	0	100	0	0	0	3	55	55	55	55
SHO-29R-02	0	50	40	0	10	0	0	0	0	0	0	3	41	41	41	41
SHO-29R-03	0	0	0	0	100	0	0	100	0	0	0	3	180	180	180	180
SHO-29T-01	0	0	0	0	60	40	0	90	0	0	10	8	198	198	198	198
SHO-29T-02	0	0	0	0	30	70	0	100	0	0	0	9	157	157	157	157
SHO-29T-03	0	0	0	0	10	80	10	40	0	0	60	8	131	131	131	131
SHO-30R-01	0	0	95	0	0	5	0	0	0	0	0	2	75	75	75	75
SHO-30R-02	0	0	0	0	20	80	0	100	0	0	0	16	130	130	130	130
SHO-30R-03	0	0	0	0	95	5	0	0	0	0	0	3	68	68	68	68
SHO-30T-01	0	10	0	40	35	15	0	95	0	0	5	6	219	219	219	219

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Appendix H - Habitat Assessment Data (Shoreline-Substrate Data)

Station ID	Inorganic Substrate Components							Organic Substrate Components						Organic Substrate Components		
	Bedrock	Boulder	Cobble	Gravel	Sand	Silt	Clay	Detritus	Muck-Mud	Marl	Vegetated	Woody Debris		Canopy	Understory	Herbacious
												Number	Length (ft)			
SHO-30T-02	0	-888	0	40	50	10	0	95	0	0	5	37	81	81	81	81
SHO-30T-03	0	0	0	10	80	10	0	95	0	5	0	6	143	143	143	143
SHO-31R-01	0	5	5	0	70	20	0	0	0	0	0	4	101	101	101	101
SHO-31R-02	0	10	20	0	70	0	0	0	0	0	0	1	30	30	30	30
SHO-31R-03	0	0	0	0	90	10	0	0	0	0	0	2	73	73	73	73
SHO-31T-01	0	0	0	0	10	90	0	20	0	0	80	3	135	135	135	135
SHO-31T-02	0	0	0	0	10	90	0	20	0	0	80	5	165	165	165	165
SHO-32R-01	0	0	0	-888	60	40	0	0	0	0	0	3	121	121	121	121
SHO-32R-02	0	80	0	0	0	20	0	0	0	0	0	3	120	120	120	120
SHO-32R-03	0	10	0	10	80	0	0	0	0	0	0	2	15	15	15	15
SHO-32T-01	0	0	0	-888	90	10	0	20	0	0	80	2	10	10	10	10
SHO-32T-02	0	0	0	0	80	20	0	10	0	0	90	3	58	58	58	58
SHO-32T-03	0	0	0	40	50	10	0	20	0	0	80	4	115	115	115	115
SHO-33R-01	0	0	0	0	70	30	0	60	0	0	40	3	105	105	105	105
SHO-33R-02	0	0	0	-888	90	10	0	70	0	0	30	3	90	90	90	90
SHO-33R-03	0	0	10	60	30	0	0	0	0	0	100	2	34	34	34	34
SHO-33T-01	0	0	0	10	90	0	0	0	0	0	100	2	56	56	56	56
SHO-33T-02	0	0	10	10	80	0	0	0	0	0	100	1	6	6	6	6
SHO-33T-03	0	0	20	10	70	0	0	0	0	0	100	1	5	5	5	5
SHO-34R-01	0	0	0	30	70	-888	0	0	0	0	100	2	40	40	40	40
SHO-34R-02	0	10	10	60	20	-888	0	0	0	0	100	1	12	12	12	12
SHO-34R-03	0	0	5	75	20	0	0	0	0	0	100	1	6	6	6	6
SHO-34T-01	0	0	0	20	80	-888	0	40	60	0	-888	2	25	25	25	25
SHO-34T-02	0	0	0	-888	100	-888	0	60	40	0	0	14	35	35	35	35
SHO-34T-03	0	-888	0	-888	80	20	0	20	80	0	0	4	52	52	52	52

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Appendix H - Habitat Assessment Data (Shoreline-Substrate Data)

Station ID	Inorganic Substrate Components							Organic Substrate Components						Organic Substrate Components		
	Bedrock	Boulder	Cobble	Gravel	Sand	Silt	Clay	Detritus	Muck-Mud	Marl	Vegetated	Woody Debris		Canopy	Understory	Herbacious
												Number	Length (ft)			
SHO-MO-01-01	0	20	5	5	10	60	0	0	0	0	100	1	20	20	20	20
SHO-MO-01-02	0	30	10	5	-888	55	0	0	0	0	100	3	28	28	28	28
SHO-MO-01-03	0	15	5	5	10	65	0	0	0	0	100	2	16	16	16	16
SHO-MO-02-01	0	0	0	0	90	10	0	0	0	0	100	4	27	27	27	27
SHO-MO-02-02	0	0	0	0	90	10	0	-888	0	0	100	2	7	7	7	7
SHO-MO-02-03	0	0	0	0	90	10	0	0	0	0	100	2	8	8	8	8
SHO-UH-01-01	0	-888	30	10	55	5	0	-888	0	0	100	3	135	135	135	135
SHO-UH-01-02	0	5	30	0	65	0	0	0	0	0	100	5	155	155	155	155
SHO-UH-01-03	0	0	0	0	100	0	0	0	0	0	100	1	80	80	80	80
SHO-UH-02-01	0	0	0	0	90	10	0	40	0	0	60	4	250	250	250	250
SHO-UH-02-02	0	0	0	0	90	10	0	50	0	0	50	4	400	400	400	400
SHO-UH-02-03	0	0	0	0	90	10	0	30	0	0	70	3	45	45	45	45

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Appendix H - Habitat Assessment Data (UCB-SSAP Grain Size)

Unconsolidated Bottom Samples			2002 - 2006 SSAP Grain Size Analyses															
Station Number	Northing	Easting	Core ID	Northing	Easting	Sample Type	Start Depth (in)	End Depth (in)	Clay	Silt	Fine Sand	Medium Sand	Coarse Sand	Gravel	Fines	Sands	Coarse	Distance to Station (ft)
UCB-01R-03	1608833.4	732957.8	RS1-9392-GP007	1608759.6	733008.9	GRAB	0	0	0.7	6.1	4.5	46.8	25.2	16.7	11.3	76.5	41.90	89.78
UCB-01R-04	1608795.6	732936.2	RS1-9392-GP007	1608759.6	733008.9	GRAB	0	0	0.7	6.1	4.5	46.8	25.2	16.7	11.3	76.5	41.90	81.10
UCB-01R-05	1608783.0	732937.6	RS1-9392-GP007	1608759.6	733008.9	GRAB	0	0	0.7	6.1	4.5	46.8	25.2	16.7	11.3	76.5	41.90	75.07
UCB-01R-06	1608727.6	732926.0	RS1-9392-GP007	1608759.6	733008.9	GRAB	0	0	0.7	6.1	4.5	46.8	25.2	16.7	11.3	76.5	41.90	88.89
UCB-01R-07	1608685.8	732905.6	RS1-9392-WT114	1608603.7	732857.4	CORE	2	12	2.8	4.1	27.7	25	16.2	24.3	34.6	68.9	40.50	95.23
UCB-01R-08	1608649.8	732892.9	RS1-9392-WT114	1608603.7	732857.4	CORE	2	12	2.8	4.1	27.7	25	16.2	24.3	34.6	68.9	40.50	58.17
UCB-01R-09	1608608.2	732876.7	RS1-9392-WT114	1608603.7	732857.4	CORE	2	12	2.8	4.1	27.7	25	16.2	24.3	34.6	68.9	40.50	19.84
UCB-04T-2003-07	1594029.1	736891.5	RS1-9089-GP008	1593961.9	736905.4	CORE	0	1	1.1	18.4	2.4	15.1	40.2	22.7	21.9	57.7	62.90	68.58
UCB-04T-2003-08	1594009.9	736905.5	RS1-9089-GP008	1593961.9	736905.4	CORE	0	1	1.1	18.4	2.4	15.1	40.2	22.7	21.9	57.7	62.90	47.98
UCB-04T-2003-09	1593969.8	736871.7	RS1-9089-GP008	1593961.9	736905.4	CORE	0	1	1.1	18.4	2.4	15.1	40.2	22.7	21.9	57.7	62.90	34.60
UCB-05T-2003-03	1567895.9	735138.2	RS2-8584-ET130	1567895.8	735221.5	CORE	2	12	20.8	54.1	23.9	1.1	0	0	98.8	25	0.00	83.27
UCB-05T-2003-04	1567883.3	735154.6	RS2-8584-AB074	1567826.4	735186.2	CORE	2	12	19	38.2	40.1	2.7	0	0	97.3	42.8	0.00	65.07
UCB-05T-2003-05	1567717.2	735202.8	RS2-8584-ET140	1567685.7	735176.8	CORE	2	12	17.8	28.2	51.5	2.5	0	0	97.5	54	0.00	40.82
UCB-05T-2003-06	1567697.5	735139.1	RS2-8584-ET140	1567685.7	735176.8	CORE	2	12	17.8	28.2	51.5	2.5	0	0	97.5	54	0.00	39.52
UCB-05T-2003-07	1567782.2	735133.9	RS2-8584-AB074	1567826.4	735186.2	CORE	2	12	19	38.2	40.1	2.7	0	0	97.3	42.8	0.00	68.46
UCB-05T-2003-08	1567805.3	735195.1	RS2-8584-AB074	1567826.4	735186.2	CORE	2	12	19	38.2	40.1	2.7	0	0	97.3	42.8	0.00	22.91
UCB-05T-2003-09	1567820.8	735174.0	RS2-8584-AB074	1567826.4	735186.2	CORE	2	12	19	38.2	40.1	2.7	0	0	97.3	42.8	0.00	13.38
UCB-05T-2006-01	1571991.1	736002.1	RS2-8584-AR005	1571983.3	735982.5	CORE	2	12	20.8	38.6	38.7	1.9	0	0	98.1	40.6	0.00	21.13
UCB-05T-2006-02	1572027.9	736020.9	RS2-8584-AR005	1571983.3	735982.5	CORE	2	12	20.8	38.6	38.7	1.9	0	0	98.1	40.6	0.00	58.85
UCB-05T-2006-03	1572055.9	736031.7	RS2-8584-AR005	1571983.3	735982.5	CORE	2	12	20.8	38.6	38.7	1.9	0	0	98.1	40.6	0.00	87.69
UCB-13T-02	1607863.7	732715.8	RS1-9392-CT633	1607769.8	732702.5	CORE	2	12	0.9	5.2	18.2	36.3	23.1	16.3	24.3	77.6	39.40	94.88
UCB-13T-03	1607839.2	732715.8	RS1-9392-CT633	1607769.8	732702.5	CORE	2	12	0.9	5.2	18.2	36.3	23.1	16.3	24.3	77.6	39.40	70.67
UCB-13T-04	1607811.4	732701.3	RS1-9392-CT633	1607769.8	732702.5	CORE	2	12	0.9	5.2	18.2	36.3	23.1	16.3	24.3	77.6	39.40	41.65
UCB-13T-05	1607791.6	732702.9	RS1-9392-CT633	1607769.8	732702.5	CORE	2	12	0.9	5.2	18.2	36.3	23.1	16.3	24.3	77.6	39.40	21.83
UCB-13T-06	1607764.3	732692.2	RS1-9392-CT633	1607769.8	732702.5	CORE	2	12	0.9	5.2	18.2	36.3	23.1	16.3	24.3	77.6	39.40	11.68
UCB-13T-07	1607750.5	732691.5	RS1-9392-CT633	1607769.8	732702.5	CORE	2	12	0.9	5.2	18.2	36.3	23.1	16.3	24.3	77.6	39.40	22.18
UCB-13T-08	1607739.6	732692.2	RS1-9392-CT633	1607769.8	732702.5	CORE	2	12	0.9	5.2	18.2	36.3	23.1	16.3	24.3	77.6	39.40	31.86
UCB-13T-09	1607716.9	732690.7	RS1-9392-CT633	1607769.8	732702.5	CORE	2	12	0.9	5.2	18.2	36.3	23.1	16.3	24.3	77.6	39.40	54.20
UCB-14T-01	1606461.1	733001.8	RS1-9392-AB086	1606380.5	733017.5	CORE	2	12	5.1	32.8	51.5	10.6	0	0	89.4	62.1	0.00	82.16
UCB-14T-02	1606411.5	733013.5	RS1-9392-AB086	1606380.5	733017.5	CORE	2	12	5.1	32.8	51.5	10.6	0	0	89.4	62.1	0.00	31.24

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Appendix H - Habitat Assessment Data (UCB-SSAP Grain Size)

Unconsolidated Bottom Samples			2002 - 2006 SSAP Grain Size Analyses															
Station Number	Northing	Easting	Core ID	Northing	Easting	Sample Type	Start Depth (in)	End Depth (in)	Clay	Silt	Fine Sand	Medium Sand	Coarse Sand	Gravel	Fines	Sands	Coarse	Distance to Station (ft)
UCB-14T-03	1606379.1	733021.9	RS1-9392-AB086	1606380.5	733017.5	CORE	2	12	5.1	32.8	51.5	10.6	0	0	89.4	62.1	0.00	4.61
UCB-14T-04	1606357.9	733026.1	RS1-9392-AB086	1606380.5	733017.5	CORE	2	12	5.1	32.8	51.5	10.6	0	0	89.4	62.1	0.00	24.22
UCB-14T-05	1606349.7	733035.0	RS1-9392-AB086	1606380.5	733017.5	CORE	2	12	5.1	32.8	51.5	10.6	0	0	89.4	62.1	0.00	35.43
UCB-14T-06	1606298.7	733040.6	RS1-9392-GP017	1606317.8	733095.7	CORE	0	1	4.2	28.2	66.3	1.3	0	0	98.7	67.6	0.00	58.34
UCB-14T-07	1606274.9	733042.3	RS1-9392-GP017	1606317.8	733095.7	CORE	0	1	4.2	28.2	66.3	1.3	0	0	98.7	67.6	0.00	68.50
UCB-14T-08	1606232.8	733052.8	RS1-9392-GP017	1606317.8	733095.7	CORE	0	1	4.2	28.2	66.3	1.3	0	0	98.7	67.6	0.00	95.20
UCB-15T-08	1605695.3	732881.5	RS1-9392-IN108	1605623.3	732821	CORE	2	12	1.6	7.65	48.35	31.65	8	2.75	57.6	88	10.75	94.10
UCB-15T-09	1605689.5	732845.8	RS1-9392-IN108	1605623.3	732821	CORE	2	12	1.6	7.65	48.35	31.65	8	2.75	57.6	88	10.75	70.79
UCB-20T-03	1506394.9	725028.9	RS3-7170-VT216	1506332.9	725036.8	CORE	2	12	16.8	37.1	44.6	1.5	0	0	98.5	46.1	0.00	62.49
UCB-20T-04	1506340.8	725042.6	RS3-7170-VT216	1506332.9	725036.8	CORE	2	12	16.8	37.1	44.6	1.5	0	0	98.5	46.1	0.00	9.81
UCB-20T-05	1506278.1	725061.7	RS3-7170-VT216	1506332.9	725036.8	CORE	2	12	16.8	37.1	44.6	1.5	0	0	98.5	46.1	0.00	60.15
UCB-20T-09	1506049.3	725119.8	RS3-7170-AR219	1506014.5	725034	CORE	2	12	30.8	43.4	24.7	0.7	0.4	0	98.9	25.8	0.40	92.58
UCB-21T-04	1505092.9	725360.2	RS3-7170-AR021	1505155.2	725410.6	CORE	2	12	8.9	40.2	50.3	0.7	0	0	99.4	51	0.00	80.05
UCB-21T-05	1505133.6	725356.8	RS3-7170-AR021	1505155.2	725410.6	CORE	2	12	8.9	40.2	50.3	0.7	0	0	99.4	51	0.00	57.94
UCB-21T-06	1505181.2	725343.5	RS3-7170-AR021	1505155.2	725410.6	CORE	2	12	8.9	40.2	50.3	0.7	0	0	99.4	51	0.00	71.88
UCB-21T-07	1505225.0	725340.8	RS3-7170-AR021	1505155.2	725410.6	CORE	2	12	8.9	40.2	50.3	0.7	0	0	99.4	51	0.00	98.67
UCB-22T-01	1502457.5	725604.1	RS3-7170-GP005	1502540.9	725600.8	CORE	0	1	25.1	51.8	22.3	0.8	0	0	99.2	23.1	0.00	83.45
UCB-25T-01	1446517.0	717154.9	RS3-5857-CL002	1446479.1	717124.2	CORE	2	12	18.9	49	31.5	0.5	0	0	99.4	32	0.00	48.75
UCB-25T-02	1446533.9	717180.0	RS3-5857-CL002	1446479.1	717124.2	CORE	2	12	18.9	49	31.5	0.5	0	0	99.4	32	0.00	78.24
UCB-25T-03	1446554.8	717179.8	RS3-5857-CL002	1446479.1	717124.2	CORE	2	12	18.9	49	31.5	0.5	0	0	99.4	32	0.00	93.92
UCB-26T-05	1604750.0	733371.3	RS1-9392-GP020	1604793.4	733288.9	GRAB	0	0	0.3	8.6	8.8	7.3	4.5	70.5	17.7	20.6	75.00	93.08
UCB-26T-06	1604770.5	733357.0	RS1-9392-GP020	1604793.4	733288.9	GRAB	0	0	0.3	8.6	8.8	7.3	4.5	70.5	17.7	20.6	75.00	71.84
UCB-26T-07	1604805.0	733345.7	RS1-9392-GP020	1604793.4	733288.9	GRAB	0	0	0.3	8.6	8.8	7.3	4.5	70.5	17.7	20.6	75.00	58.01
UCB-26T-08	1604852.6	733317.6	RS1-9392-GP020	1604793.4	733288.9	GRAB	0	0	0.3	8.6	8.8	7.3	4.5	70.5	17.7	20.6	75.00	65.81
UCB-26T-09	1604871.8	733322.6	RS1-9392-GP020	1604793.4	733288.9	GRAB	0	0	0.3	8.6	8.8	7.3	4.5	70.5	17.7	20.6	75.00	85.36
UCB-28T-07	1604391.9	733328.4	RS1-9291-AR216	1604448.6	733283.1	CORE	2	12	1.5	7.4	25.5	32.1	14.8	18.7	34.4	72.4	33.50	72.56
UCB-28T-08	1604425.8	733298.2	RS1-9291-AR216	1604448.6	733283.1	CORE	2	12	1.5	7.4	25.5	32.1	14.8	18.7	34.4	72.4	33.50	27.33
UCB-28T-09	1604456.7	733277.7	RS1-9291-AR216	1604448.6	733283.1	CORE	2	12	1.5	7.4	25.5	32.1	14.8	18.7	34.4	72.4	33.50	9.79
UCB-29T-06	1604321.8	734225.7	RS1-9291-GP003	1604241.3	734280.1	CORE	0	1	6.5	21.8	69.6	2.1	0	0	97.9	71.7	0.00	97.12
UCB-29T-07	1604334.3	734246.4	RS1-9291-GP003	1604241.3	734280.1	CORE	0	1	6.5	21.8	69.6	2.1	0	0	97.9	71.7	0.00	98.90

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Appendix H - Habitat Assessment Data (UCB-SSAP Grain Size)

Unconsolidated Bottom Samples			2002 - 2006 SSAP Grain Size Analyses															
Station Number	Northing	Easting	Core ID	Northing	Easting	Sample Type	Start Depth (in)	End Depth (in)	Clay	Silt	Fine Sand	Medium Sand	Coarse Sand	Gravel	Fines	Sands	Coarse	Distance to Station (ft)
UCB-29T-08	1604298.3	734243.7	RS1-9291-GP003	1604241.3	734280.1	CORE	0	1	6.5	21.8	69.6	2.1	0	0	97.9	71.7	0.00	67.62
UCB-29T-09	1604296.8	734276.5	RS1-9291-GP003	1604241.3	734280.1	CORE	0	1	6.5	21.8	69.6	2.1	0	0	97.9	71.7	0.00	55.59
UCB-30T-01	1604178.9	733227.2	RS1-9291-AR006	1604161.5	733315.0	CORE	2	12	10.6	35.5	37.9	13.4	1.5	1.1	84	52.8	2.60	89.48
UCB-30T-02	1604159.0	733249.4	RS1-9291-AR006	1604161.5	733315.0	CORE	2	12	10.6	35.5	37.9	13.4	1.5	1.1	84	52.8	2.60	65.63
UCB-30T-03	1604130.0	733268.2	RS1-9291-AR006	1604161.5	733315.0	CORE	2	12	10.6	35.5	37.9	13.4	1.5	1.1	84	52.8	2.60	56.44
UCB-30T-04	1604100.9	733285.7	RS1-9291-AR006	1604161.5	733315.0	CORE	2	12	10.6	35.5	37.9	13.4	1.5	1.1	84	52.8	2.60	67.35
UCB-30T-05	1604070.9	733303.3	RS1-9291-AR234	1603996.7	733309.4	CORE	2	12	22.2	69.2	7.9	0.3	0.2	0.1	99.3	8.4	0.30	74.38
UCB-30T-06	1604055.6	733313.3	RS1-9291-AR234	1603996.7	733309.4	CORE	2	12	22.2	69.2	7.9	0.3	0.2	0.1	99.3	8.4	0.30	58.97
UCB-30T-07	1604046.1	733321.9	RS1-9291-AR234	1603996.7	733309.4	CORE	2	12	22.2	69.2	7.9	0.3	0.2	0.1	99.3	8.4	0.30	50.96
UCB-30T-08	1604026.0	733366.8	RS1-9291-AR234	1603996.7	733309.4	CORE	2	12	22.2	69.2	7.9	0.3	0.2	0.1	99.3	8.4	0.30	64.47
UCB-30T-09	1604019.1	733420.3	RS1-9291-GP004	1603943.9	733409.6	GRAB	0	0	15.5	39.6	40.4	3.7	0.7	0	95.5	44.8	0.70	75.89
UCB-31T-01	1604015.2	733745.4	RS1-9291-AR011	1604020.0	733664.4	CORE	2	12	1	4.8	29	40	17.3	7.8	34.8	86.3	25.10	81.20
UCB-31T-04	1603980.2	733834.3	RS1-9291-GP005	1603949.4	733892.2	CORE	0	1	1.6	1.4	71.8	15.5	5.7	4	74.8	93	9.70	65.59
UCB-31T-05	1603972.2	733844.8	RS1-9291-GP005	1603949.4	733892.2	CORE	0	1	1.6	1.4	71.8	15.5	5.7	4	74.8	93	9.70	52.58
UCB-31T-06	1603949.0	733860.9	RS1-9291-GP005	1603949.4	733892.2	CORE	0	1	1.6	1.4	71.8	15.5	5.7	4	74.8	93	9.70	31.29
UCB-31T-07	1603912.2	733892.9	RS1-9291-GP005	1603949.4	733892.2	CORE	0	1	1.6	1.4	71.8	15.5	5.7	4	74.8	93	9.70	37.25
UCB-31T-08	1603886.3	733904.7	RS1-9291-GP005	1603949.4	733892.2	CORE	0	1	1.6	1.4	71.8	15.5	5.7	4	74.8	93	9.70	64.31
UCB-33T-01	1602136.2	735416.1	RS1-9291-AR277	1602141.2	735377.8	CORE	2	12	15.4	70.1	13.9	0.6	0	0	99.4	14.5	0.00	38.68
UCB-33T-02	1602125.0	735450.9	RS1-9291-GP019	1602109.2	735489.6	CORE	0	1	14.6	33.6	51.1	0.8	0	0	99.3	51.9	0.00	41.86
UCB-33T-03	1602079.6	735419.7	RS1-9291-AR277	1602141.2	735377.8	CORE	2	12	15.4	70.1	13.9	0.6	0	0	99.4	14.5	0.00	74.54
UCB-33T-04	1602080.4	735449.3	RS1-9291-GP019	1602109.2	735489.6	CORE	0	1	14.6	33.6	51.1	0.8	0	0	99.3	51.9	0.00	49.50
UCB-33T-05	1602032.2	735460.4	RS1-9291-GP019	1602109.2	735489.6	CORE	0	1	14.6	33.6	51.1	0.8	0	0	99.3	51.9	0.00	82.40
UCB-33T-07	1601941.1	735490.0	RS1-9291-AR285	1601883.1	735478.1	CORE	2	12	11.4	51.3	36.1	1.1	0	0	98.8	37.2	0.00	59.16
UCB-33T-08	1601901.7	735497.4	RS1-9291-AR285	1601883.1	735478.1	CORE	2	12	11.4	51.3	36.1	1.1	0	0	98.8	37.2	0.00	26.79
UCB-33T-09	1601866.1	735523.0	RS1-9291-AR285	1601883.1	735478.1	CORE	2	12	11.4	51.3	36.1	1.1	0	0	98.8	37.2	0.00	48.07
UCB-34T-01	1601217.9	736264.0	RS1-9291-GP023	1601213.5	736278.9	CORE	0	1	0.8	2.4	34.1	41.3	12.3	9.1	37.3	87.7	21.40	15.56
UCB-34T-02	1601196.4	736279.4	RS1-9291-GP023	1601213.5	736278.9	CORE	0	1	0.8	2.4	34.1	41.3	12.3	9.1	37.3	87.7	21.40	17.07
UCB-34T-03	1601150.1	736280.6	RS1-9291-GP023	1601213.5	736278.9	CORE	0	1	0.8	2.4	34.1	41.3	12.3	9.1	37.3	87.7	21.40	63.44
UCB-34T-04	1601130.3	736286.6	RS1-9291-GP023	1601213.5	736278.9	CORE	0	1	0.8	2.4	34.1	41.3	12.3	9.1	37.3	87.7	21.40	83.54
UCB-34T-05	1601114.4	736289.5	RS1-9291-GP023	1601213.5	736278.9	CORE	0	1	0.8	2.4	34.1	41.3	12.3	9.1	37.3	87.7	21.40	99.64

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Appendix H - Habitat Assessment Data (UCB-SSAP Grain Size)

Unconsolidated Bottom Samples			2002 - 2006 SSAP Grain Size Analyses															
Station Number	Northing	Easting	Core ID	Northing	Easting	Sample Type	Start Depth (in)	End Depth (in)	Clay	Silt	Fine Sand	Medium Sand	Coarse Sand	Gravel	Fines	Sands	Coarse	Distance to Station (ft)
UCB-35R-06	1511426.6	728399.5	RS3-7372-GP003	1511354.7	728344.3	GRAB	0	0	12.4	22.6	64.3	0.8	0	0	99.3	65.1	0.00	90.62
UCB-35R-07	1511400.5	728367.7	RS3-7372-GP003	1511354.7	728344.3	GRAB	0	0	12.4	22.6	64.3	0.8	0	0	99.3	65.1	0.00	51.45
UCB-35R-08	1511377.4	728341.1	RS3-7372-GP003	1511354.7	728344.3	GRAB	0	0	12.4	22.6	64.3	0.8	0	0	99.3	65.1	0.00	22.96
UCB-35R-09	1511357.4	728308.8	RS3-7372-GP003	1511354.7	728344.3	GRAB	0	0	12.4	22.6	64.3	0.8	0	0	99.3	65.1	0.00	35.63
UCB-35T-04	1600987.2	735870.7	RS1-9291-AR302	1601067.1	735875.2	CORE	2	12	2.2	3.7	32.6	46.6	11.3	3.6	38.5	90.5	14.90	80.05
UCB-35T-05	1601011.8	735903.4	RS1-9291-AR302	1601067.1	735875.2	CORE	2	12	2.2	3.7	32.6	46.6	11.3	3.6	38.5	90.5	14.90	62.14
UCB-35T-06	1601030.1	735875.6	RS1-9291-AR302	1601067.1	735875.2	CORE	2	12	2.2	3.7	32.6	46.6	11.3	3.6	38.5	90.5	14.90	37.07
UCB-35T-07	1601066.7	735875.3	RS1-9291-AR302	1601067.1	735875.2	CORE	2	12	2.2	3.7	32.6	46.6	11.3	3.6	38.5	90.5	14.90	0.45
UCB-35T-08	1601079.9	735874.4	RS1-9291-AR302	1601067.1	735875.2	CORE	2	12	2.2	3.7	32.6	46.6	11.3	3.6	38.5	90.5	14.90	12.83
UCB-35T-09	1601071.6	735907.5	RS1-9291-AR302	1601067.1	735875.2	CORE	2	12	2.2	3.7	32.6	46.6	11.3	3.6	38.5	90.5	14.90	32.67
UCB-36T-03	1600337.5	736062.1	RS1-9190-AR001	1600424.1	736061.7	CORE	2	12	1.9	1.8	58.6	26.3	6.9	4.5	62.3	91.8	11.40	86.60
UCB-36T-04	1600364.8	736022.6	RS1-9190-AR001	1600424.1	736061.7	CORE	2	12	1.9	1.8	58.6	26.3	6.9	4.5	62.3	91.8	11.40	71.05
UCB-36T-05	1600383.7	736043.6	RS1-9190-AR001	1600424.1	736061.7	CORE	2	12	1.9	1.8	58.6	26.3	6.9	4.5	62.3	91.8	11.40	44.28
UCB-36T-06	1600433.6	736005.6	RS1-9190-AR001	1600424.1	736061.7	CORE	2	12	1.9	1.8	58.6	26.3	6.9	4.5	62.3	91.8	11.40	56.87
UCB-36T-07	1600451.4	736023.4	RS1-9291-CT380	1600497.6	736019.2	CORE	2	12	2.65	5.25	40.4	32.95	14	4.725	48.3	87.35	18.73	46.39
UCB-36T-08	1600482.0	735968.3	RS1-9291-CT380	1600497.6	736019.2	CORE	2	12	2.65	5.25	40.4	32.95	14	4.725	48.3	87.35	18.73	53.26
UCB-36T-09	1600463.7	735998.1	RS1-9291-CT380	1600497.6	736019.2	CORE	2	12	2.65	5.25	40.4	32.95	14	4.725	48.3	87.35	18.73	39.93
UCB-37T-01	1598105.9	736770.0	RS1-9190-GP006	1598024.4	736747.5	CORE	0	1	7.8	56.8	33.1	2	0.2	0	97.7	35.3	0.20	84.55
UCB-37T-02	1598098.9	736745.6	RS1-9190-GP006	1598024.4	736747.5	CORE	0	1	7.8	56.8	33.1	2	0.2	0	97.7	35.3	0.20	74.48
UCB-37T-03	1598094.8	736771.6	RS1-9190-GP006	1598024.4	736747.5	CORE	0	1	7.8	56.8	33.1	2	0.2	0	97.7	35.3	0.20	74.38
UCB-37T-04	1598075.2	736743.4	RS1-9190-GP006	1598024.4	736747.5	CORE	0	1	7.8	56.8	33.1	2	0.2	0	97.7	35.3	0.20	51.01
UCB-37T-05	1598068.5	736772.6	RS1-9190-GP006	1598024.4	736747.5	CORE	0	1	7.8	56.8	33.1	2	0.2	0	97.7	35.3	0.20	50.78
UCB-37T-06	1598047.2	736735.2	RS1-9190-GP006	1598024.4	736747.5	CORE	0	1	7.8	56.8	33.1	2	0.2	0	97.7	35.3	0.20	25.87
UCB-37T-07	1598055.4	736771.3	RS1-9190-GP006	1598024.4	736747.5	CORE	0	1	7.8	56.8	33.1	2	0.2	0	97.7	35.3	0.20	39.07
UCB-37T-08	1598021.1	736742.8	RS1-9190-GP006	1598024.4	736747.5	CORE	0	1	7.8	56.8	33.1	2	0.2	0	97.7	35.3	0.20	5.68
UCB-37T-09	1598022.5	736771.1	RS1-9190-GP006	1598024.4	736747.5	CORE	0	1	7.8	56.8	33.1	2	0.2	0	97.7	35.3	0.20	23.68
UCB-38T-01	1596612.3	736310.4	RS1-9190-GP012	1596692.5	736315.2	CORE	0	1	10.05	74.15	13.45	2.4	0	0	97.65	15.85	0.00	80.31
UCB-38T-02	1596612.3	736310.4	RS1-9190-GP012	1596692.5	736315.2	CORE	0	1	10.05	74.15	13.45	2.4	0	0	97.65	15.85	0.00	80.31
UCB-38T-03	1596612.3	736310.4	RS1-9190-GP012	1596692.5	736315.2	CORE	0	1	10.05	74.15	13.45	2.4	0	0	97.65	15.85	0.00	80.31
UCB-38T-04	1596612.3	736310.4	RS1-9190-GP012	1596692.5	736315.2	CORE	0	1	10.05	74.15	13.45	2.4	0	0	97.65	15.85	0.00	80.31

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Appendix H - Habitat Assessment Data (UCB-SSAP Grain Size)

Unconsolidated Bottom Samples			2002 - 2006 SSAP Grain Size Analyses															
Station Number	Northing	Easting	Core ID	Northing	Easting	Sample Type	Start Depth (in)	End Depth (in)	Clay	Silt	Fine Sand	Medium Sand	Coarse Sand	Gravel	Fines	Sands	Coarse	Distance to Station (ft)
UCB-38T-05	1596612.3	736310.4	RS1-9190-GP012	1596692.5	736315.2	CORE	0	1	10.05	74.15	13.45	2.4	0	0	97.65	15.85	0.00	80.31
UCB-38T-06	1596612.3	736310.4	RS1-9190-GP012	1596692.5	736315.2	CORE	0	1	10.05	74.15	13.45	2.4	0	0	97.65	15.85	0.00	80.31
UCB-38T-07	1596612.3	736310.4	RS1-9190-GP012	1596692.5	736315.2	CORE	0	1	10.05	74.15	13.45	2.4	0	0	97.65	15.85	0.00	80.31
UCB-38T-08	1596612.3	736310.4	RS1-9190-GP012	1596692.5	736315.2	CORE	0	1	10.05	74.15	13.45	2.4	0	0	97.65	15.85	0.00	80.31
UCB-38T-09	1596612.3	736310.4	RS1-9190-GP012	1596692.5	736315.2	CORE	0	1	10.05	74.15	13.45	2.4	0	0	97.65	15.85	0.00	80.31
UCB-39T-01	1592339.8	736805.6	RS1-9089-AR265	1592332.7	736825.9	CORE	2	12	8	51.1	32.6	1.9	1.1	5.3	91.7	35.6	6.40	21.53
UCB-39T-02	1592339.8	736805.6	RS1-9089-AR265	1592332.7	736825.9	CORE	2	12	8	51.1	32.6	1.9	1.1	5.3	91.7	35.6	6.40	21.53
UCB-39T-03	1592339.8	736805.6	RS1-9089-AR265	1592332.7	736825.9	CORE	2	12	8	51.1	32.6	1.9	1.1	5.3	91.7	35.6	6.40	21.53
UCB-39T-04	1592339.8	736805.6	RS1-9089-AR265	1592332.7	736825.9	CORE	2	12	8	51.1	32.6	1.9	1.1	5.3	91.7	35.6	6.40	21.53
UCB-39T-05	1592339.8	736805.6	RS1-9089-AR265	1592332.7	736825.9	CORE	2	12	8	51.1	32.6	1.9	1.1	5.3	91.7	35.6	6.40	21.53
UCB-39T-06	1592339.8	736805.6	RS1-9089-AR265	1592332.7	736825.9	CORE	2	12	8	51.1	32.6	1.9	1.1	5.3	91.7	35.6	6.40	21.53
UCB-39T-07	1592339.8	736805.6	RS1-9089-AR265	1592332.7	736825.9	CORE	2	12	8	51.1	32.6	1.9	1.1	5.3	91.7	35.6	6.40	21.53
UCB-39T-08	1592339.8	736805.6	RS1-9089-AR265	1592332.7	736825.9	CORE	2	12	8	51.1	32.6	1.9	1.1	5.3	91.7	35.6	6.40	21.53
UCB-39T-09	1592339.8	736805.6	RS1-9089-AR265	1592332.7	736825.9	CORE	2	12	8	51.1	32.6	1.9	1.1	5.3	91.7	35.6	6.40	21.53
UCB-40T-01	1591924.6	736259.0	RS1-9089-GP024	1591936	736298.6	GRAB	0	0	11.7	7.85	68.95	8.95	0.8	1.8	88.5	78.7	2.60	41.20
UCB-40T-02	1591893.3	736259.9	RS1-9089-GP024	1591936	736298.6	GRAB	0	0	11.7	7.85	68.95	8.95	0.8	1.8	88.5	78.7	2.60	57.66
UCB-40T-03	1591859.7	736243.0	RS1-9089-CL038	1591834.4	736214.5	CORE	2	12	7.1	13.2	50.6	8.5	3.8	16.8	70.9	62.9	20.60	38.11
UCB-40T-04	1591845.1	736213.1	RS1-9089-CL038	1591834.4	736214.5	CORE	2	12	7.1	13.2	50.6	8.5	3.8	16.8	70.9	62.9	20.60	10.80
UCB-40T-05	1591803.1	736258.5	RS1-9089-CL039	1591819.6	736214.4	CORE	2	12	20.3	35.6	42	2.1	0	0	97.9	44.1	0.00	47.04
UCB-40T-06	1591806.3	736226.5	RS1-9089-CL039	1591819.6	736214.4	CORE	2	12	20.3	35.6	42	2.1	0	0	97.9	44.1	0.00	17.89
UCB-40T-07	1591775.0	736252.3	RS1-9089-CL039	1591819.6	736214.4	CORE	2	12	20.3	35.6	42	2.1	0	0	97.9	44.1	0.00	58.50
UCB-40T-08	1591755.9	736226.4	RS1-9089-CL039	1591819.6	736214.4	CORE	2	12	20.3	35.6	42	2.1	0	0	97.9	44.1	0.00	64.75
UCB-40T-09	1591734.4	736252.6	RS1-9089-CL039	1591819.6	736214.4	CORE	2	12	20.3	35.6	42	2.1	0	0	97.9	44.1	0.00	93.35
UCB-41T-01	1591171.0	736386.4	RS1-9089-GP030	1591177.6	736415.5	GRAB	0	0	1.2	1.2	19.1	22	12.1	44.4	21.5	53.2	56.50	29.82
UCB-41T-02	1591147.4	736378.0	RS1-9089-GP030	1591177.6	736415.5	GRAB	0	0	1.2	1.2	19.1	22	12.1	44.4	21.5	53.2	56.50	48.12
UCB-41T-03	1591097.0	736380.7	RS1-9089-GP030	1591177.6	736415.5	GRAB	0	0	1.2	1.2	19.1	22	12.1	44.4	21.5	53.2	56.50	87.76
UCB-41T-06	1591003.6	736348.9	RS1-9089-WT377	1590935.9	736336.2	CORE	2	12	1.4	1.3	12.6	20.5	15	49.2	15.3	48.1	64.20	68.96
UCB-41T-07	1590986.6	736339.3	RS1-9089-WT377	1590935.9	736336.2	CORE	2	12	1.4	1.3	12.6	20.5	15	49.2	15.3	48.1	64.20	50.81
UCB-41T-08	1590962.8	736323.2	RS1-9089-WT377	1590935.9	736336.2	CORE	2	12	1.4	1.3	12.6	20.5	15	49.2	15.3	48.1	64.20	29.99
UCB-41T-09	1590942.0	736312.8	RS1-9089-WT377	1590935.9	736336.2	CORE	2	12	1.4	1.3	12.6	20.5	15	49.2	15.3	48.1	64.20	24.18

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Appendix H - Habitat Assessment Data (UCB-SSAP Grain Size)

Unconsolidated Bottom Samples			2002 - 2006 SSAP Grain Size Analyses															
Station Number	Northing	Easting	Core ID	Northing	Easting	Sample Type	Start Depth (in)	End Depth (in)	Clay	Silt	Fine Sand	Medium Sand	Coarse Sand	Gravel	Fines	Sands	Coarse	Distance to Station (ft)
UCB-42T-01	1590330.2	736225.8	RS1-9089-AR099	1590382.5	736180.3	CORE	2	12	6.9	7.1	19.5	31.5	11.8	23.2	33.5	62.8	35.00	69.29
UCB-42T-04	1590145.4	736212.5	RS1-8988-AR214	1590085.0	736166.6	CORE	2	12	1.8	7.1	24.8	34.1	15.1	17.1	33.7	74	32.20	75.89
UCB-42T-05	1590097.3	736195.0	RS1-8988-AR214	1590085.0	736166.6	CORE	2	12	1.8	7.1	24.8	34.1	15.1	17.1	33.7	74	32.20	30.90
UCB-42T-06	1590031.7	736178.8	RS1-8988-AR214	1590085.0	736166.6	CORE	2	12	1.8	7.1	24.8	34.1	15.1	17.1	33.7	74	32.20	54.74
UCB-42T-07	1589974.1	736168.4	RS1-8988-AR215	1589990.7	736081.6	CORE	2	12	7.4	26.5	18	26.3	9.7	12.2	51.9	54	21.90	88.41
UCB-43T-01	1586254.4	736429.7	RS2-8988-CL111	1586246.8	736384.3	CORE	2	12	9.6	16.8	68.65	4.75	0.15	0.1	95.05	73.55	0.25	46.10
UCB-43T-02	1586218.5	736465.1	RS2-8988-CL111	1586246.8	736384.3	CORE	2	12	9.6	16.8	68.65	4.75	0.15	0.1	95.05	73.55	0.25	85.66
UCB-43T-03	1586183.3	736491.9	RS2-8988-GP022	1586114.1	736432.9	CORE	0	1	8.7	9.6	77.7	2.9	0.5	0.7	96	81.1	1.20	90.93
UCB-43T-04	1586156.7	736499.9	RS2-8988-GP022	1586114.1	736432.9	CORE	0	1	8.7	9.6	77.7	2.9	0.5	0.7	96	81.1	1.20	79.33
UCB-43T-05	1586128.7	736512.6	RS2-8988-GP023	1586062	736519.7	CORE	0	1	11.5	28.2	59.8	0.4	0	0	99.5	60.2	0.00	67.13
UCB-43T-06	1586080.3	736521.5	RS2-8988-GP023	1586062	736519.7	CORE	0	1	11.5	28.2	59.8	0.4	0	0	99.5	60.2	0.00	18.42
UCB-43T-07	1586040.4	736513.7	RS2-8988-GP023	1586062	736519.7	CORE	0	1	11.5	28.2	59.8	0.4	0	0	99.5	60.2	0.00	22.38
UCB-43T-08	1585987.1	736481.5	RS2-8988-GP023	1586062	736519.7	CORE	0	1	11.5	28.2	59.8	0.4	0	0	99.5	60.2	0.00	84.02
UCB-46T-04	1576315.9	737768.2	RS2-8685-CL101	1576327.1	737851.6	CORE	2	12	7.6	19.6	66.7	6.1	0	0	93.9	72.8	0.00	84.12
UCB-46T-05	1576355.4	737767.8	RS2-8685-CL101	1576327.1	737851.6	CORE	2	12	7.6	19.6	66.7	6.1	0	0	93.9	72.8	0.00	88.46
UCB-47T-01	1566935.9	735601.2	RS2-8483-VT216	1566994.4	735662.4	CORE	2	12	25	49.5	23	2.3	0.1	0.2	97.5	25.4	0.30	84.57
UCB-47T-02	1566962.0	735595.1	RS2-8483-VT216	1566994.4	735662.4	CORE	2	12	25	49.5	23	2.3	0.1	0.2	97.5	25.4	0.30	74.68
UCB-47T-03	1566994.4	735581.0	RS2-8483-LW009	1567064.3	735614.2	CORE	2	12	14.5	35.7	46.4	2.2	0.2	1	96.6	48.8	1.20	77.44
UCB-47T-04	1567031.1	735574.2	RS2-8483-LW009	1567064.3	735614.2	CORE	2	12	14.5	35.7	46.4	2.2	0.2	1	96.6	48.8	1.20	51.99
UCB-47T-05	1567055.2	735570.2	RS2-8483-LW009	1567064.3	735614.2	CORE	2	12	14.5	35.7	46.4	2.2	0.2	1	96.6	48.8	1.20	44.94
UCB-47T-06	1567083.3	735576.7	RS2-8483-LW009	1567064.3	735614.2	CORE	2	12	14.5	35.7	46.4	2.2	0.2	1	96.6	48.8	1.20	41.99
UCB-47T-07	1567089.5	735578.0	RS2-8483-LW009	1567064.3	735614.2	CORE	2	12	14.5	35.7	46.4	2.2	0.2	1	96.6	48.8	1.20	44.03
UCB-47T-08	1567112.7	735568.7	RS2-8483-LW009	1567064.3	735614.2	CORE	2	12	14.5	35.7	46.4	2.2	0.2	1	96.6	48.8	1.20	66.36
UCB-47T-09	1567125.4	735560.2	RS2-8483-ET022	1567202.6	735538.2	CORE	2	12	36.2	42.5	20.6	0.8	0	0	99.3	21.4	0.00	80.23
UCB-48T-01	1566028.4	736078.1	RS2-8483-CL020	1566018.4	736166.3	CORE	2	12	18.8	36.4	41.4	3.4	0	0	96.6	44.8	0.00	88.76
UCB-48T-02	1566011.9	736082.5	RS2-8483-CL020	1566018.4	736166.3	CORE	2	12	18.8	36.4	41.4	3.4	0	0	96.6	44.8	0.00	84.04
UCB-48T-03	1566005.6	736092.1	RS2-8483-CL020	1566018.4	736166.3	CORE	2	12	18.8	36.4	41.4	3.4	0	0	96.6	44.8	0.00	75.34
UCB-48T-04	1566001.6	736106.2	RS2-8483-CL020	1566018.4	736166.3	CORE	2	12	18.8	36.4	41.4	3.4	0	0	96.6	44.8	0.00	62.45
UCB-48T-05	1565994.4	736127.8	RS2-8483-CL020	1566018.4	736166.3	CORE	2	12	18.8	36.4	41.4	3.4	0	0	96.6	44.8	0.00	45.40
UCB-48T-06	1565985.3	736134.5	RS2-8483-CL020	1566018.4	736166.3	CORE	2	12	18.8	36.4	41.4	3.4	0	0	96.6	44.8	0.00	45.93

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Appendix H - Habitat Assessment Data (UCB-SSAP Grain Size)

Unconsolidated Bottom Samples			2002 - 2006 SSAP Grain Size Analyses															
Station Number	Northing	Easting	Core ID	Northing	Easting	Sample Type	Start Depth (in)	End Depth (in)	Clay	Silt	Fine Sand	Medium Sand	Coarse Sand	Gravel	Fines	Sands	Coarse	Distance to Station (ft)
UCB-48T-07	1565970.2	736163.1	RS2-8483-IN034	1565957.8	736180	CORE	2	12	17.1	42.4	37.8	2.7	0	0	97.3	40.5	0.00	20.89
UCB-48T-08	1565951.1	736167.0	RS2-8483-IN034	1565957.8	736180	CORE	2	12	17.1	42.4	37.8	2.7	0	0	97.3	40.5	0.00	14.65
UCB-48T-09	1565945.7	736188.5	RS2-8483-IN034	1565957.8	736180	CORE	2	12	17.1	42.4	37.8	2.7	0	0	97.3	40.5	0.00	14.86
UCB-49T-08	1545699.5	737898.9	RS3-8079-AR213	1545768.7	737838.0	CORE	2	12	3.4	4.3	77.3	12.9	2.2	0	85	92.4	2.20	92.22
UCB-49T-09	1545705.7	737911.3	RS3-8079-AR213	1545768.7	737838.0	CORE	2	12	3.4	4.3	77.3	12.9	2.2	0	85	92.4	2.20	96.60
UCB-50T-01	1534744.0	736365.0	RS3-7877-ES089	1534739.1	736406.7	CORE	2	12	14.2	56.6	28.6	0.6	0	0	99.4	29.2	0.00	42.01
UCB-50T-02	1534792.0	736375.1	RS3-7877-ES089	1534739.1	736406.7	CORE	2	12	14.2	56.6	28.6	0.6	0	0	99.4	29.2	0.00	61.60
UCB-50T-03	1534831.1	736382.5	RS3-7877-ES089	1534739.1	736406.7	CORE	2	12	14.2	56.6	28.6	0.6	0	0	99.4	29.2	0.00	95.05
UCB-50T-06	1534940.1	736397.8	RS3-7877-CL012	1535016.4	736431.9	CORE	2	12	28.95	64.55	6.4	0.1	0	0	99.9	6.5	0.00	83.57
UCB-50T-07	1534976.8	736415.8	RS3-7877-CL012	1535016.4	736431.9	CORE	2	12	28.95	64.55	6.4	0.1	0	0	99.9	6.5	0.00	42.71
UCB-50T-08	1535006.0	736415.4	RS3-7877-CL012	1535016.4	736431.9	CORE	2	12	28.95	64.55	6.4	0.1	0	0	99.9	6.5	0.00	19.50
UCB-50T-09	1535034.0	736432.2	RS3-7877-CL011	1535032.9	736431.9	CORE	2	12	28.7	58.4	12.5	0.4	0	0	99.6	12.9	0.00	1.19

Notes:

- All grain size data is in percent
- All SSAP data based on 2/14/2006 version of QEA export.
- Coordinates are in NAD83 NY State Plane East (feet)
- SSAP grain size analysis samples greater than 100 feet from station are not listed.
- Fines = % clay + % silt + % fine sand
- Sands = % fine sand + % medium sand + % coarse sand
- Coarse = % coarse sand + % gravel

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Appendix H - Habitat Assessment Data (UCB-SSAP Other)

Unconsolidated Bottom Samples			2002 - 2006 SSAP Grain Size Analyses											
Station Number	Northing	Easting	Core ID	Northing	Easting	Distance to Station (ft)	Sampling Technique	Start Depth (in)	End Depth (in)	Texture Description	General Description	Bulk Density (g/cm ³)	Moisture Content (%)	TOC (mg/kg)
UCB-01R-01	1608959.5	732978.1	RS1-9392-WT074	1608946.1	732978.1	13.48	CORE	0	2	GR/CS/FS/--	DARK GRAY	1.5	21	5700
UCB-01R-02	1608894.6	732975.6	RS1-9392-WT083	1608879.2	732975.6	36.74	CORE	0	2	SI/GR/FS/--	GRAY	1.1	26.5	17000
UCB-01R-03	1608833.4	732957.8	RS1-9392-WT091	1608816.6	732957.8	27.65	CORE	0	2	GR/FS/SI/--	GRAY-BROWN	1.5	18.7	6000
UCB-01R-04	1608795.6	732936.2	RS1-9392-WT090	1608810.4	732936.2	42.74	CORE	0	2	SI/FS/OR/--	DARK GRAY; SOME WEEDS	1.2	38.9	15000
UCB-01R-05	1608783.0	732937.6	RS1-9392-WT099	1608742.5	732937.6	40.58	CORE	0	2	FS/GR/SI/OR	DARK BROWN SILT 0-0.5in, OR=VEG	1.2	12.9	4000
UCB-01R-06	1608727.6	732926.0	RS1-9392-WT099	1608742.5	732926.0	19.03	CORE	0	2	FS/GR/SI/OR	DARK BROWN SILT 0-0.5in, OR=VEG	1.2	12.9	4000
UCB-01R-07	1608685.8	732905.6	RS1-9392-WT106	1608673.1	732905.6	14.09	CORE	0	2	FS/GR/CS/--	DARK GRAY	1.5	19.3	12000
UCB-01R-08	1608649.8	732892.9	RS1-9392-WT106	1608673.1	732892.9	24.24	CORE	0	2	FS/GR/CS/--	DARK GRAY	1.5	19.3	12000
UCB-01R-09	1608608.2	732876.7	RS1-9392-WT114	1608603.7	732876.7	19.84	CORE	0	2	SI/FS/--/GR	GREY-BROWN	1.3	22.9	12000
UCB-04T-2003-01	1594202.5	736996.4	RS1-9089-AR015	1594193.8	736996.4	27.10	CORE	0	2	FS/--/--/--	BR, TR CINDERS	1.1	22	2000
UCB-04T-2003-02	1594212.4	736987.5	RS1-9089-AR015	1594193.8	736987.5	39.19	CORE	0	2	FS/--/--/--	BR, TR CINDERS	1.1	22	2000
UCB-04T-2003-03	1594194.7	736953.4	RS1-9089-WT125	1594188.8	736953.4	18.56	CORE	0	2	FS/--/--/OR	BROWN; OR-TRACE ROOTS	1	34	5400
UCB-04T-2003-04	1594154.8	736965.4	RS1-9089-CT130	1594123.1	736965.4	34.32	CORE	0	2	FS/--/SI/OR	BROWN, OR= WOOD	1.1	35.2	11000
UCB-04T-2003-05	1594101.5	736914.9	RS1-9089-WT711	1594094.2	736914.9	21.03	CORE	0	2	FS/--/--/--	BROWN	1.3	24	4000
UCB-04T-2003-06	1594063.5	736893.9	RS1-9089-WT137	1594058.3	736893.9	35.92	CORE	0	2	SI/--/--/--	GRAY-BROWN	0.55	62.1	57000
UCB-04T-2003-07	1594029.1	736891.5	RS1-9089-CT142	1593986.6	736891.5	43.25	CORE	0	2	FS/--/--/OR	LIGHT BROWN, OR-BARK	1	6.9	1200
UCB-04T-2003-08	1594009.9	736905.5	RS1-9089-CT142	1593986.6	736905.5	24.07	CORE	0	2	FS/--/--/OR	LIGHT BROWN, OR-BARK	1	6.9	1200
UCB-04T-2003-09	1593969.8	736871.7	RS1-9089-CT142	1593986.6	736871.7	32.43	CORE	0	2	FS/--/--/OR	LIGHT BROWN, OR-BARK	1	6.9	1200
UCB-05T-2003-01	1567938.0	735123.2	RS2-8584-AB070	1567970.8	735123.2	46.56	CORE	0	2	SI/--/FS/OR	BR, OR=WOOD	0.53	54	37000
UCB-05T-2003-02	1567907.4	735103.1	RS2-8584-ET129	1567891.0	735103.1	37.71	CORE	0	2	SI/FS/--/--	GRAY-BROWN	0.99	38.6	13000
UCB-05T-2003-03	1567895.9	735138.2	RS2-8584-ET129	1567891.0	735138.2	5.04	CORE	0	2	SI/FS/--/--	GRAY-BROWN	0.99	38.6	13000

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Appendix H - Habitat Assessment Data (UCB-SSAP Other)

Unconsolidated Bottom Samples			2002 - 2006 SSAP Grain Size Analyses											
Station Number	Northing	Eastng	Core ID	Northing	Eastng	Distance to Station (ft)	Sampling Technique	Start Depth (in)	End Depth (in)	Texture Description	General Description	Bulk Density (g/cm ³)	Moisture Content (%)	TOC (mg/kg)
UCB-05T-2003-04	1567883.3	735154.6	RS2-8584-ET129	1567891.0	735154.6	19.19	CORE	0	2	SI/FS/--/--	GRAY-BROWN	0.99	38.6	13000
UCB-05T-2003-05	1567717.2	735202.8	RS2-8584-ET140	1567685.7	735202.8	40.82	CORE	0	2	SI/--/--/OR	GRAY BROWN, OR=VEG	0.52	57.1	42000
UCB-05T-2003-06	1567697.5	735139.1	RS2-8584-ET140	1567685.7	735139.1	39.52	CORE	0	2	SI/--/--/OR	GRAY BROWN, OR=VEG	0.52	57.1	42000
UCB-05T-2003-07	1567782.2	735133.9	RS2-8584-ET137	1567754.1	735133.9	28.44	CORE	0	2	SI/FS/GR/--	BROWN	0.59	49.5	18000
UCB-05T-2003-08	1567805.3	735195.1	RS2-8584-AB074	1567826.4	735195.1	22.91	CORE	0	2	SI/--/FS/OR	GRAY-BROWN, OR-VEG	0.49	57	33000
UCB-05T-2003-09	1567820.8	735174.0	RS2-8584-AB074	1567826.4	735174.0	13.38	CORE	0	2	SI/--/FS/OR	GRAY-BROWN, OR-VEG	0.49	57	33000
UCB-05T-2006-01	1571991.1	736002.1	RS2-8584-AR005	1571983.3	736002.1	21.13	CORE	0	2	SI/--/FS/CL	GRAY-BROWN	0.72	44	25000
UCB-05T-2006-02	1572027.9	736020.9	RS2-8584-ES003	1572054.2	736020.9	26.78	CORE	0	2	FS/SI/OR/--	DARK BROWN; O-WOOD,ROOTS, CLAM	0.61	49	32000
UCB-05T-2006-03	1572055.9	736031.7	RS2-8584-ES003	1572054.2	736031.7	16.00	CORE	0	2	FS/SI/OR/--	DARK BROWN; O-WOOD,ROOTS, CLAM	0.61	49	32000
UCB-05T-2006-04	1572083.4	736043.4	RS2-8584-ES003	1572054.2	736043.4	40.25	CORE	0	2	FS/SI/OR/--	DARK BROWN; O-WOOD,ROOTS, CLAM	0.61	49	32000
UCB-05T-2006-05	1572112.8	736061.0	RS2-8584-AR004	1572095.0	736061.0	40.14	CORE	0	2	FS/SI/--/OR	BR, OR=VEG	1.68	78	44000
UCB-05T-2006-06	1572128.7	736057.7	RS2-8584-AR003	1572147.5	736057.7	48.84	CORE	0	2	MS/FS/OR/--	BR, OR=WOOD CHIPS	1.1	19	0
UCB-05T-2006-07	1572157.8	736078.4	RS2-8685-ES007	1572192.1	736078.4	36.33	CORE	0	2	FS/--/SI/OR	OLIVEBROWN, ORG=VEGETATION	0.97	37.2	14000
UCB-05T-2006-08	1572171.2	736092.3	RS2-8685-ES007	1572192.1	736092.3	20.96	CORE	0	2	FS/--/SI/OR	OLIVEBROWN, ORG=VEGETATION	0.97	37.2	14000
UCB-05T-2006-09	1572212.3	736107.8	RS2-8685-IN093	1572192.3	736107.8	24.87	CORE	0	2	SI/FS/--/--	BR	0.74	43	25000
UCB-13T-01	1607888.2	732731.9	RS1-9392-CT194	1607842.3	732731.9	47.46	CORE	0	2	GR/CS/--/OR	BROWN, GR=SLAG, OR=WOOD CHIPS	0.75	19.9	1800
UCB-13T-02	1607863.7	732715.8	RS1-9392-CT194	1607842.3	732715.8	35.33	CORE	0	2	GR/CS/--/OR	BROWN, GR=SLAG, OR=WOOD CHIPS	0.75	19.9	1800
UCB-13T-03	1607839.2	732715.8	RS1-9392-IN045	1607839.7	732715.8	26.95	CORE	0	2	GR/CS/MS/FS	BR, CS AND GR MOSTLY SLAG, TR SI	0.7	24	6500
UCB-13T-04	1607811.4	732701.3	RS1-9392-CT633	1607769.8	732701.3	41.65	CORE	0	2	MS/FS/CS/GR	GRAY BROWN, TRACE ORGANICS/WOOD	0.67	19	19000

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Appendix H - Habitat Assessment Data (UCB-SSAP Other)

Unconsolidated Bottom Samples			2002 - 2006 SSAP Grain Size Analyses											
Station Number	Northing	Easting	Core ID	Northing	Easting	Distance to Station (ft)	Sampling Technique	Start Depth (in)	End Depth (in)	Texture Description	General Description	Bulk Density (g/cm ³)	Moisture Content (%)	TOC (mg/kg)
UCB-13T-05	1607791.6	732702.9	RS1-9392-CT633	1607769.8	732702.9	21.83	CORE	0	2	MS/FS/CS/GR	GRAY BROWN, TRACE ORGANICS/WOOD	0.67	19	19000
UCB-13T-06	1607764.3	732692.2	RS1-9392-CT633	1607769.8	732692.2	11.68	CORE	0	2	MS/FS/CS/GR	GRAY BROWN, TRACE ORGANICS/WOOD	0.67	19	19000
UCB-13T-07	1607750.5	732691.5	RS1-9392-CT633	1607769.8	732691.5	22.18	CORE	0	2	MS/FS/CS/GR	GRAY BROWN, TRACE ORGANICS/WOOD	0.67	19	19000
UCB-13T-08	1607739.6	732692.2	RS1-9392-CT633	1607769.8	732692.2	31.86	CORE	0	2	MS/FS/CS/GR	GRAY BROWN, TRACE ORGANICS/WOOD	0.67	19	19000
UCB-13T-09	1607716.9	732690.7	RS1-9392-CT208	1607704.3	732690.7	36.49	CORE	0	2	CS/GR/OR/--	DARK GREY-BROWN; O-WOOD	0.33	66.6	160000
UCB-14T-01	1606461.1	733001.8	RS1-9392-CT652	1606454.5	733001.8	24.24	CORE	0	2	CS/MS/FS/OR	GREY BROWN. OR= SHELL FRAGMENTS. TRACE SLAG	0.86	18	23000
UCB-14T-02	1606411.5	733013.5	RS1-9392-AB086	1606380.5	733013.5	31.24	CORE	0	2	SI/OR/--/FS	GRAY-BROWN, OR-WOODPULP, ODOR.	0.3	69.4	180000
UCB-14T-03	1606379.1	733021.9	RS1-9392-AB086	1606380.5	733021.9	4.61	CORE	0	2	SI/OR/--/FS	GRAY-BROWN, OR-WOODPULP, ODOR.	0.3	69.4	180000
UCB-14T-04	1606357.9	733026.1	RS1-9392-AB086	1606380.5	733026.1	24.22	CORE	0	2	SI/OR/--/FS	GRAY-BROWN, OR-WOODPULP, ODOR.	0.3	69.4	180000
UCB-14T-05	1606349.7	733035.0	RS1-9392-ET307	1606326.5	733035.0	34.93	CORE	0	2	FS/--/SI/GR	BROWN, SHEEN	1.3	27.9	17000
UCB-14T-06	1606298.7	733040.6	RS1-9392-ET307	1606326.5	733040.6	34.53	CORE	0	2	FS/--/SI/GR	BROWN, SHEEN	1.3	27.9	17000
UCB-14T-07	1606274.9	733042.3	RS1-9392-ET307	1606326.5	733042.3	54.90	CORE	0	2	FS/--/SI/GR	BROWN, SHEEN	1.3	27.9	17000
UCB-14T-08	1606232.8	733052.8	RS1-9392-ET312	1606250.4	733052.8	53.22	CORE	0	2			0.75	44.1	29000
UCB-14T-09	1606213.3	733059.0	RS1-9392-AB092	1606176.9	733059.0	36.40	CORE	0	2	FS/SI/OR/--	BROWN, OR-WOOD	0.39	52	0
UCB-15T-01	1605836.6	732834.5	RS1-9392-AB104	1605832.1	732834.5	29.78	CORE	0	2	SI/--/FS/--	DARK GRAY	0.72	41	21000
UCB-15T-02	1605795.4	732858.9	RS1-9392-AB104	1605832.1	732858.9	37.13	CORE	0	2	SI/--/FS/--	DARK GRAY	0.72	41	21000
UCB-15T-03	1605793.9	732828.6	RS1-9392-WT350	1605759.8	732828.6	37.60	CORE	0	2	SI/OR/GR/--	GRAY-BROWN; SOME WOOD	0.63	54.7	27000
UCB-15T-04	1605768.3	732872.9	RS1-9392-CT662	1605760.6	732872.9	24.05	CORE	0	2	GR/CS/FS/--	DARK GRAY-BROWN	1	18	3600
UCB-15T-05	1605758.4	732828.7	RS1-9392-WT350	1605759.8	732828.7	16.06	CORE	0	2	SI/OR/GR/--	GRAY-BROWN; SOME WOOD	0.63	54.7	27000

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Appendix H - Habitat Assessment Data (UCB-SSAP Other)

Unconsolidated Bottom Samples			2002 - 2006 SSAP Grain Size Analyses											
Station Number	Northing	Easting	Core ID	Northing	Easting	Distance to Station (ft)	Sampling Technique	Start Depth (in)	End Depth (in)	Texture Description	General Description	Bulk Density (g/cm ³)	Moisture Content (%)	TOC (mg/kg)
UCB-15T-06	1605740.5	732877.2	RS1-9392-CT662	1605760.6	732877.2	27.28	CORE	0	2	GR/CS/FS/--	DARK GRAY-BROWN	1	18	3600
UCB-15T-07	1605725.8	732833.6	RS1-9392-WT350	1605759.8	732833.6	39.91	CORE	0	2	SI/OR/GR/--	GRAY-BROWN; SOME WOOD	0.63	54.7	27000
UCB-15T-08	1605695.3	732881.5	RS1-9392-AR106	1605696.9	732881.5	61.13	CORE	0	2	FS/SI/--/OR	DK GR, OR=VEG	0.74	44	35000
UCB-15T-09	1605689.5	732845.8	RS1-9392-CL024	1605694.3	732845.8	63.37	CORE	0	2	FS/MS/--/CS	GREY BROWN, LITTLE CINDERS, SLAG	1.3	26	0
UCB-17T-01	1596219.6	737047.9	RS1-9190-WS335	1596204.0	737047.9	22.39	CORE	0	2	OR/FS/SI/MS	BROWN-GRAY;O-WOOD CHIPS,TWIGS;TRACE SHEEN	0.13	87	330000
UCB-17T-02	1596290.8	737125.9	RS1-9190-CS713	1596275.8	737125.9	20.25	CORE	0	2	MS/CS/GR/--	DARK GREY.	1.5	18	0
UCB-17T-03	1596222.3	737147.4	RS1-9190-AR072	1596173.4	737147.4	49.10	CORE	0	2	MS/FS/--/CS	DARK GRAY-BROWN, TR GR, TR SILT.	1.5	29.9	9800
UCB-17T-04	1596247.8	737190.4	RS1-9190-CS336	1596202.0	737190.4	55.07	CORE	0	2	FS/GR/OR/--	GRAY-BROWN; SOME SLAG; LITTLE WOOD	1.5	25.9	3800
UCB-17T-05	1596151.2	737211.9	RS1-9190-CS336	1596202.0	737211.9	51.61	CORE	0	2	FS/GR/OR/--	GRAY-BROWN; SOME SLAG; LITTLE WOOD	1.5	25.9	3800
UCB-17T-06	1596175.2	737215.7	RS1-9190-CS336	1596202.0	737215.7	27.24	CORE	0	2	FS/GR/OR/--	GRAY-BROWN; SOME SLAG; LITTLE WOOD	1.5	25.9	3800
UCB-17T-07	1596148.6	737227.4	RS1-9190-AR073	1596132.2	737227.4	37.10	CORE	0	2	FS/MS/GR/CS	DARK BR	3	34	5400
UCB-17T-08	1596168.8	737239.7	RS1-9190-CS336	1596202.0	737239.7	38.11	CORE	0	2	FS/GR/OR/--	GRAY-BROWN; SOME SLAG; LITTLE WOOD	1.5	25.9	3800
UCB-17T-09	1596169.8	737260.5	RS1-9190-AR073	1596132.2	737260.5	37.55	CORE	0	2	FS/MS/GR/CS	DARK BR	3	34	5400
UCB-20T-01	1506528.7	724997.9	RS3-7170-ES006	1506513.1	724997.9	16.52	CORE	0	2	FS/SI/--/OR	BROWN, ORGANICS/ROOTS	0.94	35	20000
UCB-20T-02	1506466.4	725009.6	RS3-7170-ES431	1506451.2	725009.6	42.91	CORE	0	2	SI/--/--/FS	BROWN;TRACE VEG	0.5	60	26000
UCB-20T-03	1506394.9	725028.9	RS3-7170-ES007	1506427.2	725028.9	39.25	CORE	0	2	SI/OR/FS/--	GREY BROWN, OR- LEAVES TWIGS ROOTS	0.85	40	11000
UCB-20T-04	1506340.8	725042.6	RS3-7170-VT216	1506332.9	725042.6	9.81	CORE	0	2	SI/--/FS/OR	BROWN;OR-WOOD	0.64	50	18000
UCB-20T-05	1506278.1	725061.7	RS3-7170-EP157	1506301.9	725061.7	27.08	CORE	0	2	SI/--/--/FS	BROWN, TR OR-ROOTS AND LEAF LITTER	0.57	59	25000
UCB-20T-06	1506218.4	725074.7	RS3-7170-ES009	1506234.0	725074.7	25.75	CORE	0	2	FS/SI/--/OR	GRAY BROWN, ORGANICS/VEGETATION	0.82	41	17000

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Appendix H - Habitat Assessment Data (UCB-SSAP Other)

Unconsolidated Bottom Samples			2002 - 2006 SSAP Grain Size Analyses											
Station Number	Northing	Easting	Core ID	Northing	Easting	Distance to Station (ft)	Sampling Technique	Start Depth (in)	End Depth (in)	Texture Description	General Description	Bulk Density (g/cm ³)	Moisture Content (%)	TOC (mg/kg)
UCB-20T-07	1506171.9	725083.1	RS3-7170-ES437	1506177.1	725083.1	35.61	CORE	0	2	SI/--/FS/OR	DARK BROWN. OR=VEGETATION.	1.21	52	38500
UCB-20T-08	1506114.3	725101.9	RS3-7170-ES010	1506119.5	725101.9	6.24	CORE	0	2	SI/--/FS/OR	DARK BROWN, ORGANICS/ROOTS	0.68	46	26000
UCB-20T-09	1506049.3	725119.8	RS3-7170-ES439	1506061.2	725119.8	29.60	CORE	0	2	SI/FS/--/OR	BROWN;O-VEG	0.47	59	39000
UCB-21T-01	1504967.8	725383.8	RS3-7170-ES030	1504929.2	725383.8	40.78	CORE	0	2	SI/--/FS/OR	GRAY-BROWN; OR-LITTLE ROOTS	0.7	50	27000
UCB-21T-02	1505007.9	725374.8	RS3-7170-ES028	1505052.8	725374.8	48.66	CORE	0	2	SI/FS/--/--	DARK BROWN. SLIGHT ODOR	0.63	51	31000
UCB-21T-03	1505050.4	725363.9	RS3-7170-ES028	1505052.8	725363.9	8.32	CORE	0	2	SI/FS/--/--	DARK BROWN. SLIGHT ODOR	0.63	51	31000
UCB-21T-04	1505092.9	725360.2	RS3-7170-ES028	1505052.8	725360.2	40.39	CORE	0	2	SI/FS/--/--	DARK BROWN. SLIGHT ODOR	0.63	51	31000
UCB-21T-05	1505133.6	725356.8	RS3-7170-ES456	1505120.3	725356.8	30.61	CORE	0	2	SI/--/--/FS	BROWN, TRACE OR LEAVES	0.75	53	22000
UCB-21T-06	1505181.2	725343.5	RS3-7170-ES025	1505183.4	725343.5	5.39	CORE	0	2	SI/--/FS/OR	DARK BROWN GREY. OR=ROOTS.	0.83	40	21000
UCB-21T-07	1505225.0	725340.8	RS3-7170-ES025	1505183.4	725340.8	41.69	CORE	0	2	SI/--/FS/OR	DARK BROWN GREY. OR=ROOTS.	0.83	40	21000
UCB-21T-08	1505261.4	725329.2	RS3-7170-ES023	1505290.8	725329.2	46.16	CORE	0	2	SI/--/--/FS	BROWN. TRACE OR= ROOTS.	0.83	41	2300
UCB-21T-09	1505291.4	725305.9	RS3-7170-ES023	1505290.8	725305.9	12.36	CORE	0	2	SI/--/--/FS	BROWN. TRACE OR= ROOTS.	0.83	41	2300
UCB-22T-01	1502457.5	725604.1	RS3-7170-ET116	1502423.7	725604.1	44.41	CORE	0	2	FS/SI/OR/--	BROWN, ORGANICS/VEGETATION & ROOTS	0.6	52	24000
UCB-22T-02	1502428.2	725602.4	RS3-7170-ET116	1502423.7	725602.4	27.40	CORE	0	2	FS/SI/OR/--	BROWN, ORGANICS/VEGETATION & ROOTS	0.6	52	24000
UCB-22T-03	1502403.7	725592.4	RS3-7170-CL019	1502412.3	725592.4	19.79	CORE	0	2	SI/--/--/FS	BROWN, TR CLAY	0.76	44.4	0
UCB-22T-04	1502371.7	725598.4	RS3-7170-CL021	1502382.8	725598.4	25.30	CORE	0	2	SI/--/FS/--	BR	0.82	34	0
UCB-22T-05	1502355.4	725607.8	RS3-7170-CL021	1502382.8	725607.8	42.22	CORE	0	2	SI/--/FS/--	BR	0.82	34	0
UCB-22T-06	1502325.9	725614.2	RS3-7170-ET128	1502280.2	725614.2	61.62	CORE	0	2	SI/--/FS/OR	DARK BROWN, ORGANICS/CLAMS	0.99	32	12000

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Appendix H - Habitat Assessment Data (UCB-SSAP Other)

Unconsolidated Bottom Samples			2002 - 2006 SSAP Grain Size Analyses											
Station Number	Northing	Eastings	Core ID	Northing	Eastings	Distance to Station (ft)	Sampling Technique	Start Depth (in)	End Depth (in)	Texture Description	General Description	Bulk Density (g/cm ³)	Moisture Content (%)	TOC (mg/kg)
UCB-22T-07	1502301.5	725616.9	RS3-7170-ET128	1502280.2	725616.9	48.91	CORE	0	2	SI/--/FS/OR	DARK BROWN, ORGANICS/CLAMS	0.99	32	12000
UCB-22T-08	1502271.3	725620.1	RS3-7170-ET128	1502280.2	725620.1	48.01	CORE	0	2	SI/--/FS/OR	DARK BROWN, ORGANICS/CLAMS	0.99	32	12000
UCB-22T-09	1502256.6	725621.5	RS3-7170-ET133	1502212.1	725621.5	44.52	CORE	0	2	SI/FS/--/OR	DARK BROWN.	0.91	35	14000
UCB-23T-01	1497195.3	721987.0	RS3-6968-WS006	1497209.2	721987.0	24.95	CORE	0	2	SI/FS/--/OR	GREY BROWN. O=ROOTS	0.54	48	23000
UCB-23T-02	1497200.0	722034.5	RS3-6968-WS006	1497209.2	722034.5	28.29	CORE	0	2	SI/FS/--/OR	GREY BROWN. O=ROOTS	0.54	48	23000
UCB-23T-03	1497206.9	722065.5	RS3-6968-WS426	1497164.0	722065.5	42.94	CORE	0	2	SI/--/FS/OR	BROWN. OR= VEGETATION	0.53	58	36000
UCB-23T-04	1497214.3	722091.2	RS3-6968-WS426	1497164.0	722091.2	55.94	CORE	0	2	SI/--/FS/OR	BROWN. OR= VEGETATION	0.53	58	36000
UCB-23T-05	1497206.2	722136.5	RS3-6968-WS009	1497167.8	722136.5	39.53	CORE	0	2	SI/FS/--/OR	GREY BROWN. OR= ROOTS.	0.46	65	56000
UCB-23T-06	1497210.6	722156.6	RS3-6968-WS009	1497167.8	722156.6	44.04	CORE	0	2	SI/FS/--/OR	GREY BROWN. OR= ROOTS.	0.46	65	56000
UCB-23T-07	1497213.6	722184.2	RS3-6968-WS004	1497251.6	722184.2	40.19	CORE	0	2	SI/--/FS/--	BROWN	0.75	45	22000
UCB-23T-08	1497222.7	722212.3	RS3-6968-WS423	1497195.5	722212.3	31.49	CORE	0	2	SI/OR/FS/--	GRAY-BROWN;O-LEAF LITTER, WOOD	0.99	40	0
UCB-23T-09	1497237.7	722227.5	RS3-6968-WS004	1497251.6	722227.5	33.40	CORE	0	2	SI/--/FS/--	BROWN	0.75	45	22000
UCB-24T-01	1488148.4	711981.4	RS3-6766-WT164	1488148.1	711981.4	3.84	CORE	0	2	SI/--/FS/OR	DARK BROWN; OR-TRACE VEGETATION	1.24	50	34500
UCB-24T-02	1488144.8	712010.6	RS3-6766-WT164	1488148.1	712010.6	33.16	CORE	0	2	SI/--/FS/OR	DARK BROWN; OR-TRACE VEGETATION	1.24	50	34500
UCB-24T-03	1488168.0	711996.6	RS3-6766-WT164	1488148.1	711996.6	27.57	CORE	0	2	SI/--/FS/OR	DARK BROWN; OR-TRACE VEGETATION	1.24	50	34500
UCB-24T-04	1488151.3	712007.1	RS3-6766-WT164	1488148.1	712007.1	29.71	CORE	0	2	SI/--/FS/OR	DARK BROWN; OR-TRACE VEGETATION	1.24	50	34500
UCB-24T-05	1488192.8	712011.3	RS3-6766-WT162	1488215.9	712011.3	25.09	CORE	0	2	FS/SI/--/OR	DARK BROWN; OR-TRACE VEGETATION	0.51	55	52000
UCB-24T-06	1488177.1	712040.7	RS3-6766-WT165	1488150.3	712040.7	32.58	CORE	0	2	SI/--/--/FS	DARK BROWN	0.55	57	35000
UCB-24T-07	1488224.1	712030.3	RS3-6766-WT162	1488215.9	712030.3	12.27	CORE	0	2	FS/SI/--/OR	DARK BROWN; OR-TRACE VEGETATION	0.51	55	52000

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Appendix H - Habitat Assessment Data (UCB-SSAP Other)

Unconsolidated Bottom Samples			2002 - 2006 SSAP Grain Size Analyses											
Station Number	Northing	Easting	Core ID	Northing	Easting	Distance to Station (ft)	Sampling Technique	Start Depth (in)	End Depth (in)	Texture Description	General Description	Bulk Density (g/cm ³)	Moisture Content (%)	TOC (mg/kg)
UCB-24T-08	1488217.5	712051.3	RS3-6766-WT162	1488215.9	712051.3	30.15	CORE	0	2	FS/SI/--/OR	DARK BROWN; OR-TRACE VEGETATION	0.51	55	52000
UCB-24T-09	1488258.0	712053.7	RS3-6766-WT162	1488215.9	712053.7	53.19	CORE	0	2	FS/SI/--/OR	DARK BROWN; OR-TRACE VEGETATION	0.51	55	52000
UCB-25T-01	1446517.0	717154.9	RS3-5857-ES005	1446512.2	717154.9	15.77	CORE	0	2	SI/OR/FS/--	GRAY-BROWN; OR-SOME LEAVES, ROOTS & WEEDS	0.8	42	16000
UCB-25T-02	1446533.9	717180.0	RS3-5857-ES005	1446512.2	717180.0	23.95	CORE	0	2	SI/OR/FS/--	GRAY-BROWN; OR-SOME LEAVES, ROOTS & WEEDS	0.8	42	16000
UCB-25T-03	1446554.8	717179.8	RS3-5857-ES422	1446589.3	717179.8	40.47	CORE	0	2	SI/--/FS/--	DARK BROWN	0.85	38	16000
UCB-25T-04	1446580.0	717198.7	RS3-5857-ES422	1446589.3	717198.7	9.59	CORE	0	2	SI/--/FS/--	DARK BROWN	0.85	38	16000
UCB-25T-05	1446597.0	717235.8	RS3-5857-ES422	1446589.3	717235.8	35.69	CORE	0	2	SI/--/FS/--	DARK BROWN	0.85	38	16000
UCB-25T-06	1446620.9	717240.9	RS3-5857-ES421	1446620.5	717240.9	29.92	CORE	0	2	SI/OR/--/--	GREY BROWN, OR LEAVES TWIGS	1.47	91	0
UCB-25T-07	1446654.7	717269.5	RS3-5857-ES421	1446620.5	717269.5	34.28	CORE	0	2	SI/OR/--/--	GREY BROWN, OR LEAVES TWIGS	1.47	91	0
UCB-25T-08	1446701.5	717308.2	RS3-5857-ES001	1446674.0	717308.2	27.85	CORE	0	2	SI/--/--/OR	DARK BROWN. OR= VEGETATION.	0.96	35	12000
UCB-25T-09	1446719.4	717325.9	RS3-5857-ES001	1446674.0	717325.9	47.50	CORE	0	2	SI/--/--/OR	DARK BROWN. OR= VEGETATION.	0.96	35	12000
UCB-26T-01	1604650.0	733412.0	RS1-9392-ET457	1604649.6	733412.0	32.00	CORE	0	2	SI/FS/--/GR	GREY	0.82	50.2	15000
UCB-26T-02	1604677.3	733404.0	RS1-9392-ET457	1604649.6	733404.0	36.63	CORE	0	2	SI/FS/--/GR	GREY	0.82	50.2	15000
UCB-26T-03	1604698.3	733397.8	RS1-9392-ET450	1604722.1	733397.8	32.28	CORE	0	2	MS/FS/CS/SI	GRAY BROWN, TRACE ORGANICS/WOOD & SHELLS	1.2	31	4100
UCB-26T-04	1604725.7	733387.9	RS1-9392-ET450	1604722.1	733387.9	31.90	CORE	0	2	MS/FS/CS/SI	GRAY BROWN, TRACE ORGANICS/WOOD & SHELLS	1.2	31	4100
UCB-26T-05	1604750.0	733371.3	RS1-9392-TT256	1604791.4	733371.3	42.76	CORE	0	2	MS/FS/GR/OR	BROWN;ORG-RIVER GRASS	1.1	9.8	2000
UCB-26T-06	1604770.5	733357.0	RS1-9392-ET443	1604792.7	733357.0	32.18	CORE	0	2	CS/GR/CL/--	DARK BROWN; OR-LITTLE WOOD	0.97	21	20000
UCB-26T-07	1604805.0	733345.7	RS1-9392-ET443	1604792.7	733345.7	36.74	CORE	0	2	CS/GR/CL/--	DARK BROWN; OR-LITTLE WOOD	0.97	21	20000

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Appendix H - Habitat Assessment Data (UCB-SSAP Other)

Unconsolidated Bottom Samples			2002 - 2006 SSAP Grain Size Analyses												
Station Number	Northing	Easting	Core ID	Northing	Easting	Distance to Station (ft)	Sampling Technique	Start Depth (in)	End Depth (in)	Texture Description	General Description	Bulk Density (g/cm ³)	Moisture Content (%)	TOC (mg/kg)	
UCB-26T-08	1604852.6	733317.6	RS1-9392-EP327	1604867.3	733317.6	25.20	CORE	0	2	MS/FS/CS/GR	BROWN, TRACE (SLAG, WOOD)	1.1	20	4900	
UCB-26T-09	1604871.8	733322.6	RS1-9392-EP327	1604867.3	733322.6	16.08	CORE	0	2	MS/FS/CS/GR	BROWN, TRACE (SLAG, WOOD)	1.1	20	4900	
UCB-27T-01	1604623.0	733264.9	RS1-9392-AR130	1604582.5	733264.9	40.68	CORE	0	2	OR/--/SI/--	OR-WOODPULP	0.32	74	120000	
UCB-27T-02	1604608.1	733235.9	RS1-9392-AR130	1604582.5	733235.9	36.60	CORE	0	2	OR/--/SI/--	OR-WOODPULP	0.32	74	120000	
UCB-27T-03	1604624.9	733218.5	RS1-9392-CS720	1604669.6	733218.5	45.01	CORE	0	2	CS/MS/GR/SI	DARK GREY BROWN	1.3	16	20000	
UCB-27T-04	1604626.1	733210.6	RS1-9392-CS720	1604669.6	733210.6	43.57	CORE	0	2	CS/MS/GR/SI	DARK GREY BROWN	1.3	16	20000	
UCB-27T-05	1604638.9	733185.3	RS1-9392-CS720	1604669.6	733185.3	41.80	CORE	0	2	CS/MS/GR/SI	DARK GREY BROWN	1.3	16	20000	
UCB-27T-06	1604632.3	733163.5	RS1-9392-CS455	1604652.6	733163.5	33.87	CORE	0	2	FS/--/CS/OR	DARK BROWN, OR=SHELLS	1.2	32.3	7900	
UCB-27T-07	1604644.3	733139.2	RS1-9392-CS455	1604652.6	733139.2	8.72	CORE	0	2	FS/--/CS/OR	DARK BROWN, OR=SHELLS	1.2	32.3	7900	
UCB-27T-08	1604649.5	733112.1	RS1-9392-CS455	1604652.6	733112.1	24.58	CORE	0	2	FS/--/CS/OR	DARK BROWN, OR=SHELLS	1.2	32.3	7900	
UCB-27T-09	1604689.3	733091.1	RS1-9392-WT454	1604651.8	733091.1	47.69	CORE	0	2	FS/SI/OR/--	DARK BROWN, 0-WOOD	0.8	38	14000	
UCB-28T-01	1604222.9	733490.1	RS1-9291-CS704	1604193.5	733490.1	32.08	CORE	0	2	CS/--/MS/OR	DARK GRAY-BROWN;SOME SLAG;O-WOOD	0.44	21	19000	
UCB-28T-02	1604246.0	733473.3	RS1-9291-AR224	1604246.0	733473.3	18.25	CORE	0	2	CS/MS/GR/FS	DARK GREY;TRACE SLAG	0.95	18	4200	
UCB-28T-03	1604279.1	733443.5	RS1-9291-AR224	1604246.0	733443.5	35.03	CORE	0	2	CS/MS/GR/FS	DARK GREY;TRACE SLAG	0.95	18	4200	
UCB-28T-04	1604317.0	733410.5	RS1-9291-AR223	1604305.8	733410.5	76.50	CORE	0	2	GR/CS/MS/FS	BROWN	1.2	16	2200	
UCB-28T-05	1604337.1	733390.0	RS1-9291-AR223	1604305.8	733390.0	63.40	CORE	0	2	GR/CS/MS/FS	BROWN	1.2	16	2200	
UCB-28T-06	1604362.7	733357.6	RS1-9291-CS035	1604377.0	733357.6	60.56	CORE	0	2	MS/CS/GR/--	BROWN	1.3	17	2300	
UCB-28T-07	1604391.9	733328.4	RS1-9291-CS035	1604377.0	733328.4	33.10	CORE	0	2	MS/CS/GR/--	BROWN	1.3	17	2300	
UCB-28T-08	1604425.8	733298.2	RS1-9291-AR216	1604448.6	733298.2	27.33	CORE	0	2	MS/--/FS/SI	DARK BROWN, TRACE CLAY/COURSE	1.3	24	14000	
UCB-28T-09	1604456.7	733277.7	RS1-9291-AR216	1604448.6	733277.7	9.79	CORE	0	2	MS/--/FS/SI	DARK BROWN, TRACE CLAY/COURSE	1.3	24	14000	
UCB-29T-01	1604462.6	734114.6	RS1-9291-ET033	1604446.7	734114.6	30.93	CORE	0	2	FS/SI/OR/MS	BROWN. OR= ROOTS.	0.68	46	34000	

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Appendix H - Habitat Assessment Data (UCB-SSAP Other)

Unconsolidated Bottom Samples			2002 - 2006 SSAP Grain Size Analyses											
Station Number	Northing	Easting	Core ID	Northing	Easting	Distance to Station (ft)	Sampling Technique	Start Depth (in)	End Depth (in)	Texture Description	General Description	Bulk Density (g/cm ³)	Moisture Content (%)	TOC (mg/kg)
UCB-29T-02	1604453.5	734143.5	RS1-9291-ET033	1604446.7	734143.5	7.25	CORE	0	2	FS/SI/OR/MS	BROWN. OR= ROOTS.	0.68	46	34000
UCB-29T-03	1604430.4	734140.4	RS1-9291-ET033	1604446.7	734140.4	16.22	CORE	0	2	FS/SI/OR/MS	BROWN. OR= ROOTS.	0.68	46	34000
UCB-29T-04	1604401.8	734174.9	RS1-9291-ET042	1604378.7	734174.9	23.67	CORE	0	2	SI/FS/OR/--	BROWN; OR-LITTLE WEEDS & LEAVES	0.63	53	47000
UCB-29T-05	1604383.5	734227.3	RS1-9291-ET043	1604377.9	734227.3	30.59	CORE	0	2	SI/FS/OR/--	DARK BROWN. OR= LEAF LITTER, VEGETATION, ROOTS, WORMS. FAINT ODOR	0.52	54	58000
UCB-29T-06	1604321.8	734225.7	RS1-9291-ET052	1604307.3	734225.7	15.80	CORE	0	2	FS/SI/--/OR	DARK BROWN, O-ROOTS	0.78	42	28000
UCB-29T-07	1604334.3	734246.4	RS1-9291-ET052	1604307.3	734246.4	38.19	CORE	0	2	FS/SI/--/OR	DARK BROWN, O-ROOTS	0.78	42	28000
UCB-29T-08	1604298.3	734243.7	RS1-9291-ET052	1604307.3	734243.7	25.97	CORE	0	2	FS/SI/--/OR	DARK BROWN, O-ROOTS	0.78	42	28000
UCB-29T-09	1604296.8	734276.5	RS1-9291-ET053	1604309.0	734276.5	27.50	CORE	0	2	SI/FS/--/OR	DARK GRAY-BROWN;O-ROOTS;FAINT ODOR	0.49	76.5	96000
UCB-30R-01	1524641.1	734259.2	RS3-7675-AR018	1524588.4	734259.2	63.35	CORE	0	2	SI/--/--/FS	BROWN, TRACE OR-CLAMS, VEG	0.63	53	32000
UCB-30R-02	1524674.2	734282.5	RS3-7675-WS075	1524715.5	734282.5	51.45	CORE	0	2	SI/OR/FS/GR	GRAY-BROWN; OR-SOME WOOD	0.84	35	16000
UCB-30R-03	1524688.0	734297.9	RS3-7675-WS075	1524715.5	734297.9	53.70	CORE	0	2	SI/OR/FS/GR	GRAY-BROWN; OR-SOME WOOD	0.84	35	16000
UCB-30R-04	1524743.2	734312.1	RS3-7675-WS075	1524715.5	734312.1	66.37	CORE	0	2	SI/OR/FS/GR	GRAY-BROWN; OR-SOME WOOD	0.84	35	16000
UCB-30R-05	1524773.1	734323.6	RS3-7675-WS075	1524715.5	734323.6	92.13	CORE	0	2	SI/OR/FS/GR	GRAY-BROWN; OR-SOME WOOD	0.84	35	16000
UCB-30R-06	1524808.6	734317.2	RS3-7675-WS075	1524715.5	734317.2	113.85	CORE	0	2	SI/OR/FS/GR	GRAY-BROWN; OR-SOME WOOD	0.84	35	16000
UCB-30R-07	1524833.9	734326.4	RS3-7675-WS073	1524949.9	734326.4	116.82	CORE	0	2	FS/--/--/--	GRAY BROWN	1.3	23	3900
UCB-30R-08	1524878.4	734337.4	RS3-7675-WS073	1524949.9	734337.4	75.70	CORE	0	2	FS/--/--/--	GRAY BROWN	1.3	23	3900
UCB-30R-09	1524907.0	734354.1	RS3-7675-WS073	1524949.9	734354.1	59.73	CORE	0	2	FS/--/--/--	GRAY BROWN	1.3	23	3900
UCB-30T-01	1604178.9	733227.2	RS1-9291-WT069	1604170.1	733227.2	33.44	CORE	0	2	SI/OR/FS/--	BROWN; OR-SOME WOOD PULP	1.68	51	98500

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Appendix H - Habitat Assessment Data (UCB-SSAP Other)

Unconsolidated Bottom Samples			2002 - 2006 SSAP Grain Size Analyses											
Station Number	Northing	Easting	Core ID	Northing	Easting	Distance to Station (ft)	Sampling Technique	Start Depth (in)	End Depth (in)	Texture Description	General Description	Bulk Density (g/cm ³)	Moisture Content (%)	TOC (mg/kg)
UCB-30T-02	1604159.0	733249.4	RS1-9291-WT069	1604170.1	733249.4	14.92	CORE	0	2	SI/OR/FS/--	BROWN; OR-SOME WOOD PULP	1.68	51	98500
UCB-30T-03	1604130.0	733268.2	RS1-9291-AR009	1604108.5	733268.2	31.85	CORE	0	2	FS/SI/CL/--	GRAY, CLAY INTERFACE 1 IN. FROM THE TOP	0.94	30	15000
UCB-30T-04	1604100.9	733285.7	RS1-9291-TT231	1604104.2	733285.7	13.73	CORE	0	2	FS/SI/GR/MS	GREY BROWN, TRACE COURSE/WOOD	1.2	30	24000
UCB-30T-05	1604070.9	733303.3	RS1-9291-WT077	1604100.9	733303.3	30.26	CORE	0	2	SI/FS/--/OR	DARK GRAY BROWN	0.72	50	42000
UCB-30T-06	1604055.6	733313.3	RS1-9291-WT086	1604031.8	733313.3	33.96	CORE	0	2	SI/--/--/OR	GREY BROWN. OR= ROOTS, VEGETATION.	0.57	51	33000
UCB-30T-07	1604046.1	733321.9	RS1-9291-WT086	1604031.8	733321.9	21.18	CORE	0	2	SI/--/--/OR	GREY BROWN. OR= ROOTS, VEGETATION.	0.57	51	33000
UCB-30T-08	1604026.0	733366.8	RS1-9291-WT086	1604031.8	733366.8	29.89	CORE	0	2	SI/--/--/OR	GREY BROWN. OR= ROOTS, VEGETATION.	0.57	51	33000
UCB-30T-09	1604019.1	733420.3	RS1-9291-AR232	1604079.9	733420.3	68.67	CORE	0	2	FS/MS/GR/SI	BROWN/GREY;TRACE ORG-WOOD	1.4	26	2200
UCB-31T-01	1604015.2	733745.4	RS1-9291-CL006	1604026.0	733745.4	38.82	CORE	0	2	CS/MS/--/FS	DARK GREY BROWN. TRACE CHIPS. SOME CINDERS, SLAG	0.86	41	0
UCB-31T-02	1603994.8	733767.9	RS1-9291-CL006	1604026.0	733767.9	34.54	CORE	0	2	CS/MS/--/FS	DARK GREY BROWN. TRACE CHIPS. SOME CINDERS, SLAG	0.86	41	0
UCB-31T-03	1603984.7	733796.2	RS1-9291-CL005	1604027.7	733796.2	43.02	CORE	0	2	GR/FS/MS/CS	DK BR, TR SI	1.2	26	0
UCB-31T-04	1603980.2	733834.3	RS1-9291-CS096	1603958.8	733834.3	34.47	CORE	0	2	CS/--/GR/OR	DARK BROWN. OR= WOOD CHIPS. TRACE SLAG (CS)	0.9	38	6300
UCB-31T-05	1603972.2	733844.8	RS1-9291-CS096	1603958.8	733844.8	21.25	CORE	0	2	CS/--/GR/OR	DARK BROWN. OR= WOOD CHIPS. TRACE SLAG (CS)	0.9	38	6300
UCB-31T-06	1603949.0	733860.9	RS1-9291-CS096	1603958.8	733860.9	9.78	CORE	0	2	CS/--/GR/OR	DARK BROWN. OR= WOOD CHIPS. TRACE SLAG (CS)	0.9	38	6300
UCB-31T-07	1603912.2	733892.9	RS1-9291-CS096	1603958.8	733892.9	56.30	CORE	0	2	CS/--/GR/OR	DARK BROWN. OR= WOOD CHIPS. TRACE SLAG (CS)	0.9	38	6300
UCB-31T-08	1603886.3	733904.7	RS1-9291-CS112	1603822.9	733904.7	74.20	CORE	0	2	OR/--/--/	BROWN. OR= WOOD CHIPS, BARK.	0.13	79	160000
UCB-31T-09	1603856.1	733932.6	RS1-9291-CS112	1603822.9	733932.6	34.89	CORE	0	2	OR/--/--/	BROWN. OR= WOOD CHIPS, BARK.	0.13	79	160000

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Unconsolidated Bottom Samples			2002 - 2006 SSAP Grain Size Analyses											
Station Number	Northing	Easting	Core ID	Northing	Easting	Distance to Station (ft)	Sampling Technique	Start Depth (in)	End Depth (in)	Texture Description	General Description	Bulk Density (g/cm ³)	Moisture Content (%)	TOC (mg/kg)
UCB-32T-01	1602721.8	735684.8	RS1-9291-ET212	1602718.9	735684.8	12.95	CORE	0	2	SI/FS/OR/--	BROWN. OR= ROOTS.	0.56	54	35000
UCB-32T-02	1602698.0	735699.3	RS1-9291-ET212	1602718.9	735699.3	20.92	CORE	0	2	SI/FS/OR/--	BROWN. OR= ROOTS.	0.56	54	35000
UCB-32T-03	1602673.4	735714.8	RS1-9291-ET216	1602647.8	735714.8	37.21	CORE	0	2	SI/--/--/FS	BROWN GRAY	0.46	63	55000
UCB-32T-04	1602636.0	735731.4	RS1-9291-ET216	1602647.8	735731.4	15.80	CORE	0	2	SI/--/--/FS	BROWN GRAY	0.46	63	55000
UCB-32T-05	1602606.2	735751.3	RS1-9291-ET216	1602647.8	735751.3	42.63	CORE	0	2	SI/--/--/FS	BROWN GRAY	0.46	63	55000
UCB-32T-06	1602575.5	735773.5	RS1-9291-ET223	1602573.6	735773.5	7.12	CORE	0	2	SI/--/--/OR	DARK BROWN, ORGANICS/ROOTS & CLAM	0.42	60	48000
UCB-32T-07	1602551.9	735796.2	RS1-9291-ET223	1602573.6	735796.2	26.83	CORE	0	2	SI/--/--/OR	DARK BROWN, ORGANICS/ROOTS & CLAM	0.42	60	48000
UCB-32T-08	1602507.6	735804.6	RS1-9291-ET228	1602504.7	735804.6	16.18	CORE	0	2	FS/SI/--/OR	BROWN, OR-ROOTS	0.48	56	46000
UCB-32T-09	1602492.7	735808.6	RS1-9291-ET228	1602504.7	735808.6	16.90	CORE	0	2	FS/SI/--/OR	BROWN, OR-ROOTS	0.48	56	46000
UCB-33T-01	1602136.2	735416.1	RS1-9291-AR277	1602141.2	735416.1	38.68	CORE	0	2	SI/--/FS/OR	BROWN;ORG-ROOTS	0.55	54	3600
UCB-33T-02	1602125.0	735450.9	RS1-9291-WT253	1602161.0	735450.9	36.56	CORE	0	2	FS/SI/--/OR	GRAY BROWN, OR-ROOTS	0.79	39	19000
UCB-33T-03	1602079.6	735419.7	RS1-9291-AR077	1602069.8	735419.7	13.86	CORE	0	2	SI/--/--/FS	DK GR BR, TR OR=WOOD	0.64	45.8	24000
UCB-33T-04	1602080.4	735449.3	RS1-9291-AR077	1602069.8	735449.3	22.40	CORE	0	2	SI/--/--/FS	DK GR BR, TR OR=WOOD	0.64	45.8	24000
UCB-33T-05	1602032.2	735460.4	RS1-9291-AR077	1602069.8	735460.4	48.66	CORE	0	2	SI/--/--/FS	DK GR BR, TR OR=WOOD	0.64	45.8	24000
UCB-33T-06	1601985.6	735474.0	RS1-9291-WT271	1601954.8	735474.0	40.33	CORE	0	2	SI/FS/--/--	BROWN	0.68	44	17000
UCB-33T-07	1601941.1	735490.0	RS1-9291-WT271	1601954.8	735490.0	17.07	CORE	0	2	SI/FS/--/--	BROWN	0.68	44	17000
UCB-33T-08	1601901.7	735497.4	RS1-9291-AR285	1601883.1	735497.4	26.79	CORE	0	2	FS/SI/--/OR	BROWN;ORG-ROOTS,CLAM	0.78	44	14000
UCB-33T-09	1601866.1	735523.0	RS1-9291-WT277	1601886.1	735523.0	24.39	CORE	0	2	SI/FS/--/OR	DARK BROWN, ORGANICS/ROOTLETS	0.93	41	13000
UCB-34T-01	1601217.9	736264.0	RS1-9291-ET330	1601190.2	736264.0	27.75	CORE	0	2	CS/FS/SI/GR	BROWN	1.6	12.4	9100
UCB-34T-02	1601196.4	736279.4	RS1-9291-ET330	1601190.2	736279.4	17.28	CORE	0	2	CS/FS/SI/GR	BROWN	1.6	12.4	9100
UCB-34T-03	1601150.1	736280.6	RS1-9291-ET334	1601123.7	736280.6	32.31	CORE	0	2	SI/OR/--/--	GRAY-BROWN; SOME TWIGS	0.57	62.3	35000

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Unconsolidated Bottom Samples			2002 - 2006 SSAP Grain Size Analyses											
Station Number	Northing	Easting	Core ID	Northing	Easting	Distance to Station (ft)	Sampling Technique	Start Depth (in)	End Depth (in)	Texture Description	General Description	Bulk Density (g/cm ³)	Moisture Content (%)	TOC (mg/kg)
UCB-34T-04	1601130.3	736286.6	RS1-9291-ET334	1601123.7	736286.6	14.36	CORE	0	2	SI/OR/--/--	GRAY-BROWN; SOME TWIGS	0.57	62.3	35000
UCB-34T-05	1601114.4	736289.5	RS1-9291-ET334	1601123.7	736289.5	13.51	CORE	0	2	SI/OR/--/--	GRAY-BROWN; SOME TWIGS	0.57	62.3	35000
UCB-34T-06	1601082.2	736283.5	RS1-9291-ET340	1601056.5	736283.5	33.87	CORE	0	2	CS/GR/FS/--	OLIVE BROWN	1.6	15.6	2300
UCB-34T-07	1601062.9	736299.5	RS1-9291-ET341	1601054.6	736299.5	34.30	CORE	0	2	FS/--/--/SI	OLIVE BROWN	1	33.8	13000
UCB-34T-08	1601041.9	736291.7	RS1-9291-ET340	1601056.5	736291.7	33.59	CORE	0	2	CS/GR/FS/--	OLIVE BROWN	1.6	15.6	2300
UCB-34T-09	1600996.6	736293.3	RS1-9291-ET344	1600985.3	736293.3	14.39	CORE	0	2	SI/--/FS/OR	DARK GREY. OR= VEGETATION. TRACE GRAVEL	0.53	56.6	34000
UCB-35R-01	1511535.0	728557.3	RS3-7372-WS036	1511579.2	728557.3	49.61	CORE	0	2	FS/SI/OR/--	GRAY-BROWN; OR-LITTLE LEAVES, TWIGS & WEEDS	1.1	26	5300
UCB-35R-02	1511517.1	728524.5	RS3-7372-WS521	1511490.7	728524.5	27.23	CORE	0	2	SI/--/FS/--	BROWN	0.55	54	36000
UCB-35R-03	1511491.3	728484.9	RS3-7372-WS521	1511490.7	728484.9	32.81	CORE	0	2	SI/--/FS/--	BROWN	0.55	54	36000
UCB-35R-04	1511468.7	728461.1	RS3-7372-WS038	1511499.5	728461.1	48.19	CORE	0	2	FS/OR/SI/--	GRAY-BROWN; OR-SOME TWIGS, ROOTS & WEEDS	1	32	7900
UCB-35R-05	1511451.5	728435.1	RS3-7372-WS038	1511499.5	728435.1	49.33	CORE	0	2	FS/OR/SI/--	GRAY-BROWN; OR-SOME TWIGS, ROOTS & WEEDS	1	32	7900
UCB-35R-06	1511426.6	728399.5	RS3-7372-WS038	1511499.5	728399.5	76.97	CORE	0	2	FS/OR/SI/--	GRAY-BROWN; OR-SOME TWIGS, ROOTS & WEEDS	1	32	7900
UCB-35R-07	1511400.5	728367.7	RS3-7372-WS039	1511405.7	728367.7	61.12	CORE	0	2	FS/OR/SI/--	GRAY-BROWN; OR-SOME ROOTS & WEEDS	1.3	23	3200
UCB-35R-08	1511377.4	728341.1	RS3-7372-WS039	1511405.7	728341.1	44.45	CORE	0	2	FS/OR/SI/--	GRAY-BROWN; OR-SOME ROOTS & WEEDS	1.3	23	3200
UCB-35R-09	1511357.4	728308.8	RS3-7372-WS039	1511405.7	728308.8	48.33	CORE	0	2	FS/OR/SI/--	GRAY-BROWN; OR-SOME ROOTS & WEEDS	1.3	23	3200
UCB-35T-01	1600923.2	735871.6	RS1-9291-WT346	1600916.2	735871.6	12.31	CORE	0	2	OR/--/--/SI	DARK BROWN. OR= WOOD CHIPS.	0.2	75	110000
UCB-35T-02	1600944.9	735901.1	RS1-9291-AR123	1600982.8	735901.1	37.99	CORE	0	2	MS/FS/OR/CS	BR, OR=WOOD AND WOOD CHIPS, TRACE CINDERS AND SLAG	0.95	21	24000

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Unconsolidated Bottom Samples			2002 - 2006 SSAP Grain Size Analyses											
Station Number	Northing	Easting	Core ID	Northing	Easting	Distance to Station (ft)	Sampling Technique	Start Depth (in)	End Depth (in)	Texture Description	General Description	Bulk Density (g/cm ³)	Moisture Content (%)	TOC (mg/kg)
UCB-35T-03	1600955.1	735873.3	RS1-9291-AR123	1600982.8	735873.3	36.72	CORE	0	2	MS/FS/OR/CS	BR, OR=WOOD AND WOOD CHIPS, TRACE CINDERS AND SLAG	0.95	21	24000
UCB-35T-04	1600987.2	735870.7	RS1-9291-AR123	1600982.8	735870.7	27.17	CORE	0	2	MS/FS/OR/CS	BR, OR=WOOD AND WOOD CHIPS, TRACE CINDERS AND SLAG	0.95	21	24000
UCB-35T-05	1601011.8	735903.4	RS1-9291-AR123	1600982.8	735903.4	29.59	CORE	0	2	MS/FS/OR/CS	BR, OR=WOOD AND WOOD CHIPS, TRACE CINDERS AND SLAG	0.95	21	24000
UCB-35T-06	1601030.1	735875.6	RS1-9291-AR302	1601067.1	735875.6	37.07	CORE	0	2	CS/MS/GR/FS	DARK GREY BROWN	0.94	12	1500
UCB-35T-07	1601066.7	735875.3	RS1-9291-AR302	1601067.1	735875.3	0.45	CORE	0	2	CS/MS/GR/FS	DARK GREY BROWN	0.94	12	1500
UCB-35T-08	1601079.9	735874.4	RS1-9291-AR302	1601067.1	735874.4	12.83	CORE	0	2	CS/MS/GR/FS	DARK GREY BROWN	0.94	12	1500
UCB-35T-09	1601071.6	735907.5	RS1-9291-AR302	1601067.1	735907.5	32.67	CORE	0	2	CS/MS/GR/FS	DARK GREY BROWN	0.94	12	1500
UCB-36T-01	1600285.8	736061.7	RS1-9190-WT012	1600220.2	736061.7	77.26	CORE	0	2	FS/MS/--/GR	BROWN; TRACE SLAG	1.3	23	13000
UCB-36T-02	1600306.2	736042.8	RS1-9190-CS004	1600358.9	736042.8	77.94	CORE	0	2	FS/--/SI/MS	BROWN; TRACE SLAG	1.2	30	20000
UCB-36T-03	1600337.5	736062.1	RS1-9190-CS004	1600358.9	736062.1	43.67	CORE	0	2	FS/--/SI/MS	BROWN; TRACE SLAG	1.2	30	20000
UCB-36T-04	1600364.8	736022.6	RS1-9190-AR001	1600424.1	736022.6	71.05	CORE	0	2	FS/--/OR/--	GRAY-BROWN, SOME F SLAG, OR-WOOD	0.78	38.6	32000
UCB-36T-05	1600383.7	736043.6	RS1-9190-AR001	1600424.1	736043.6	44.28	CORE	0	2	FS/--/OR/--	GRAY-BROWN, SOME F SLAG, OR-WOOD	0.78	38.6	32000
UCB-36T-06	1600433.6	736005.6	RS1-9291-WT384	1600427.3	736005.6	28.94	CORE	0	2	OR/--/--/SI	BROWN. OR= WOOD CHIPS.	0.25	77	180000
UCB-36T-07	1600451.4	736023.4	RS1-9291-CT380	1600497.6	736023.4	46.39	CORE	0	2	OR/--/--/--	BROWN. OR= WOOD, WOOD PULP	0.16	69	160000
UCB-36T-08	1600482.0	735968.3	RS1-9291-WT379	1600497.6	735968.3	31.82	CORE	0	2	CS/GR/OR/SI	GREY BROWN. OR= CLA, TWIGS, WOOD, WOOD CHIPS. TRACE SLAG	0.69	50	89000
UCB-36T-09	1600463.7	735998.1	RS1-9291-CT380	1600497.6	735998.1	39.93	CORE	0	2	OR/--/--/--	BROWN. OR= WOOD, WOOD PULP	0.16	69	160000
UCB-37T-01	1598105.9	736770.0	RS1-9190-WT149	1598069.9	736770.0	37.14	CORE	0	2	FS/SI/OR/--	BRWON, ORGANICS/WOOD & WOOD CHIPS	0.88	39	17000

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Appendix H - Habitat Assessment Data (UCB-SSAP Other)

Unconsolidated Bottom Samples			2002 - 2006 SSAP Grain Size Analyses											
Station Number	Northing	Easting	Core ID	Northing	Easting	Distance to Station (ft)	Sampling Technique	Start Depth (in)	End Depth (in)	Texture Description	General Description	Bulk Density (g/cm ³)	Moisture Content (%)	TOC (mg/kg)
UCB-37T-02	1598098.9	736745.6	RS1-9190-WT149	1598069.9	736745.6	44.36	CORE	0	2	FS/SI/OR/--	BRWON, ORGANICS/WOOD & WOOD CHIPS	0.88	39	17000
UCB-37T-03	1598094.8	736771.6	RS1-9190-WT149	1598069.9	736771.6	26.01	CORE	0	2	FS/SI/OR/--	BRWON, ORGANICS/WOOD & WOOD CHIPS	0.88	39	17000
UCB-37T-04	1598075.2	736743.4	RS1-9190-WT149	1598069.9	736743.4	36.21	CORE	0	2	FS/SI/OR/--	BRWON, ORGANICS/WOOD & WOOD CHIPS	0.88	39	17000
UCB-37T-05	1598068.5	736772.6	RS1-9190-WT149	1598069.9	736772.6	6.73	CORE	0	2	FS/SI/OR/--	BRWON, ORGANICS/WOOD & WOOD CHIPS	0.88	39	17000
UCB-37T-06	1598047.2	736735.2	RS1-9190-WT151	1598007.4	736735.2	40.23	CORE	0	2	SI/FS/--/OR	DARK BROWN. OR= WOOD.	0.45	61	33000
UCB-37T-07	1598055.4	736771.3	RS1-9190-TT233	1598068.1	736771.3	15.52	CORE	0	2	OR/--/--/SI	DARK BROWN;ORG-WOOD CHIPS/CLAM	0.16	81	30000
UCB-37T-08	1598021.1	736742.8	RS1-9190-WT151	1598007.4	736742.8	13.86	CORE	0	2	SI/FS/--/OR	DARK BROWN. OR= WOOD.	0.45	61	33000
UCB-37T-09	1598022.5	736771.1	RS1-9190-WT151	1598007.4	736771.1	33.54	CORE	0	2	SI/FS/--/OR	DARK BROWN. OR= WOOD.	0.45	61	33000
UCB-38T-01	1596612.3	736310.4	RS1-9190-WT280	1596624.0	736310.4	31.19	CORE	0	2	SI/--/--/--	DARK BROWN; VERY LOOSE MATERIAL	0.23	76	66000
UCB-38T-02	1596612.3	736310.4	RS1-9190-WT280	1596624.0	736310.4	31.19	CORE	0	2	SI/--/--/--	DARK BROWN; VERY LOOSE MATERIAL	0.23	76	66000
UCB-38T-03	1596612.3	736310.4	RS1-9190-WT280	1596624.0	736310.4	31.19	CORE	0	2	SI/--/--/--	DARK BROWN; VERY LOOSE MATERIAL	0.23	76	66000
UCB-38T-04	1596612.3	736310.4	RS1-9190-WT280	1596624.0	736310.4	31.19	CORE	0	2	SI/--/--/--	DARK BROWN; VERY LOOSE MATERIAL	0.23	76	66000
UCB-38T-05	1596612.3	736310.4	RS1-9190-WT280	1596624.0	736310.4	31.19	CORE	0	2	SI/--/--/--	DARK BROWN; VERY LOOSE MATERIAL	0.23	76	66000
UCB-38T-06	1596612.3	736310.4	RS1-9190-WT280	1596624.0	736310.4	31.19	CORE	0	2	SI/--/--/--	DARK BROWN; VERY LOOSE MATERIAL	0.23	76	66000
UCB-38T-07	1596612.3	736310.4	RS1-9190-WT280	1596624.0	736310.4	31.19	CORE	0	2	SI/--/--/--	DARK BROWN; VERY LOOSE MATERIAL	0.23	76	66000
UCB-38T-08	1596612.3	736310.4	RS1-9190-WT280	1596624.0	736310.4	31.19	CORE	0	2	SI/--/--/--	DARK BROWN; VERY LOOSE MATERIAL	0.23	76	66000
UCB-38T-09	1596612.3	736310.4	RS1-9190-WT280	1596624.0	736310.4	31.19	CORE	0	2	SI/--/--/--	DARK BROWN; VERY LOOSE MATERIAL	0.23	76	66000
UCB-39T-01	1592339.8	736805.6	RS1-9089-AR265	1592332.7	736805.6	21.53	CORE	0	2	SI/--/FS/OR	BROWN;ORG-VEG	0.71	52	58000

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Appendix H - Habitat Assessment Data (UCB-SSAP Other)

Unconsolidated Bottom Samples			2002 - 2006 SSAP Grain Size Analyses											
Station Number	Northing	Easting	Core ID	Northing	Easting	Distance to Station (ft)	Sampling Technique	Start Depth (in)	End Depth (in)	Texture Description	General Description	Bulk Density (g/cm ³)	Moisture Content (%)	TOC (mg/kg)
UCB-39T-02	1592339.8	736805.6	RS1-9089-AR265	1592332.7	736805.6	21.53	CORE	0	2	SI/--/FS/OR	BROWN;ORG-VEG	0.71	52	58000
UCB-39T-03	1592339.8	736805.6	RS1-9089-AR265	1592332.7	736805.6	21.53	CORE	0	2	SI/--/FS/OR	BROWN;ORG-VEG	0.71	52	58000
UCB-39T-04	1592339.8	736805.6	RS1-9089-AR265	1592332.7	736805.6	21.53	CORE	0	2	SI/--/FS/OR	BROWN;ORG-VEG	0.71	52	58000
UCB-39T-05	1592339.8	736805.6	RS1-9089-AR265	1592332.7	736805.6	21.53	CORE	0	2	SI/--/FS/OR	BROWN;ORG-VEG	0.71	52	58000
UCB-39T-06	1592339.8	736805.6	RS1-9089-AR265	1592332.7	736805.6	21.53	CORE	0	2	SI/--/FS/OR	BROWN;ORG-VEG	0.71	52	58000
UCB-39T-07	1592339.8	736805.6	RS1-9089-AR265	1592332.7	736805.6	21.53	CORE	0	2	SI/--/FS/OR	BROWN;ORG-VEG	0.71	52	58000
UCB-39T-08	1592339.8	736805.6	RS1-9089-AR265	1592332.7	736805.6	21.53	CORE	0	2	SI/--/FS/OR	BROWN;ORG-VEG	0.71	52	58000
UCB-39T-09	1592339.8	736805.6	RS1-9089-AR265	1592332.7	736805.6	21.53	CORE	0	2	SI/--/FS/OR	BROWN;ORG-VEG	0.71	52	58000
UCB-40T-01	1591924.6	736259.0	RS1-9089-AR052	1591907.2	736259.0	17.67	CORE	0	2	SI/FS/--/--	GR BR	0.84	34	20000
UCB-40T-02	1591893.3	736259.9	RS1-9089-AR052	1591907.2	736259.9	14.02	CORE	0	2	SI/FS/--/--	GR BR	0.84	34	20000
UCB-40T-03	1591859.7	736243.0	RS1-9089-TT271	1591841.0	736243.0	29.44	CORE	0	2	SI/FS/--/OR	DARK BROWNB GRAY;ORG-VEG	1.2	30	9200
UCB-40T-04	1591845.1	736213.1	RS1-9089-WT294	1591841.9	736213.1	4.68	CORE	0	2	FS/SI/--/OR	BROWN. OR= WOOD CHIPS, ROOTS, CLAM SHELL. CLAMS	0.69	43	22000
UCB-40T-05	1591803.1	736258.5	RS1-9089-WS299	1591765.8	736258.5	37.37	CORE	0	2	FS/SI/--/OR	GRAY-BROWN; OR-TRACE ROOTS	0.6	50	17000
UCB-40T-06	1591806.3	736226.5	RS1-9089-CL040	1591800.9	736226.5	14.64	CORE	0	2	FS/--/SI/--	BROWN	2.3	59	0
UCB-40T-07	1591775.0	736252.3	RS1-9089-WS299	1591765.8	736252.3	10.21	CORE	0	2	FS/SI/--/OR	GRAY-BROWN; OR-TRACE ROOTS	0.6	50	17000
UCB-40T-08	1591755.9	736226.4	RS1-9089-WS299	1591765.8	736226.4	31.88	CORE	0	2	FS/SI/--/OR	GRAY-BROWN; OR-TRACE ROOTS	0.6	50	17000
UCB-40T-09	1591734.4	736252.6	RS1-9089-WS299	1591765.8	736252.6	31.63	CORE	0	2	FS/SI/--/OR	GRAY-BROWN; OR-TRACE ROOTS	0.6	50	17000
UCB-41T-01	1591171.0	736386.4	RS1-9089-AR076	1591144.4	736386.4	27.91	CORE	0	2	CS/MS/GR/FS	BR, TR SI	2.8	30.8	42300
UCB-41T-02	1591147.4	736378.0	RS1-9089-AR076	1591144.4	736378.0	3.00	CORE	0	2	CS/MS/GR/FS	BR, TR SI	2.8	30.8	42300

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Appendix H - Habitat Assessment Data (UCB-SSAP Other)

Unconsolidated Bottom Samples			2002 - 2006 SSAP Grain Size Analyses											
Station Number	Northing	Easting	Core ID	Northing	Easting	Distance to Station (ft)	Sampling Technique	Start Depth (in)	End Depth (in)	Texture Description	General Description	Bulk Density (g/cm ³)	Moisture Content (%)	TOC (mg/kg)
UCB-41T-03	1591097.0	736380.7	RS1-9089-WT360	1591077.1	736380.7	44.34	CORE	0	2	CS/GR/MS/FS	GRAY BROWN, TRACE ORGANICS/WOOD, SHELLS, CLAM	1.4	19	2900
UCB-41T-04	1591065.3	736367.7	RS1-9089-WT360	1591077.1	736367.7	29.05	CORE	0	2	CS/GR/MS/FS	GRAY BROWN, TRACE ORGANICS/WOOD, SHELLS, CLAM	1.4	19	2900
UCB-41T-05	1591039.8	736362.3	RS1-9089-AR079	1591004.8	736362.3	39.01	CORE	0	2	MS/FS/SI/CS	BR, TR GR	2.6	43.2	11600
UCB-41T-06	1591003.6	736348.9	RS1-9089-AR079	1591004.8	736348.9	30.60	CORE	0	2	MS/FS/SI/CS	BR, TR GR	2.6	43.2	11600
UCB-41T-07	1590986.6	736339.3	RS1-9089-WT369	1591004.4	736339.3	40.43	CORE	0	2	FS/CS/GR/OR	BROWN; OR-LITTLE ROOTS	1.4	24	2600
UCB-41T-08	1590962.8	736323.2	RS1-9089-WT377	1590935.9	736323.2	29.99	CORE	0	2	CS/GR/FS/OR	DARK GRAY BROWN, ORGANICS/WOOD & TWIGS	1.1	31	26000
UCB-41T-09	1590942.0	736312.8	RS1-9089-WT377	1590935.9	736312.8	24.18	CORE	0	2	CS/GR/FS/OR	DARK GRAY BROWN, ORGANICS/WOOD & TWIGS	1.1	31	26000
UCB-42T-01	1590330.2	736225.8	RS1-8988-AR001	1590312.0	736225.8	41.10	CORE	0	2	FS/--/CS/SI	DARK GREY BROWN	0.99	40	73000
UCB-42T-02	1590280.1	736229.0	RS1-8988-WT010	1590243.3	736229.0	50.21	CORE	0	2	SI/OR/FS/--	GRAY-BROWN; OR-SOME WOOD, LEAVES, & TWIGS	0.45	57	31000
UCB-42T-03	1590206.9	736224.8	RS1-8988-WT010	1590243.3	736224.8	52.81	CORE	0	2	SI/OR/FS/--	GRAY-BROWN; OR-SOME WOOD, LEAVES, & TWIGS	0.45	57	31000
UCB-42T-04	1590145.4	736212.5	RS1-8988-AR004	1590151.0	736212.5	20.35	CORE	0	2	FS/--/SI/GR	DARK BROWN	1.1	40	14000
UCB-42T-05	1590097.3	736195.0	RS1-8988-AR214	1590085.0	736195.0	30.90	CORE	0	2	MS/FS/CS/GR	GREY/BROWN	1.1	19	28000
UCB-42T-06	1590031.7	736178.8	RS1-8988-AR007	1590038.7	736178.8	38.46	CORE	0	2	MS/--/FS/OR	GREY BROWN, TRACE BIOTA AND VEGETATION	1.4	22	6800
UCB-42T-07	1589974.1	736168.4	RS1-8988-WS028	1589962.2	736168.4	20.27	CORE	0	2	MS/FS/CS/GR	DARK GREY BROWN.	1.4	21	3500
UCB-42T-08	1589909.9	736143.6	RS1-8988-AR012	1589903.7	736143.6	47.08	CORE	0	2	FS/--/OR/--	GREY BROWN, OR=WEEDS, LIVING CLAM IN SAMPLE	1	25	12000
UCB-42T-09	1589826.9	736145.8	RS1-8988-AR014	1589825.7	736145.8	35.29	CORE	0	2	MS/--/--/CS	DARK BROWN, TR OR-VEG, TR GR	1.2	25	47000
UCB-43T-01	1586254.4	736429.7	RS2-8988-WT029	1586260.0	736429.7	32.83	CORE	0	2	SI/FS/OR/--	DARK BROWN, OR ROOTS TWIGS	1.98	72	32000

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Unconsolidated Bottom Samples			2002 - 2006 SSAP Grain Size Analyses											
Station Number	Northing	Easting	Core ID	Northing	Easting	Distance to Station (ft)	Sampling Technique	Start Depth (in)	End Depth (in)	Texture Description	General Description	Bulk Density (g/cm ³)	Moisture Content (%)	TOC (mg/kg)
UCB-43T-02	1586218.5	736465.1	RS2-8988-WT029	1586260.0	736465.1	41.64	CORE	0	2	SI/FS/OR/--	DARK BROWN, OR ROOTS TWIGS	1.98	72	32000
UCB-43T-03	1586183.3	736491.9	RS2-8988-WT034	1586179.7	736491.9	6.04	CORE	0	2	SI/FS/OR/--	DARK BROWN, OR TWIGS LEAVES	0.9	36	13000
UCB-43T-04	1586156.7	736499.9	RS2-8988-WT034	1586179.7	736499.9	23.25	CORE	0	2	SI/FS/OR/--	DARK BROWN, OR TWIGS LEAVES	0.9	36	13000
UCB-43T-05	1586128.7	736512.6	RS2-8988-WT035	1586116.6	736512.6	26.83	CORE	0	2	FS/SI/--/OR	DARK BROWN. OR= ROOTS	0.6	46	33000
UCB-43T-06	1586080.3	736521.5	RS2-8988-WT037	1586046.9	736521.5	37.25	CORE	0	2	SI/FS/--/OR	DARK GREY. OR= ROOTS	1.1	30	20000
UCB-43T-07	1586040.4	736513.7	RS2-8988-WT037	1586046.9	736513.7	10.84	CORE	0	2	SI/FS/--/OR	DARK GREY. OR= ROOTS	1.1	30	20000
UCB-43T-08	1585987.1	736481.5	RS2-8988-WT038	1585977.9	736481.5	30.01	CORE	0	2	FS/--/--/MS	BROWN	0.3	40	24000
UCB-43T-09	1585938.7	736470.0	RS2-8988-WT038	1585977.9	736470.0	42.72	CORE	0	2	FS/--/--/MS	BROWN	0.3	40	24000
UCB-44T-01	1583264.5	735949.2	RS2-8887-WS070	1583274.2	735949.2	15.77	CORE	0	2	MS/--/--/CS	DARK BROWN, TRACE SLAG	1.1	29	2500
UCB-44T-02	1583284.0	735959.0	RS2-8887-WS070	1583274.2	735959.0	24.26	CORE	0	2	MS/--/--/CS	DARK BROWN, TRACE SLAG	1.1	29	2500
UCB-44T-03	1583305.9	735970.9	RS2-8887-AR040	1583316.8	735970.9	39.92	CORE	0	2	FS/--/OR/MS	LT BR, TR-MS. OR-WOOD CHIPS, TWIGS	1.2	14	6500
UCB-44T-04	1583335.4	736008.2	RS2-8887-AR040	1583316.8	736008.2	18.72	CORE	0	2	FS/--/OR/MS	LT BR, TR-MS. OR-WOOD CHIPS, TWIGS	1.2	14	6500
UCB-44T-05	1583320.5	736017.1	RS2-8887-AR040	1583316.8	736017.1	8.64	CORE	0	2	FS/--/OR/MS	LT BR, TR-MS. OR-WOOD CHIPS, TWIGS	1.2	14	6500
UCB-44T-06	1583281.8	735986.1	RS2-8887-AR040	1583316.8	735986.1	42.03	CORE	0	2	FS/--/OR/MS	LT BR, TR-MS. OR-WOOD CHIPS, TWIGS	1.2	14	6500
UCB-44T-07	1583302.6	736022.1	RS2-8887-AR040	1583316.8	736022.1	19.08	CORE	0	2	FS/--/OR/MS	LT BR, TR-MS. OR-WOOD CHIPS, TWIGS	1.2	14	6500
UCB-44T-08	1583360.3	736052.9	RS2-8887-AR234	1583387.6	736052.9	30.30	CORE	0	2	MS/OR/FS/--	BROWN;ORG-WOOD CHIPS/GRASS	0.7	40	12000
UCB-44T-09	1583297.2	736009.0	RS2-8887-AR040	1583316.8	736009.0	19.60	CORE	0	2	FS/--/OR/MS	LT BR, TR-MS. OR-WOOD CHIPS, TWIGS	1.2	14	6500
UCB-45T-01	1580387.6	735168.7	RS2-8786-WS035	1580363.0	735168.7	54.18	CORE	0	2	MS/FS/--/OR	BROWN, OR WOOD	1.2	18	25000
UCB-45T-02	1580736.7	735103.1	RS2-8786-CL101	1580772.8	735103.1	43.71	CORE	0	2	MS/FS/SI/OR	BR, OR=VEG	2.7	45	0

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Unconsolidated Bottom Samples			2002 - 2006 SSAP Grain Size Analyses											
Station Number	Northing	Easting	Core ID	Northing	Easting	Distance to Station (ft)	Sampling Technique	Start Depth (in)	End Depth (in)	Texture Description	General Description	Bulk Density (g/cm ³)	Moisture Content (%)	TOC (mg/kg)
UCB-45T-03	1580693.6	735123.4	RS2-8786-AR017	1580697.2	735123.4	29.25	CORE	0	2	MS/FS/--/CS	GREY BR, TR SI	1.3	27.3	0
UCB-45T-04	1580629.7	735121.8	RS2-8786-AR019	1580617.9	735121.8	15.42	CORE	0	2	FS/MS/CS/OR	GREY BROWN, TR CINDERS, SLAG, OR-TWIGS	1.1	27.7	100000
UCB-45T-05	1580616.4	735127.3	RS2-8786-AR019	1580617.9	735127.3	15.58	CORE	0	2	FS/MS/CS/OR	GREY BROWN, TR CINDERS, SLAG, OR-TWIGS	1.1	27.7	100000
UCB-45T-06	1580533.0	735144.5	RS2-8786-WS029	1580502.9	735144.5	30.44	CORE	0	2	MS/FS/--/CS	BROWN.	1.2	5.7	20000
UCB-45T-07	1580509.0	735162.1	RS2-8786-WS029	1580502.9	735162.1	23.37	CORE	0	2	MS/FS/--/CS	BROWN.	1.2	5.7	20000
UCB-45T-08	1580491.8	735163.5	RS2-8786-WS029	1580502.9	735163.5	26.39	CORE	0	2	MS/FS/--/CS	BROWN.	1.2	5.7	20000
UCB-45T-09	1580442.2	735170.0	RS2-8786-AR022	1580441.3	735170.0	40.50	CORE	0	2	MS/FS/--/CS	GR BR, TR ORG=WOOD, TR SI, TR CINDERS	0.87	30.7	0
UCB-46T-01	1576217.4	737755.4	RS2-8685-ET105	1576203.1	737755.4	29.00	CORE	0	2	FS/SI/MS/OR	DARK BROWN. OR= SHELL FRAGMENTS, ROOTS, WORMS.	0.92	35	35000
UCB-46T-02	1576248.4	737758.1	RS2-8685-ET095	1576280.3	737758.1	40.87	CORE	0	2	FS/SI/--/OR	BROWN, OR-ROOTS	0.93	32	31000
UCB-46T-03	1576282.4	737758.6	RS2-8685-ET095	1576280.3	737758.6	26.10	CORE	0	2	FS/SI/--/OR	BROWN, OR-ROOTS	0.93	32	31000
UCB-46T-04	1576315.9	737768.2	RS2-8685-ET090	1576348.2	737768.2	33.92	CORE	0	2	SI/OR/FS/--	GREY BROWN, OR ROOTS LEAVES TWIGS	0.8	41	28000
UCB-46T-05	1576355.4	737767.8	RS2-8685-ET090	1576348.2	737767.8	13.06	CORE	0	2	SI/OR/FS/--	GREY BROWN, OR ROOTS LEAVES TWIGS	0.8	41	28000
UCB-46T-06	1576396.5	737761.8	RS2-8685-ET080	1576415.2	737761.8	30.30	CORE	0	2	FS/OR/SI/--	GREY BROWN, ROOTS WEEDS	1.2	30	16000
UCB-46T-07	1576437.9	737772.8	RS2-8685-ET080	1576415.2	737772.8	41.68	CORE	0	2	FS/OR/SI/--	GREY BROWN, ROOTS WEEDS	1.2	30	16000
UCB-46T-08	1576471.5	737774.8	RS2-8685-ET074	1576483.5	737774.8	12.01	CORE	0	2	SI/--/OR/--	GRAY BROWN, ORGANICS/WOOD & WOOD PULP	0.65	48	75000
UCB-46T-09	1576493.7	737774.4	RS2-8685-ET074	1576483.5	737774.4	10.18	CORE	0	2	SI/--/OR/--	GRAY BROWN, ORGANICS/WOOD & WOOD PULP	0.65	48	75000
UCB-47T-01	1566935.9	735601.2	RS2-8483-ET059	1566921.5	735601.2	20.31	CORE	0	2	SI/--/FS/OR	DARK BROWN; OR-TRACE WOOD	0.8	36	28000
UCB-47T-02	1566962.0	735595.1	RS2-8483-ET049	1566992.5	735595.1	36.77	CORE	0	2	FS/SI/--/OR	BROWN; OR-TRACE ROOTS	1.92	72	69000

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Appendix H - Habitat Assessment Data (UCB-SSAP Other)

Unconsolidated Bottom Samples			2002 - 2006 SSAP Grain Size Analyses											
Station Number	Northing	Easting	Core ID	Northing	Easting	Distance to Station (ft)	Sampling Technique	Start Depth (in)	End Depth (in)	Texture Description	General Description	Bulk Density (g/cm ³)	Moisture Content (%)	TOC (mg/kg)
UCB-47T-03	1566994.4	735581.0	RS2-8483-ET049	1566992.5	735581.0	6.66	CORE	0	2	FS/SI/--/OR	BROWN; OR-TRACE ROOTS	1.92	72	69000
UCB-47T-04	1567031.1	735574.2	RS2-8483-ET049	1566992.5	735574.2	38.55	CORE	0	2	FS/SI/--/OR	BROWN; OR-TRACE ROOTS	1.92	72	69000
UCB-47T-05	1567055.2	735570.2	RS2-8483-ET040	1567063.6	735570.2	37.31	CORE	0	2	FS/SI/--/OR	BROWN, ORG=VEG AND WOOD CHIP	0.79	47.1	33000
UCB-47T-06	1567083.3	735576.7	RS2-8483-LW009	1567064.3	735576.7	41.99	CORE	0	2	SI/--/--/FS	BR, TR VEG, TR WOOD	0	46.1	0
UCB-47T-07	1567089.5	735578.0	RS2-8483-ET030	1567132.4	735578.0	43.06	CORE	0	2	FS/SI/--/--	BROWN	0.86	35	23000
UCB-47T-08	1567112.7	735568.7	RS2-8483-ET030	1567132.4	735568.7	20.61	CORE	0	2	FS/SI/--/--	BROWN	0.86	35	23000
UCB-47T-09	1567125.4	735560.2	RS2-8483-ET030	1567132.4	735560.2	16.02	CORE	0	2	FS/SI/--/--	BROWN	0.86	35	23000
UCB-48T-01	1566028.4	736078.1	RS2-8483-ES179	1566014.0	736078.1	47.97	CORE	0	2	OR/--/--/FS	BROWN, OR-WOOD PULP	0.062	72	170000
UCB-48T-02	1566011.9	736082.5	RS2-8483-ES179	1566014.0	736082.5	50.21	CORE	0	2	OR/--/--/FS	BROWN, OR-WOOD PULP	0.062	72	170000
UCB-48T-03	1566005.6	736092.1	RS2-8483-ET126	1566022.8	736092.1	45.53	CORE	0	2	SI/--/FS/--	GRAY-BROWN	1.3	55.65	47000
UCB-48T-04	1566001.6	736106.2	RS2-8483-ET126	1566022.8	736106.2	35.16	CORE	0	2	SI/--/FS/--	GRAY-BROWN	1.3	55.65	47000
UCB-48T-05	1565994.4	736127.8	RS2-8483-ET126	1566022.8	736127.8	29.13	CORE	0	2	SI/--/FS/--	GRAY-BROWN	1.3	55.65	47000
UCB-48T-06	1565985.3	736134.5	RS2-8483-ET126	1566022.8	736134.5	37.54	CORE	0	2	SI/--/FS/--	GRAY-BROWN	1.3	55.65	47000
UCB-48T-07	1565970.2	736163.1	RS2-8483-IN034	1565957.8	736163.1	20.89	CORE	0	2	SI/--/--/FS	GRAY-BROWN, TR OR-VEG.	1.07	56.5	43000
UCB-48T-08	1565951.1	736167.0	RS2-8483-ET130	1565953.6	736167.0	10.52	CORE	0	2	SI/--/--/--	BROWN	0.5	62.8	52000
UCB-48T-09	1565945.7	736188.5	RS2-8483-ET130	1565953.6	736188.5	13.82	CORE	0	2	SI/--/--/--	BROWN	0.5	62.8	52000
UCB-49T-01	1545503.8	737819.2	RS3-8079-ES426	1545517.7	737819.2	17.01	CORE	0	2	FS/--/SI/OR	GREY. OR= VEGETATION.	0.95	34	5600
UCB-49T-02	1545533.9	737827.8	RS3-8079-ES426	1545517.7	737827.8	16.23	CORE	0	2	FS/--/SI/OR	GREY. OR= VEGETATION.	0.95	34	5600
UCB-49T-03	1545568.4	737840.5	RS3-8079-ES073	1545581.0	737840.5	12.79	CORE	0	2	SI/FS/--/--	DARK BROWN, ODOR	1.2	27	18000
UCB-49T-04	1545607.2	737852.9	RS3-8079-ES424	1545622.7	737852.9	19.28	CORE	0	2	FS/--/--/--	GREY BROWN..	1.2	31	9300
UCB-49T-05	1545638.3	737865.1	RS3-8079-ES424	1545622.7	737865.1	15.58	CORE	0	2	FS/--/--/--	GREY BROWN..	1.2	31	9300

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Appendix H - Habitat Assessment Data (UCB-SSAP Other)

Unconsolidated Bottom Samples			2002 - 2006 SSAP Grain Size Analyses											
Station Number	Northing	Easting	Core ID	Northing	Easting	Distance to Station (ft)	Sampling Technique	Start Depth (in)	End Depth (in)	Texture Description	General Description	Bulk Density (g/cm ³)	Moisture Content (%)	TOC (mg/kg)
UCB-49T-06	1545671.8	737875.3	RS3-8079-ES072	1545663.8	737875.3	45.54	CORE	0	2	SI/--/--/FS	DARK BROWN, TRACE ORGANICS/ROOTLETS	0.78	40	12000
UCB-49T-07	1545685.2	737893.5	RS3-8079-ES072	1545663.8	737893.5	66.57	CORE	0	2	SI/--/--/FS	DARK BROWN, TRACE ORGANICS/ROOTLETS	0.78	40	12000
UCB-49T-08	1545699.5	737898.9	RS3-8079-ES070	1545754.7	737898.9	55.67	CORE	0	2	FS/--/--/OR	BROWN; OR-TRACE VEGETATION	1.1	30	12000
UCB-49T-09	1545705.7	737911.3	RS3-8079-ES070	1545754.7	737911.3	49.24	CORE	0	2	FS/--/--/OR	BROWN; OR-TRACE VEGETATION	1.1	30	12000
UCB-50T-01	1534744.0	736365.0	RS3-7877-ES089	1534739.1	736365.0	42.01	CORE	0	2	SI/FS/OR/--	BROWN; OR-SOME TWIGS	0.67	49	22000
UCB-50T-02	1534792.0	736375.1	RS3-7877-ES088	1534820.3	736375.1	31.94	CORE	0	2	SI/FS/--/OR	BROWN, OR-ROOTS	0.53	58	36000
UCB-50T-03	1534831.1	736382.5	RS3-7877-ES088	1534820.3	736382.5	24.80	CORE	0	2	SI/FS/--/OR	BROWN, OR-ROOTS	0.53	58	36000
UCB-50T-04	1534864.3	736389.5	RS3-7877-ES453	1534876.3	736389.5	12.68	CORE	0	2	SI/--/--/FS	BROWN;TRACE VEGETATION	0.6	54	35000
UCB-50T-05	1534903.5	736392.3	RS3-7877-ES453	1534876.3	736392.3	28.07	CORE	0	2	SI/--/--/FS	BROWN;TRACE VEGETATION	0.6	54	35000
UCB-50T-06	1534940.1	736397.8	RS3-7877-ES086	1534932.4	736397.8	21.34	CORE	0	2	SI/FS/--/OR	BROWN, OR-ROOTS, ODOR	0.63	48	25000
UCB-50T-07	1534976.8	736415.8	RS3-7877-CL012	1535016.4	736415.8	42.71	CORE	0	2	SI/--/FS/CL	BROWN. TRACE VEG	1.19	54.5	30500
UCB-50T-08	1535006.0	736415.4	RS3-7877-CL012	1535016.4	736415.4	19.50	CORE	0	2	SI/--/FS/CL	BROWN. TRACE VEG	1.19	54.5	30500
UCB-50T-09	1535034.0	736432.2	RS3-7877-CL011	1535032.9	736432.2	1.19	CORE	0	2	SI/--/FS/CL	BROWN. TRACE VEG	0.63	52	0

Notes:

- All SSAP data based on 2/14/2006 version of QEA export.
- Coordinates are in NAD83 NY State Plane East (feet)
- CL = clay; SI = silt; FS = fine sand; MS = medium sand; CS = coarse sand; GR = gravel; OR = organic

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Appendix H - Habitat Assessment Data (Wetland Assessment Data)

Quad ID	Species	Live /Dead	Biomass	Stem Count	Stem Lengths										Stem Diameters									
					1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
WET-01R-2003-Q1	Se	D	12.71	-999	139	41.8	34	159	141	119	96.5	137	105	144	2.01	1.79	1.59	1.98	2.09	2.75	2.08	2.68	1.84	2.55
WET-01R-2003-Q1	Se	L	228.99	38	139	41.8	34	159	141	119	96.5	137	105	144	2.01	1.79	1.59	1.98	2.09	2.75	2.08	2.68	1.84	2.55
WET-01R-2003-Q1	Sl	L	13.75	10	56.3	32.8	49.8	35	50.3	53.2	35	49	27.9	44.8	0.86	0.83	0.62	0.38	0.31	0.43	0.3	0.37	0.35	0.35
WET-01R-2003-Q1	Za	L	44.92	43	144	147	162	142	104	138	114	159	114	113	0.52	0.9	0.44	0.5	0.44	0.57	0.3	0.59	0.36	0.31
WET-01R-2003-Q2	Se	L	286.59	48	124	139	152	145	161	129	134	102	86.2	148	2.43	2.69	1.83	1.87	2.05	1.69	2.3	0.75	1.25	1.61
WET-01R-2003-Q2	Se	D	27.4	-999	124	139	152	145	161	129	134	102	86.2	148	2.43	2.69	1.83	1.87	2.05	1.69	2.3	0.75	1.25	1.61
WET-01R-2003-Q2	Za	L	20.24	12	157	181	177	99.2	108	163	91.2	116	147	122	0.34	0.45	0.38	0.24	0.21	0.45	0.2	0.35	0.44	0.4
WET-01R-2003-Q3	Se	L	160.51	24	92.2	96	98.4	105	97.3	101	91.1	96.6	113	99.8	0.47	1.33	2.63	2.06	1.63	2.66	1.07	1.51	1.01	2.13
WET-01R-2003-Q3	Se	D	9.71	-999	92.2	96	98.4	105	97.3	101	91.1	96.6	113	99.8	0.47	1.33	2.63	2.06	1.63	2.66	1.07	1.51	1.01	2.13
WET-01R-2003-Q3	Za	L	42.72	17	182	99.8	149	145	153	172	115	89.5	163	129	0.59	0.35	0.43	0.43	0.41	0.42	0.32	0.44	0.46	0.33
WET-01R-2003-Q4	Lo	L	3.55	15	80.1	63.2	82.8	60.1	43.4	32	74	60.8	32.3	58.5	0.17	0.17	0.08	0.88	0.06	0.09	0.07	0.15	0.05	0.05
WET-01R-2003-Q4	Se	L	417.5	59	121	153	160	167	148	130	143	129	125	125	1.62	2.48	2.26	1.79	2.08	1.99	1.99	2.66	1.67	1.97
WET-01R-2003-Q4	Se	D	85.99	-999	121	153	160	167	148	130	143	129	125	125	1.62	2.48	2.26	1.79	2.08	1.99	1.99	2.66	1.67	1.97
WET-01R-2003-Q5	Ew	L	0.76	2	49	38.2									0.21	0.16								
WET-01R-2003-Q5	Se	D	31.54	-999	107	130	157	126	122	106	106	132	130	139	0.19	1.41	1.96	1.3	2.03	1.17	1.08	1.66	1.35	1.62
WET-01R-2003-Q5	Se	L	401.49	59	107	130	157	126	122	106	106	132	130	139	0.19	1.41	1.96	1.3	2.03	1.17	1.08	1.66	1.35	1.62
WET-01R-2003-Q5	Za	L	30.16	10	216	169	166	172	179	85.6	133	109	156	133	0.86	0.46	0.66	0.58	0.39	0.68	0.33	0.29	0.46	0.66
WET-01R-2003-Q6	Lo	L	1.21	4	67.2	49.8	34.2	78.2							0.06	0.05	0.06	0.02						
WET-01R-2003-Q6	Se	D	38.18	-999	135	152	144	154	144	154	139	120	108	130	2.01	2.65	2.58	2.51	1.99	2.44	1.97	1.13	1.71	1.73
WET-01R-2003-Q6	Se	L	457.36	49	135	152	144	154	144	154	139	120	108	130	2.01	2.65	2.58	2.51	1.99	2.44	1.97	1.13	1.71	1.73
WET-01R-2003-Q6	Sr	L	0.37	2	13.2	18.2									0.28	0.52								
WET-01R-2003-Q6	Za	L	7.06	12	110	163	102	89.8	107	152	174	153	32.2	116	0.36	0.38	0.44	0.29	0.38	0.45	0.45	0.42	0.16	0.38
WET-01R-2003-Q7	Lo	L	0.75	8	74.1	23.2	50.6	34	53.4	30.5	25.4	17.5			0.02	0.04	0.1	0.14	0.13	0.15	0.07	0.11		
WET-01R-2003-Q7	Se	L	139.07	33	120	114	129	122	105	117	106	127	115	75.6	2.15	1.95	1.86	1.92	1.13	1.6	2.09	3.18	2.01	0.89
WET-01R-2003-Q7	Se	D	12.12	-999	120	114	129	122	105	117	106	127	115	75.6	2.15	1.95	1.86	1.92	1.13	1.6	2.09	3.18	2.01	0.89
WET-01R-2003-Q7	Za	L	25.72	14	141	154	114	137	69.1	141	156	185	94.1	132	0.43	0.45	0.48	0.34	0.3	0.42	0.46	0.61	0.47	0.53

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Appendix H - Habitat Assessment Data (Wetland Assessment Data)

Quad ID	Species	Live /Dead	Biomass	Stem Count	Stem Lengths										Stem Diameters									
					1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
WET-01R-2003-Q8	Se	D	22.61	-999	121	123	128	107	139	131	118	120	145	142	1.47	1.2	1.69	1.53	1.61	2.29	1.33	1.71	1.55	1.45
WET-01R-2003-Q8	Se	L	287.47	64	121	123	128	107	139	131	118	120	145	142	1.47	1.2	1.69	1.53	1.61	2.29	1.33	1.71	1.55	1.45
WET-01R-2003-Q8	Za	L	28.27	15	151	88.5	79.4	53.3	158	123	148	129	181	104	0.49	0.19	0.11	0.17	0.39	0.33	0.38	0.59	0.55	0.45
WET-01R-2003-Q9	Se	L	134.5	36	88.1	100	108	128	106	133	101	112	131	132	1.35	1.69	2.13	2.22	2.12	2.81	2.02	1.46	2.69	2.85
WET-01R-2003-Q9	Se	D	12.34	-999	88.1	100	108	128	106	133	101	112	131	132	1.35	1.69	2.13	2.22	2.12	2.81	2.02	1.46	2.69	2.85
WET-01R-2003-Q9	Sl	L	1.89	4	53.5	38.2	64.2	53							0.5	0.52	0.59	0.7						
WET-01R-2003-Q9	Za	L	22.6	16	153	105	153	131	175	159	86.2	177	123	77	0.43	0.38	0.37	0.53	0.86	0.53	0.31	0.46	0.37	0.32
WET-01R-2008-Q1	Za	L	353.1	27	202	190	161	158	97	154	128	174	185	189	6.3	5	4.3	3.2	2.8	4.6	4.6	4.9	6.1	5.3
WET-01R-2008-Q4	Epl	L	63	353	65	62	72	74	82	67	69	76	67	66	0.9	1.1	1.3	1.1	0.8	1.1	1.1	0.6	0.5	0.3
WET-01R-2008-Q7	Za	L	555.3	147	160	195	172	168	174	183	152	113	172	204	4.1	6.4	4.3	7	7.2	8.6	5.9	5.5	12.1	7.4
WET-01R-2008-Q8	Za	L	364.6	103	145	151	183	176	175	140	148	151	153	131	6	6	7.5	7.5	7.3	5	9.2	7.4	7.4	8.1
WET-01R-2008-Q9	Za	L	378.6	103	202	160	132	154	153	162	188	210	148	166	11.3	6	6	6	11.1	7.2	6.8	8.1	5.6	6.8
WET-02T-2003-Q1	Pc	L	163.54	128	56.2	76.4	67.6	90.2	66	72.1	55.1	81.9	65.1	73.2	1.11	1.42	1.1	0.87	1.32	1.08	0.72	0.94	1.12	1.04
WET-02T-2003-Q1	Pc	D	28.16	-999	56.2	76.4	67.6	90.2	66	72.1	55.1	81.9	65.1	73.2	1.11	1.42	1.1	0.87	1.32	1.08	0.72	0.94	1.12	1.04
WET-02T-2003-Q1	Sl	D	7.59	-999	57	75.6	57.2	64.5	59.2	62.2	71.8	52.2	52.6	77.8	0.43	1.25	0.64	0.62	0.6	0.6	0.79	0.64	1.01	0.56
WET-02T-2003-Q1	Sl	L	226.32	384	57	75.6	57.2	64.5	59.2	62.2	71.8	52.2	52.6	77.8	0.43	1.25	0.64	0.62	0.6	0.6	0.79	0.64	1.01	0.56
WET-02T-2003-Q2	Lo	L	7.03	22	57.9	41.1	75.2	38.4	49.5	55.6	68.4	36.4	34	48.2	0.23	0.11	0.13	0.16	0.17	0.08	0.2	0.15	0.13	0.14
WET-02T-2003-Q2	Pc	D	73.67	-999	74.5	87.7	66.5	84.5	71.2	70.2	96.5	74.5	65	75.5	1.88	1.52	1.04	1.48	1.76	1.4	1.42	1.58	1.69	1.33
WET-02T-2003-Q2	Pc	L	335.38	161	74.5	87.7	66.5	84.5	71.2	70.2	96.5	74.5	65	75.5	1.88	1.52	1.04	1.48	1.76	1.4	1.42	1.58	1.69	1.33
WET-02T-2003-Q2	Sl	D	9.92	-999	53.2	59.5	51.2	51.4	37.6	63.2	39.5	43.7	52.8	67	0.34	0.83	0.62	0.49	0.36	0.98	0.53	0.69	0.62	0.98
WET-02T-2003-Q2	Sl	L	170.62	291	53.2	59.5	51.2	51.4	37.6	63.2	39.5	43.7	52.8	67	0.34	0.83	0.62	0.49	0.36	0.98	0.53	0.69	0.62	0.98
WET-02T-2003-Q3	Lo	L	4.84	16	29.8	46	41.2	53.2	50.1	36.6	30.2	19.2	33.5	41	0.14	0.24	0.12	0.17	0.07	0.02	0.09	0.02	0.09	0.14
WET-02T-2003-Q3	Pc	L	230.47	113	86.5	88	89.2	58.3	94.9	64.2	97.2	77.4	83.6	80.4	1.8	1.87	1.71	1.04	1.04	1.19	1.57	1.55	1.22	1.95
WET-02T-2003-Q3	Sl	L	336.18	510	79.2	82.4	60	84.6	87.8	71	44.4	72	66.8	68.2	1.22	1.73	0.77	0.99	0.91	0.67	0.57	0.61	0.52	0.55
WET-02T-2003-Q4	Pa	L	783.38	135	106	197	152	115	170	172	86.2	151	183	155	0.6	0.55	0.5	0.58	0.53	0.45	0.23	0.43	0.43	0.56
WET-02T-2003-Q5	Ls	L	43.62	4	111	113	116	107							0.57	0.52	0.61	0.57						

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Appendix H - Habitat Assessment Data (Wetland Assessment Data)

Quad ID	Species	Live /Dead	Biomass	Stem Count	Stem Lengths										Stem Diameters									
					1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
WET-02T-2003-Q5	Pa	L	392.17	110	158	141	127	125	126	134	84.5	151	136	158	0.6	0.49	0.47	0.65	0.52	0.6	0.16	0.64	0.56	0.72
WET-02T-2003-Q6	Pa	L	521.04	124	108	127	105	112	127	130	164	132	121	104	0.52	0.58	0.41	0.37	0.54	0.52	0.64	0.62	0.64	0.5
WET-02T-2003-Q7	Pc	D	0.65	-999	37.2	34	55.8	88							0.75	0.59	1.14	1.32						
WET-02T-2003-Q7	Pc	L	11.88	4	37.2	34	55.8	88							0.75	0.59	1.14	1.32						
WET-02T-2003-Q7	Se	D	31.64	-999	138	118	112	119	137	162	118	127	123	118	3.03	2.15	2.71	2.47	2.89	2.92	2.79	2.4	2.25	2.05
WET-02T-2003-Q7	Se	L	429.61	47	138	118	112	119	137	162	118	127	123	118	3.03	2.15	2.71	2.47	2.89	2.92	2.79	2.4	2.25	2.05
WET-02T-2003-Q8	Se	D	39.13	-999	167	156	153	157	156	140	143	152	182	171	1.38	1.77	1.75	2.04	1.96	1.88	1.49	1.88	2.37	2.38
WET-02T-2003-Q8	Se	L	748.41	76	167	156	153	157	156	140	143	152	182	171	1.38	1.77	1.75	2.04	1.96	1.88	1.49	1.88	2.37	2.38
WET-02T-2003-Q8	Sl	L	15.49	9	50	78.1	59.6	85.8	82	69.2	62	89.3	79.1		0.51	0.86	0.36	1.07	1.1	0.85	0.61	0.89	0.8	
WET-02T-2003-Q8	Sl	D	41.52	-999	50	78.1	59.6	85.8	82	69.2	62	89.3	79.1		0.51	0.86	0.36	1.07	1.1	0.85	0.61	0.89	0.8	
WET-02T-2003-Q9	Lo	L	1.34	6	61	44.1	56.2	30.5	49.1	20.2					0.6	0.1	0.11	0.03	0.02	0.05				
WET-02T-2003-Q9	Pc	L	22.92	20	90.5	66.7	82.3	45.8	98.2	68.9	56.1	54	40	86.1	0.89	1.01	0.98	1.76	0.86	0.85	0.86	0.93	0.39	1.9
WET-02T-2003-Q9	Pc	D	5.71	-999	90.5	66.7	82.3	45.8	98.2	68.9	56.1	54	40	86.1	0.89	1.01	0.98	1.76	0.86	0.85	0.86	0.93	0.39	1.9
WET-02T-2003-Q9	Se	D	73.08	-999	155	131	186	153	168	113	118	144	164	152	2.71	2.64	2.61	2.05	2.19	1.58	1.61	1.72	2.08	2.94
WET-02T-2003-Q9	Se	L	499.28	48	155	131	186	153	168	113	118	144	164	152	2.71	2.64	2.61	2.05	2.19	1.58	1.61	1.72	2.08	2.94
WET-02T-2003-Q9	Sl	L	0.71	1	52.2										0.87									
WET-02T-2008-Q1	Pc	L	1341.87	242	71	67	64	54	60	55	66	56	51	64	14.5	16.4	12.2	7.1	9.9	10.7	7.7	9.6	5.9	9.4
WET-02T-2008-Q2	Pc	L	511.1	123	59	43	67	57	41	65	52	65	52	62	11	3.1	10.7	8.3	10.9	12.1	9.9	15.5	16.2	12.5
WET-02T-2008-Q2	Sl	L	241.24	24	58	57	66	72	72	74	86	70	71	72	7	2.8	3.4	7.7	8.6	7.6	8.5	6.3	9.1	10
WET-02T-2008-Q3	Sl	L	330.25	50	63	55	46	50	82	72	74	80	75	81	9.6	7	6.6	4.3	9.5	11.9	6.5	6.8	12	10.8
WET-02T-2008-Q4	Lo	L	154.3	256	86	75	77	85	81	66	62	57	88	81	1.8	1.5	0.6	1.6	1.2	1.6	1.6	1	2.1	1.2
WET-02T-2008-Q4	Pa	L	422.9	117	155	80	175	141	100	95	118	161	175	188	4	2.9	4.5	3.8	3.3	3.7	3.6	4.2	4.1	5.1
WET-02T-2008-Q5	Pa	L	662.1	179	82	85	173	73	77	147	160	74	90	165	2	2.3	4.4	3.7	1.6	3.2	4	2.6	2.3	3.9
WET-02T-2008-Q6	Pa	L	697.8	204	192	69	148	148	56	55	142	73	82	86	4.8	1.5	4.1	3.6	1.1	1.9	4.3	1.6	2.5	2
WET-02T-2008-Q7	Lo	L	430.2	346	62	73	55	61	60	64	80	65	102	73	1	1.9	1.4	1.6	1.2	1.5	2	1.6	1.2	1.4
WET-04T-2003-Q1	Se	L	4.72	1	101										0.68									

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Quad ID	Species	Live /Dead	Biomass	Stem Count	Stem Lengths										Stem Diameters									
					1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
WET-04T-2003-Q1	Tl	L	323.84	19	157	158	147	184	195	185	176	176	118	163	2.44	2.03	2.87	3.57	3.03	2.85	2.22	2.5	1.94	2.55
WET-04T-2003-Q2	Se	L	2.65	2	54.5	70.8									1.51	1.16								
WET-04T-2003-Q2	Sl	L	0.93	13	30.5	25.8	23.1	15.2	20.1	18	14.9	19.1	16.2	18.9	0.21	0.23	0.36	0.15	0.13	0.12	0.21	0.23	0.15	0.21
WET-04T-2003-Q3	Pc	L	14.46	19	88.2	59.8	101	83.5	65.5	78.1	89.4	69	65.5	72.5	1.6	1.04	1.07	1.03	1.43	1.01	1.14	1.13	0.79	0.76
WET-04T-2003-Q3	Se	D	45.39	-999	123	95.1	153	152	162	130	152	103	74.8	125	1.12	0.56	1.11	0.72	0.58	0.63	0.9	0.88	0.81	0.24
WET-04T-2003-Q3	Se	L	92.01	13	123	95.1	153	152	162	130	152	103	74.8	125	1.12	0.56	1.11	0.72	0.58	0.63	0.9	0.88	0.81	0.24
WET-04T-2003-Q3	Sl	L	3.24	9	54.5	42.2	53	57.2	44.2	46.5	34.2	39.2	15.2		0.81	0.31	0.56	0.44	0.57	0.56	0.43	0.39	0.14	
WET-04T-2003-Q3	Sv	L	8.7	9	73.2	112	173	128	156	175	104	71.8	111		0.69	0.4	0.77	0.36	0.58	0.59	0.44	0.65	0.31	
WET-04T-2003-Q3	Tl	L	464.27	11	169	173	188	215	216	202	191	202	179	170	2.62	2.58	3.23	4.52	4.69	2.48	3.39	2.93	3.43	1.49
WET-04T-2003-Q4	Lo	L	0.47	1	107										0.13									
WET-04T-2003-Q4	Se	L	279.03	16	167	157	180	169	159	150	148	147	165	157	0.82	1.93	1.66	2.1	1.89	1.35	1.17	0.87	1.35	1.17
WET-04T-2003-Q5	Ar	L	0.43	1	47.5										0.23									
WET-04T-2003-Q5	Pc	L	0.46	3	56.6	70	55.8								0.57	0.67	0.72							
WET-04T-2003-Q5	Se	L	433.03	41	194	181	186	166	150	174	174	169	150	172	1.79	2.02	1.52	1.19	1.82	2.77	1.25	1.31	1.02	1.45
WET-04T-2003-Q5	Sl	L	1.34	4	37.2	38.8	49.2	16							0.7	0.16	0.33	0.4						
WET-04T-2003-Q6	Se	L	391.69	53	158	171	144	151	160	193	170	153	156	159	1.08	2.61	1.05	1.44	1.49	1.48	1.2	1.56	1.06	1.81
WET-04T-2003-Q6	Sl	L	0.58	5	58.6	22	14	17.5	15.6						0.45	0.05	0.04	0.16	0.12					
WET-04T-2003-Q7	Pc	L	167.61	65	96	112	120	76.8	80.5	78.5	79.2	81.2	97.1	78.4	1.15	1.27	1.33	0.75	1.16	1.11	1.22	0.88	1.04	1.08
WET-04T-2003-Q7	Se	L	30.85	10	126	95.2	95	105	101	95.3	114	84	123	93	1.14	0.74	0.54	0.77	1.08	0.61	0.78	0.72	0.91	0.71
WET-04T-2003-Q8	Pc	L	162.45	90	93.8	97.5	86.9	93.2	80	54.2	86.8	115	82	64.2	1.27	1.37	1.7	1.56	1.08	1.04	1.44	1.76	0.75	0.97
WET-04T-2003-Q8	Se	L	22.11	12	59.1	56.6	92.9	62	83.1	47.5	78.4	76.9	82.4	82.8	0.43	0.49	0.77	0.6	0.81	0.48	0.88	0.72	1.18	0.6
WET-04T-2003-Q9	Pc	L	231.99	102	80.6	104	74.1	66.4	88.4	102	101	98.2	88.6	125	1.37	1.4	1.16	0.99	1.11	1.25	1.58	1.44	0.88	1.59
WET-04T-2003-Q9	Se	L	12.37	3	127	98.8	69								0.72	0.95	0.75							
WET-07T-Q1	Nyod	L	137.24	53	74	49.5	66	54	69.5	60.5	69	70	38	52.5	0.5	0.45	0.61	0.39	0.51	0.5	0.5	0.53	0.39	0.47
WET-07T-Q10	Pa	L	919.76	284	107	132	159		121	71.1	101	77.1	98.6	118	0.27	0.29	0.58		0.18	0.35	0.21	0.32	0.22	0.21
WET-07T-Q10	Urdu	L	101.73	34	106	86	98	89.8	77.8	79	69	89	80.5	47.8	0.61	0.35	0.37	0.46	0.24	0.29	0.37	0.44	0.31	0.19

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Quad ID	Species	Live /Dead	Biomass	Stem Count	Stem Lengths										Stem Diameters									
					1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
WET-07T-Q11	Pa	L	1055.82	249	183	116	135	90.3	126	174	206	186	188	177	0.44	0.29	0.31	0.25	0.34	0.35	0.41	0.52	0.46	0.48
WET-07T-Q11	Urdi	L	103.4	33	114	67.9	65.4	132	79	91.9	98.7	73.6	125	124	0.51	0.52	0.27	0.56	0.34	0.31	0.47	0.34	0.6	0.55
WET-07T-Q12	Pa	L	1078.6	198	127	91.8	83.4	96.5	115	141	173	85.3	109	207	0.48	0.33	0.34	0.2	0.28	0.2	0.34	0.16	0.21	0.37
WET-07T-Q12	Urdi	L	30.31	7	103	55.5	65.5	111	64.4	81	78.1				0.46	0.3	0.36	0.66	0.37	0.48	0.43			
WET-07T-Q13	Ls	L	985.04	60	189	151	190	200	201	139	148	189	204	153	0.61	0.49	0.61	0.59	0.67	0.39	0.54	0.4	0.82	0.41
WET-07T-Q13	Ls	D	455.22	21	189	151	190	200	201	139	148	189	204	153	0.61	0.49	0.61	0.59	0.67	0.39	0.54	0.4	0.82	0.41
WET-07T-Q14	Ls	L	1032.01	57	145	151	185	164	168	208	186	161	183	176	0.49	0.36	0.66	0.56	0.37	0.53	0.5	0.37	0.6	0.49
WET-07T-Q14	Ls	D	849.78	18	145	151	185	164	168	208	186	161	183	176	0.49	0.36	0.66	0.56	0.37	0.53	0.5	0.37	0.6	0.49
WET-07T-Q14	Pa	L	52.66	19	142	238	202	250	227	202	199	196	223	156	0.14	0.24	0.28	0.22	0.13	0.24	0.15	0.25	0.16	0.14
WET-07T-Q15	Ls	D	824.73	25	202	193	170	194	195	121	171	126	149	176	0.53	0.68	0.54	0.77	0.72	0.45	0.48	0.29	0.82	0.56
WET-07T-Q15	Ls	L	839.1	51	202	193	170	194	195	121	171	126	149	176	0.53	0.68	0.54	0.77	0.72	0.45	0.48	0.29	0.82	0.56
WET-07T-Q15	Pa	L	49.12	12	90.2	225	175	191	205	161	193	137	204	130	0.14	0.21	0.33	0.19	0.28	0.15	0.22	0.17	0.36	0.22
WET-07T-Q16	Epl	L	10.49	24	81.3	41.8	35	65	23.4	28.4	42.9	46.9	24.5	26.6	0.22	0.19	0.18	0.23	0.13	0.17	0.08	0.1	0.09	0.08
WET-07T-Q16	Pc	L	375.93	154	48.1	47.4	47.5	64.5	69.2	61.1	64.9	60.3	53.2	46.9	1.37	0.68	0.91	1.14	1.08	0.88	1.18	1.14	0.78	0.61
WET-07T-Q17	Epl	L	12.2	34	58	82.8	69.5	69.2	35.4	51.8	65.5	36.2	39.5	45.4	0.19	0.14	0.17	0.12	0.17	0.25	0.14	0.12	0.13	0.11
WET-07T-Q17	Pc	L	245.27	153	64.8	107	65.4	59.6	54.2	58.8	112	64.3	67.2	67	1.36	1.76	1.44	1.01	0.88	1	1.81	0.91	0.76	0.87
WET-07T-Q18	Epl	L	10.16	23	73.4	39.7	56.9	40.8	56.1	60.8	79.9	76.4	57.8	66.5	0.12	0.12	0.2	0.14	0.17	0.12	0.13	0.21	0.14	0.08
WET-07T-Q18	Pc	L	377.74	109	65	62.4	74.4	63.7	61.8	44.3	73.1	49.6	68.4	73.2	1.11	1.04	1.61	1.08	1.02	0.52	1.12	0.77	1.6	0.94
WET-07T-Q2	Nyod	L	136.59	51	37.5	73.5	30.5	58.5	54	32	75	49	32	58	0.55	0.55	0.57	0.54	0.36	0.5	0.57	0.44	0.42	0.52
WET-07T-Q3	Nyod	L	14.49	61	51	23	70	64	52	47	59.5	69	45	66	0.42	0.41	0.55	0.61	0.47	0.3	0.57	0.47	0.44	0.47
WET-07T-Q4	Nyod	L	56.25	3	28.5	39	44								0.45	0.44	0.5							
WET-07T-Q4	Se	L	234.88	54	109	98.2	103	106	82.1	103	116	110	111	94.5	2.95	2.48	2.69	3.7	2.23	3.34	2.93	3.59	3.33	1.63
WET-07T-Q5	Nyod	L	104.66	9	18	31	45	19	65	14	55.5	45.5	33		0.26	0.29	0.33	0.38	0.58	0.54	0.33	0.29	0.54	
WET-07T-Q5	Se	L	219.54	40	108	97	96	104	97	70	111	98.5	109	89	4.72	3.38	2.09	3.23	2.94	1.51	3.76	3.93	2.67	2.09
WET-07T-Q6	Nyod	L	22.8	9	25.3	41	11	21.5	40.5	35.5	22	71	15		0.33	0.42	0.44	0.27	0.38	0.33	0.29	0.5	0.41	
WET-07T-Q6	Se	L	197.74	37	67.6	99	95.4	106	103	113	105	100	97.7	94	0.98	2.98	1.85	4.58	2.95	3.61	4.05	2.66	2.71	1.82

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					1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
WET-07T-Q7	Se	L	560.68	78	128	135	136	141	138	146	154	141	119	139	2.87	2.11	2.5	1.71	1.14	2.41	1.53	2.41	1.08	1.27
WET-07T-Q7	Sl	L	16.37	6	51.9	35.3	62	74.3	43.2	44					0.72	0.39	0.62	1.27	0.49	0.49				
WET-07T-Q8	Se	L	350.09	86	113	112	114	125	128	94.9	101	105	92.5	106	2.14	1.42	1.46	2.12	2.2	1.2	1.51	1.42	1.38	11
WET-07T-Q8	Sl	L	23.68	18	61.6	66	61.3	30.4	61.4	37.3	55	68.9	64.9	41.7	1.72	0.94	0.93	0.89	1.38	0.96	1.27	1.64	1.3	1.04
WET-07T-Q9	Epl	L	11.2	20	81.5	84.1	87	79.3	94	95.6	88.5	61	58.4	91.9	0.14	0.15	0.13	0.18	0.12	0.15	0.17	0.12	0.14	0.12
WET-07T-Q9	Se	L	431.76	83	101	148	137	139	111	119	123	134	136	133	1.15	2.15	2.65	2.79	1.69	1.4	1.37	1.91	2.23	1.58
WET-08R-2008-Q10	Lo	L	897.1	1468	80	110	76	93	102	108	97	104	96		0.7	0.7	0.4	0.9	0.9	0.6	0.4	0.2	0.7	
WET-08R-2008-Q4	Za	L	44.27	16	104	119	121	109	72	75	99	84	91		5.5	5	4	3.9	7	3.9	6	2.9	4.2	
WET-08R-2008-Q5	Za	L	101.94	49	100	104	82	76	76	66	69	68	88	86	4.1	7.3	6.8	3	4	4.4	2.8	2.8	4.3	4.5
WET-08R-2008-Q6	Sr	L	99.78	13	90	70	71	81	84	72	83	85	78	74	18.6	16.5	15.2	15.6	17.9	19.8	14.3	17.9	14.2	12.8
WET-08R-2008-Q7	Pc	L	216.85	123	40	40	39	43	36	35	20	29	28	35	13.2	14.5	15.8	16	9.5	11.3	6.6	3.9	4.8	4.5
WET-08R-2008-Q7	Sr	L	97.41	6	18	37	27	30	45	33					1.9	1.7	2.1	3	4.1	3.3				
WET-08R-2008-Q8	Sr	L	197.2	325	45	46	27	39	46	53	47	40	32	37	6.9	8.2	4.9	6.3	8.1	12.6	8.7	7.1	6.9	7.1
WET-08R-2008-Q9	Sr	L	334.05	442	67	54	50	38	38	52	31	42	50	45	8.2	4.6	4.1	3.5	4.3	5.2	1.1	3.9	4.5	6.9
WET-08R-Q1	Nyod	L	25.75	10	87.9	71.5	79.9	70.5	79.8	78.9	53.2	57.8	32.4	80.1	0.23	0.42	0.35	0.27	0.38	0.3	0.14	0.28	0.26	0.25
WET-08R-Q1	Za	L	165	120	109	104	90.8	91.5	94.6	76.4	97.2	64.3	98.2	100	0.76	0.9	0.26	0.3	0.29	0.23	0.48	0.23	0.26	0.34
WET-08R-Q10	Se	L	173.03	38	75.8	67.4	76.7	73.6	69.7	78.6	80.4	82.3	72.1	68.3	4.9	3.43	3.12	3.81	3.37	4.56	3.5	3.22	2.89	3.6
WET-08R-Q10	Sr	L	27.98	18	55.1	68.6	42.2	47.9	36.4	31.8	38.1	38.9	43.4	36.6	2.19	4.14	3.49	2.39	2.76	2.03	1.5	1.42	1.98	1.44
WET-08R-Q11	Nyod	L	10.9	3	35.7	58.6	58.8								0.54	0.43	0.43							
WET-08R-Q11	Se	L	204.22	48	74.6	70.9	71.8	72.3	65.3	66.9	79.3	69.6	71	69.9	3.44	3.17	3.73	3.91	3.37	2.42	2.51	3.71	3.2	3.82
WET-08R-Q12	Lo	L	30.84	57	101	60	121	65.5	79.4	110	66.3	62.5	71.7	49.9	0.2	0.14	0.35	0.25	0.3	0.25	0.16	0.33	0.27	0.11
WET-08R-Q12	Se	L	131.62	39	73.8	74.3	80.2	71.2	73.2	71.4	70.3	72	81.5	75.9	2.21	2.16	1.39	3.33	2.67	1.65	1.79	2.69	3.4	3.03
WET-08R-Q2	Nyod	L	43.24	17	77.2	100	66.7	73.3	70.3	64.6	77	46.3	56.2	54.9	0.24	0.34	0.34	0.37	0.38	0.39	0.35	0.44	0.37	0.11
WET-08R-Q2	Za	L	86.98	58	133	92.7	77.8	85.8	77.6	65.2	69	97.5	58.2	80.7	1.16	0.57	0.27	0.69	0.36	0.27	0.36	0.45	0.28	0.33
WET-08R-Q3	Sr	L	21.5	9	58.7	73.1	62.6	61.7	51.4	73.2	80.2	64.4	79.6		1.19	1.65	0.98	1.75	0.31	2.35	2.19	1.42	1.58	
WET-08R-Q3	Za	L	110.14	78	100	40.3	105	107	114	86.4	70.4	94.3	117	88.2	1.04	1.36	1.17	0.63	0.46	0.33	1.01	0.51	0.53	0.54

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Appendix H - Habitat Assessment Data (Wetland Assessment Data)

Quad ID	Species	Live /Dead	Biomass	Stem Count	Stem Lengths										Stem Diameters									
					1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
WET-08R-Q4	Se	L	186.68	27	114	114	118	107	112	109	104	113	101	107	3.67	3.34	3.42	3.46	4.3	4.42	3.46	3.28	3.19	2.78
WET-08R-Q4	Za	L	34.1	18	70.9	67.2	78.4	69.3	70.9	78.6	92.8	103	84.6	69.2	0.49	0.55	0.51	0.42	0.42	0.39	0.38	0.35	0.35	0.43
WET-08R-Q5	Se	L	345.48	33	108	107	110	105	106	103	108	110	109	98	2.55	2.69	3.21	2.32	3.27	3.69	2.47	2.88	3.47	2.68
WET-08R-Q5	Za	L	40.52	22	122	110	112	103	67.3	74.9	108	84.2	92.9	69.8	0.54	0.38	0.61	0.34	0.13	0.38	0.34	0.33	0.47	0.31
WET-08R-Q6	Se	L	459.31	70	121	129	134	130	131	129	120	112	111	127	3.13	3.78	2.76	4.02	2.64	2.73	3.9	3.48	3.5	4
WET-08R-Q6	Za	L	64.57	25	113	181	81.9	55.9	102	81.5	49.2	68.1	60.5	71.7	0.53	0.75	0.29	0.7	0.49	0.6	0.6	0.26	0.33	0.49
WET-08R-Q7	Nyod	L	18.94	13	64	73.5	38.6	23	44.5	41.6	35.4	61	24.9	10.5	0.41	0.32	0.41	0.31	0.31	0.32	0.4	0.33	0.26	0.43
WET-08R-Q7	Za	L	147.83	168	93.5	105	109	91	81.7	94.8	92.3	95.9	77.7	106	0.32	0.74	0.41	0.38	0.46	0.29	0.3	0.6	0.51	0.52
WET-08R-Q8	Nyod	L	13.14	5	62	58.9	41.2	66.4	41.6						0.24	0.27	0.28	0.43	0.39					
WET-08R-Q8	Za	L	154.31	147	76.3	75.6	91.9	81.2	89.5	92.2	92.7	99.6	101	124	0.3	0.53	0.47	0.52	0.31	0.67	0.52	0.46	0.36	0.53
WET-08R-Q9	Nyod	L	16.22	6	46.2	47.6	72.2	62.5	44.9	47.9					0.49	0.28	0.4	0.38	0.25	0.4				
WET-08R-Q9	Za	L	112.7	237	97	83.5	64.8	73.3	75.2	50.9	85.8	51	87.2	63.5	0.62	0.38	0.11	0.47	0.24	0.38	0.53	0.52	0.53	0.46
WET-09T-2008-Q4	Za	L	89.1	30	103	118	125	63	155	112	93	74	44	147	4	5.4	4.3	5.3	2.5	6	2.2	2.9	4.8	6.1
WET-09T-2008-Q5	Za	L	118.8	57	120	96	97	87	68	102	54	96	47	54	3.9	2.9	6	5.7	5	4.5	3.3	3.7	3.5	2.1
WET-09T-2008-Q6	Za	L	296.3	63	142	165	123	165	160	174	143	145	163	139	6.3	7.8	5.9	5.8	5.5	6.5	5.4	4.4	7.1	6
WET-09T-2008-Q7	Za	L	277.2	85	86	161	157	120	135	115	78	93	145	140	8.1	5.4	6.2	4	8.8	5.9	5.4	4.2	3	6.7
WET-09T-2008-Q8	Za	L	136.3	61	140	119	128	116	110	114	122	103	120	90	5.5	3	5.4	4.4	4	2.4	3.9	5.8	5.4	7.1
WET-09T-2008-Q9	Za	L	168.5	67	82	100	102	74	75	75	50	127	133	130	7.5	3.5	6.3	4.3	3.4	4.6	3	4.6	6.4	5.6
WET-09T-Q1	Nyod	L	108.48	38	74.7	68.7	94.4	106	78.7	96.5	78.3	95.8	101	76.3	0.38	0.38	0.39	0.53	0.29	0.56	0.33	0.31	0.39	0.48
WET-09T-Q10	Za	L	429.4	169	128	130	130	108	117	122	151	100	125	160	1.25	0.59	0.7	0.51	0.87	0.55	0.75	0.39	0.69	0.63
WET-09T-Q11	Sr	L	7.18	3	31.7	35	54.5								0.42	0.12	1.03							
WET-09T-Q11	Za	L	738.68	208	178	158	185	143	180	189	137	190	177	160	0.64	0.58	0.61	0.54	0.63	0.72	0.43	0.62	0.68	0.66
WET-09T-Q12	Sr	L	24.4	11	66	69.6	61.3	69.6	67.1	62.6	68.5	64.9	74.5	64.6	2	1.6	1.21	1.32	2.71	1.55	1.42	2.2	1.56	1.5
WET-09T-Q12	Za	L	428.15	183	149	110	110	92.4	105	83.8	161	172	123	76.7	0.63	0.55	0.49	0.38	0.77	0.37	0.65	0.61	0.54	0.51
WET-09T-Q2	Nyod	L	120	50	75.4	82.5	91.3	78.9	78.2	77.1	80.5	89	81.5	75	0.33	0.36	0.38	0.27	0.33	0.38	0.36	0.35	0.36	0.31
WET-09T-Q3	Nyod	L	121.84	32	58.2	66.1	74.9	72.7	80.4	54.4	39.2	70.8	90.2	79.3	0.25	0.3	0.29	0.32	0.33	0.31	0.3	0.29	0.36	0.42

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Appendix H - Habitat Assessment Data (Wetland Assessment Data)

Quad ID	Species	Live /Dead	Biomass	Stem Count	Stem Lengths										Stem Diameters									
					1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
WET-12T-2008-Q7	Lo	L	66.6	106	75	95	56	64	41	62	86	50	94	104	0.4	1.6	2.3	1.4	0.9	1.1	0.4	1.8	1.2	1.6
WET-12T-2008-Q7	Pc	L	84.8	38	63	66	52	65	51	52	46	45	51	34	8.5	8.6	5.4	6.4	6.3	3.4	4.7	2.7	2.4	1
WET-12T-2008-Q8	104	L	117.1	26	118	112	110	88	108	108	106	108	92	110	15.5	21.5	25.5	18.6	20.9	14	15.5	15.4	17.5	21.4
WET-12T-2008-Q8	Pc	L	114.7	55	62	60	72	71	74	111	60	40	64	70	16.2	9.7	9.2	8	12.2	16.2	7.9	8.9	10.5	11
WET-12T-2008-Q9	104	L	134.8	29	59	80	85	83	58	56	75	50	57	42	6.7	9.2	10.7	18.3	7.4	8.4	10	5.8	8.7	6.6
WET-12T-2008-Q9	Pc	L	102.6	53	111	109	90	114	93	111	112	104	89	110	30.8	20.7	15.5	19	19.6	23	22.8	22.5	23.3	29
WET-12T-Q1	Pc	L	146.59	12	198		66.4	75.5	56.6	75.6	54.4	56	87	71	3.8		0.9	1.3	1.4	1.1	0.8	0.9	1.7	1
WET-12T-Q1	Sr	L	59.2	91	132		74.4	86.6	79	67.4	74.6	75	97	78.9	1.4		0.6	0.7	0.6	0.6	0.5	0.5	0.6	0.4
WET-12T-Q2	Pc	L	260.58	94	161		99	90	68.5	84	85	106	87	96	3.9		1.5	2	1	1.5	1.2	2.1	1.2	2
WET-12T-Q3	Pc	L	263.22	128	141		78.2	80.3	73.8	93.4	94.5	94.6	91.4	91.4	2.8		0.8	0.9	0.9	1.2	1.6	1.3	1.4	1.2
WET-12T-Q4	Pc	L	185.08	82	101	73.5	81	68.7	106	78.7	95.8	90.7	110	86.6	1.4	1.3	1.6	1.3	1.8	1.9	2.1	1.8	2.4	1.6
WET-12T-Q4	Sr	L	21.46	36	66	83.6	74.2	73	70.2	63.7	63.7	82.8	72	64.7	0.5	0.7	0.8	0.7	0.7	0.3	0.5	0.9	0.7	0.5
WET-12T-Q5	Nyod	L	61.12	17	85.5	90	108	76.2	92	84.6	99.2	95.4	77.5	74.3	0.5	0.4	0.5	0.3	0.3	0.4	0.4	0.5	0.3	0.2
WET-12T-Q5	Pc	L	51.23	22	93.6	86.4	75.4	75.5	80.6	75.4	47.1	91	60.4	96.3	1.7	1	0.9	1.2	0.9	0.8	0.6	1.1	0.9	2
WET-12T-Q6	Pc	L	134.42	75	93	92	93	98	94	93	90	86	78	91	2.7	2.5	2	1.9	2.1	1.5	1.7	0.9	1.7	2.2
WET-13T-Q1	Za	L	29.39	16	149	45	152	150	148	130	169	138	141	137	0.8	0.5	0.7	0.5	0.7	0.4	0.6	0.5	0.4	0.4
WET-13T-Q2	Za	L	32.59	26	164	124	129	165	162	146	169	72.8	164	146	0.8	0.8	0.6	0.7	0.7	0.7	0.6	0.5	0.5	0.7
WET-13T-Q3	Za	L	64.45	50	121	160	160	128	158	152	152	139	150	121	0.3	0.6	0.9	0.4	0.7	0.4	0.8	0.6	0.7	0.6
WET-13T-Q4	Za	L	76.15	50	171	169	152	170	176	152	150	143	147	133	0.6	0.6	0.7	0.7	0.6	1.2	0.6	0.7	0.6	0.4
WET-13T-Q5	Za	L	79.78	53	142	140	137	165	125	144	159	126	138	143	0.6	0.5	0.6	0.8	0.6	0.6	0.6	0.5	0.6	0.5
WET-13T-Q6	Za	L	62.13	45	121	150	131	143	140	75.6	118	125	159	158	0.6	0.4	0.5	0.8	0.3	0.3	0.4	0.5	0.6	0.7
WET-13T-Q7	Sl	L	70.7	175	67.3	52.2	53	73	79.8	75	69.2	62.8	47	54	0.7	0.8	0.8	0.6	1.1	0.9	0.7	0.6	0.7	0.6
WET-13T-Q8	Nyod	L	97.07	21	119	110	110	140	69.8	183	108	58.7	43.8	62.4	0.2	0.5	0.5	0.6	0.5	0.5	0.3	0.4	0.2	0.6
WET-13T-Q9	Sl	L	28.82	88	51.2	54.3	44.4	43	45	41.5	38	66.3	44	60.1	0.8	0.6	0.6	0.2	0.3	0.4	0.2	0.6	0.5	0.7
WET-13T-Q9	Sr	L	21.13	83	71.9	68.3	33.9	38	68.7	40.8	44.7	72.8	60.8	40.7	0.4	0.3	0.2	0.3	0.7	0.2	0.3	0.5	0.2	0.2
WET-15R-Q1	65	L	787.27	114	99.6	86.1	73	106	88.4	89.2	91.3	107	112	99.5	2.5	1.8	1.6	1.9	1.8	1.7	0.9	1.7	1.4	1.5

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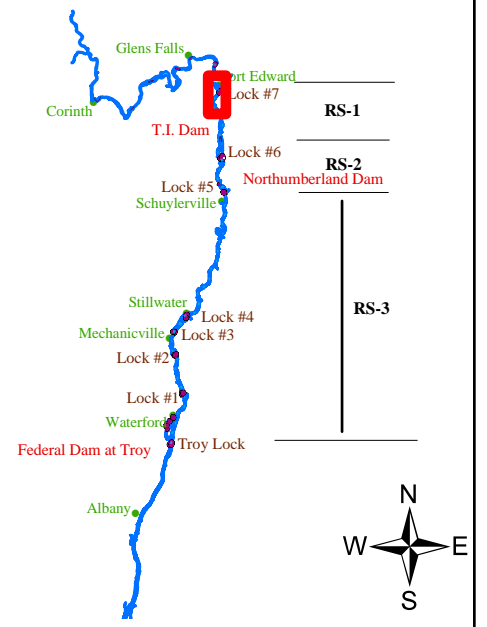
Appendix H - Habitat Assessment Data (Wetland Assessment Data)

Quad ID	Species	Live /Dead	Biomass	Stem Count	Stem Lengths										Stem Diameters									
					1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
WET-15R-Q2	65	L	352.63	143	92.8	87.9	84.9	97	87.1	83.1	82.6	67.2	72.4	83	1.9	1.8	1.7	2	1.3	1.7	1.1	0.6	1.4	0.9
WET-15R-Q3	65	L	336.02	164	102	83.1	82.6	92.3	55.8	74.2	84	77.3	56.5	66	1.8	1.9	2	1.9	2	1.6	1.1	1.2	0.9	0.6
WET-15R-Q4	Pc	L	176.14	76	84.5	64.2	56	83	85.2	87.6	96.2	87	64.8	71	0.8	1.1	0.9	1.7	1.8	1.5	2.8	0.9	0.7	0.9
WET-15R-Q5	65	L	330.71	205	83	63	76.1	79.8	73.6	74.2	72.8	71.1	63.3	65.1	1.2	1.5	1.4	1.5	1.2	1.4	1	1.4	1	1.2
WET-15R-Q5	65	L	160.51	205	83	63	76.1	79.8	73.6	74.2	72.8	71.1	63.3	65.1	1.2	1.5	1.4	1.5	1.2	1.4	1	1.4	1	1.2
WET-15R-Q6	65	L	560.03	295	70.4	78.1	76.9	47.5	70.6	62.9	52.3	78.3	65.8	67.2	1.3	1.2	1.3	0.5	1.5	0.3	0.8	1.2	1.1	1.1

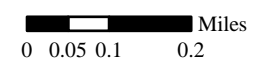
APPENDIX I
ELECTRONIC COPY OF THE HABITAT
ASSESSMENT REPORT FOR PHASE 1
AREAS AND HABITAT ASSESSMENT
DATABASE (COMPACT DISK)

APPENDIX J
ESPECIALLY SENSITIVE OR UNIQUE
HABITATS IDENTIFIED BY FEDERAL AND
STATE NATURAL RESOURCE TRUSTEE
AGENCIES IN RIVER SECTIONS 1-3





LOCATOR MAP OF THE UPPER HUDSON RIVER



GRAPHIC SCALE



LEGEND

-  ESUH Areas
-  River Miles
-  Dams and Locks
-  Shoreline

General Electric Company Hudson River Project

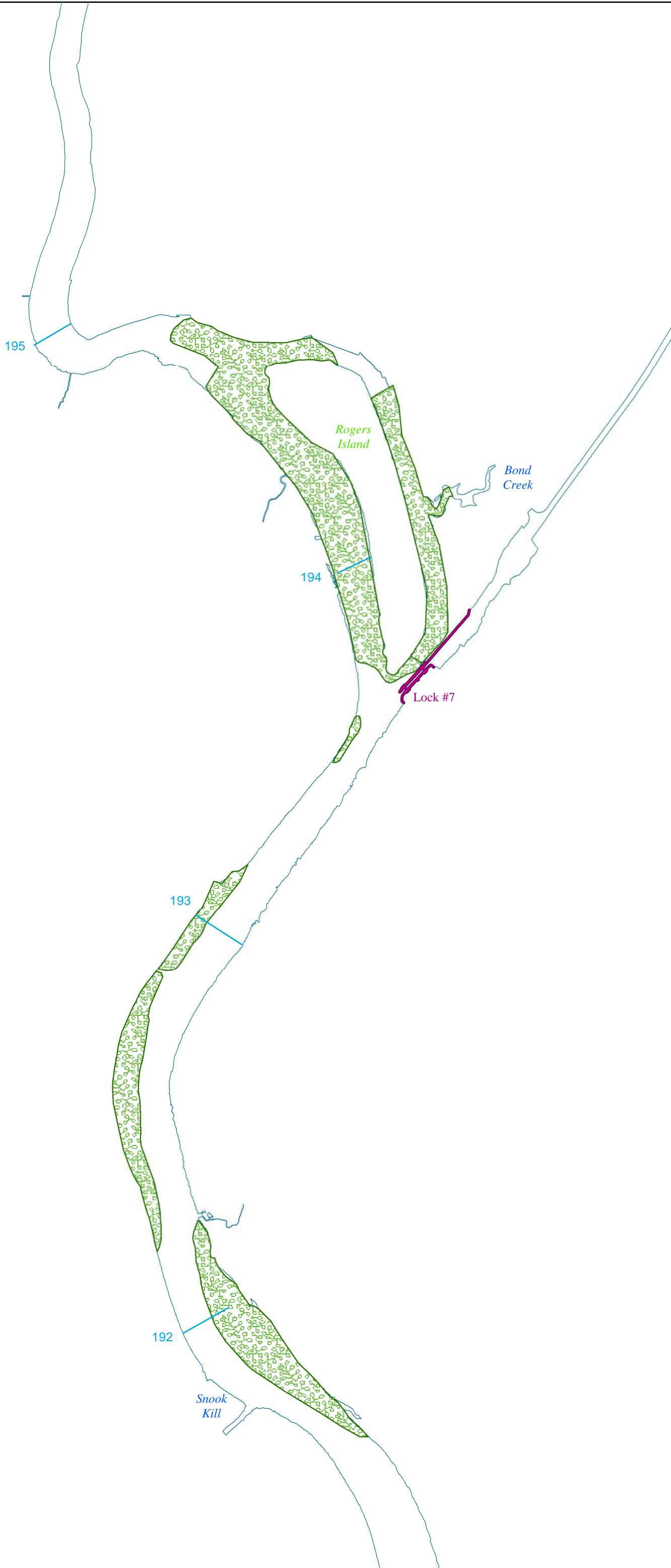
Figure J-1

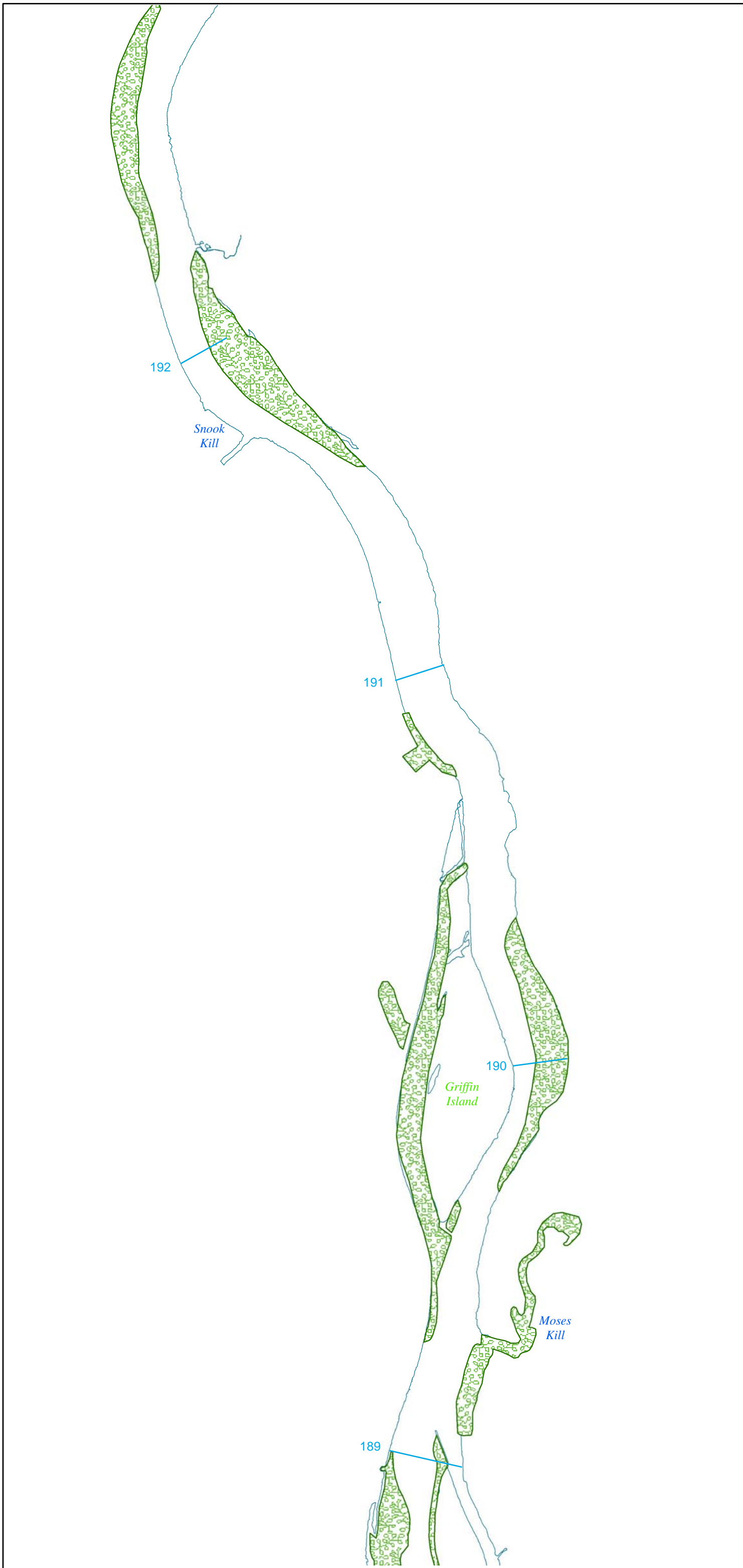
Especially Sensitive or Unique Habitat in the upper Hudson River identified by natural resource agencies



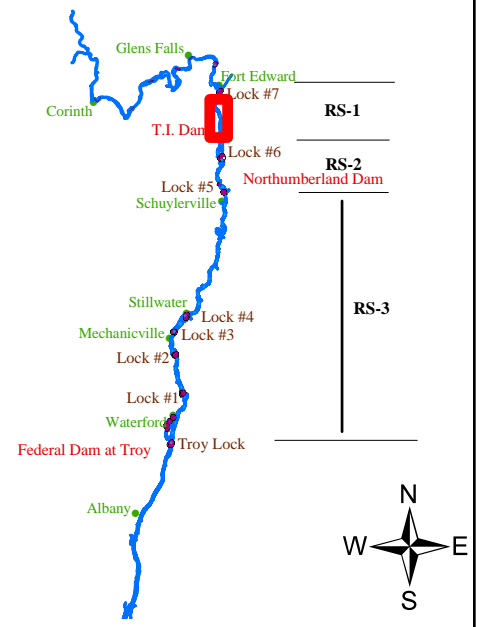
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June 2009

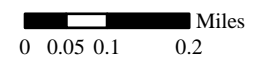








LOCATOR MAP OF THE UPPER HUDSON RIVER



GRAPHIC SCALE



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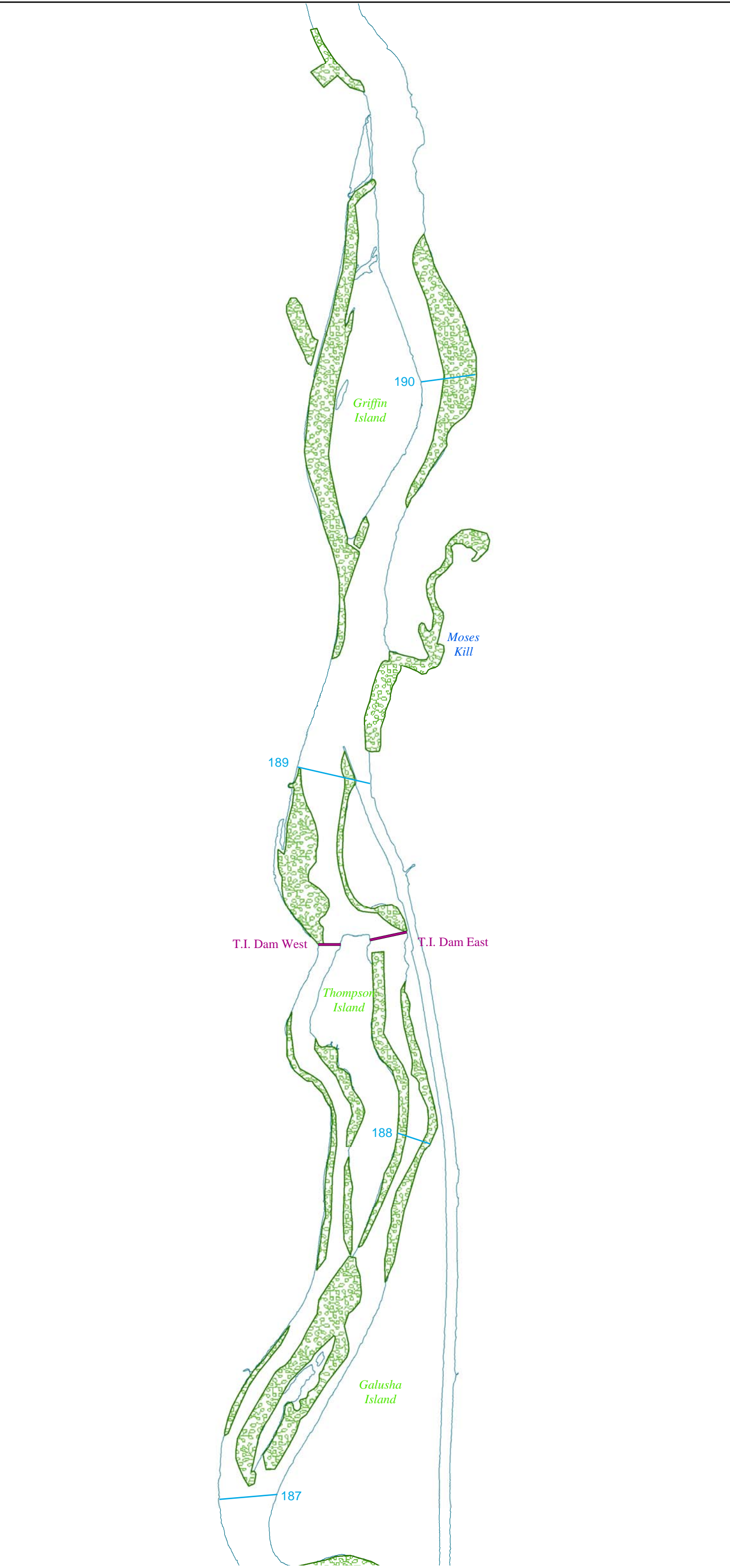
-  ESUH Areas
-  River Miles
-  Dams and Locks
-  Shoreline

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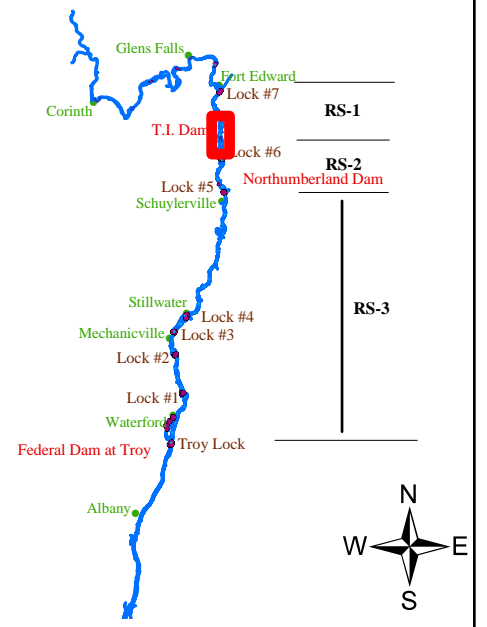
Figure J-2

Especially Sensitive or Unique Habitat in the upper Hudson River identified by natural resource agencies

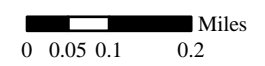








LOCATOR MAP OF THE UPPER HUDSON RIVER



GRAPHIC SCALE



LEGEND

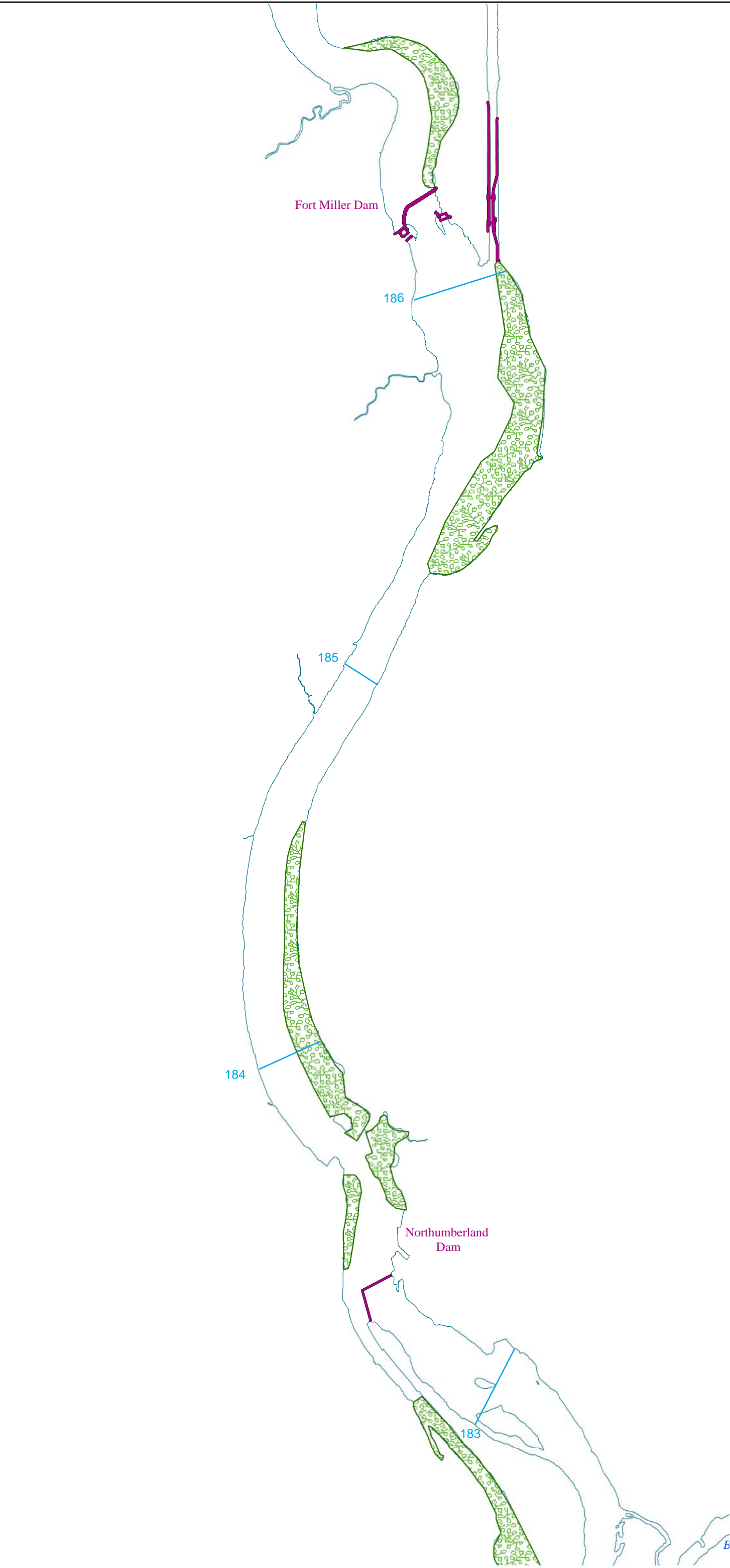
-  ESUH Areas
-  River Miles
-  Dams and Locks
-  Shoreline

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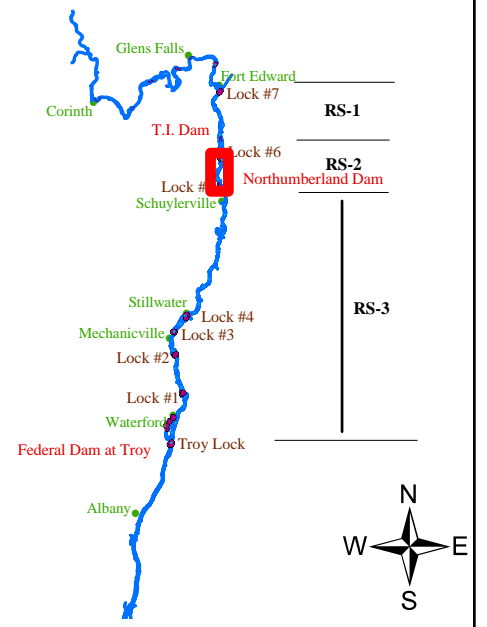
Figure J-3

Especially Sensitive or Unique Habitat in the upper Hudson River identified by natural resource agencies

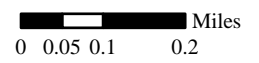








LOCATOR MAP OF THE UPPER HUDSON RIVER



GRAPHIC SCALE



LEGEND

-  ESUH Areas
-  River Miles
-  Dams and Locks
-  Shoreline

General Electric Company Hudson River Project

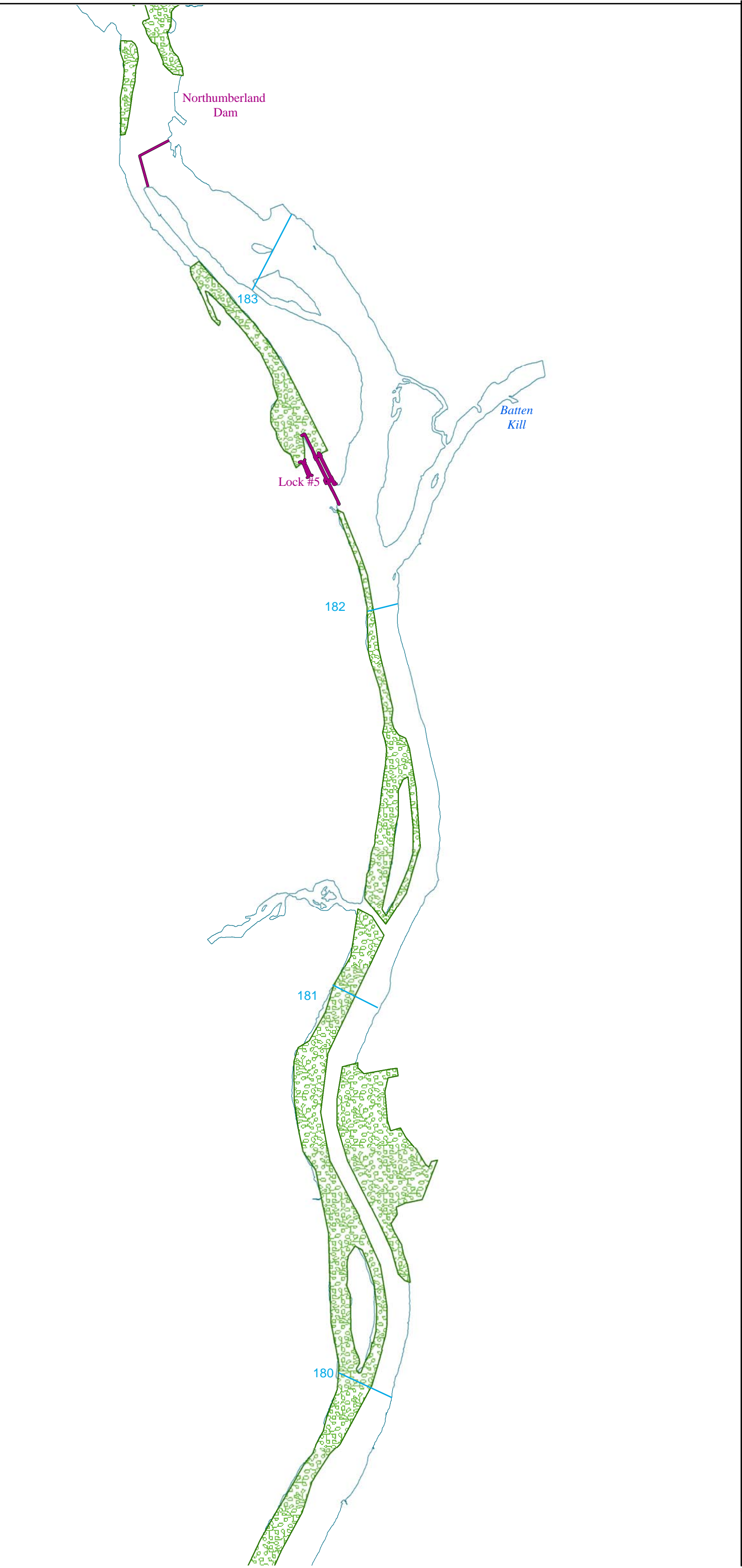
Figure J-4

Especially Sensitive or Unique Habitat in the upper Hudson River identified by natural resource agencies

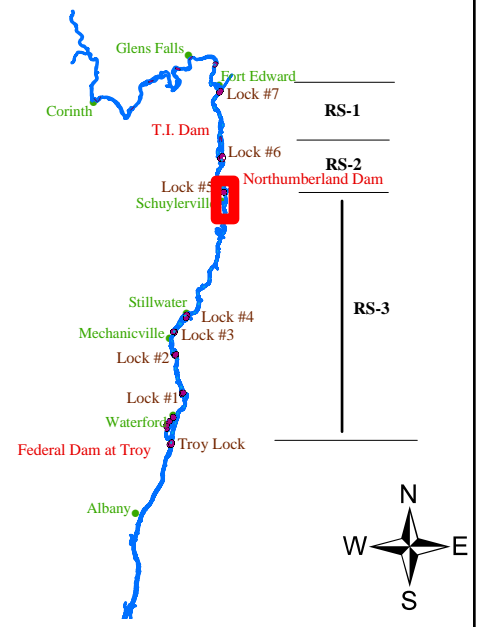


GENhab

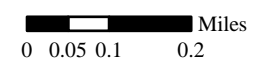
June 2009







LOCATOR MAP OF THE UPPER HUDSON RIVER



GRAPHIC SCALE



LEGEND

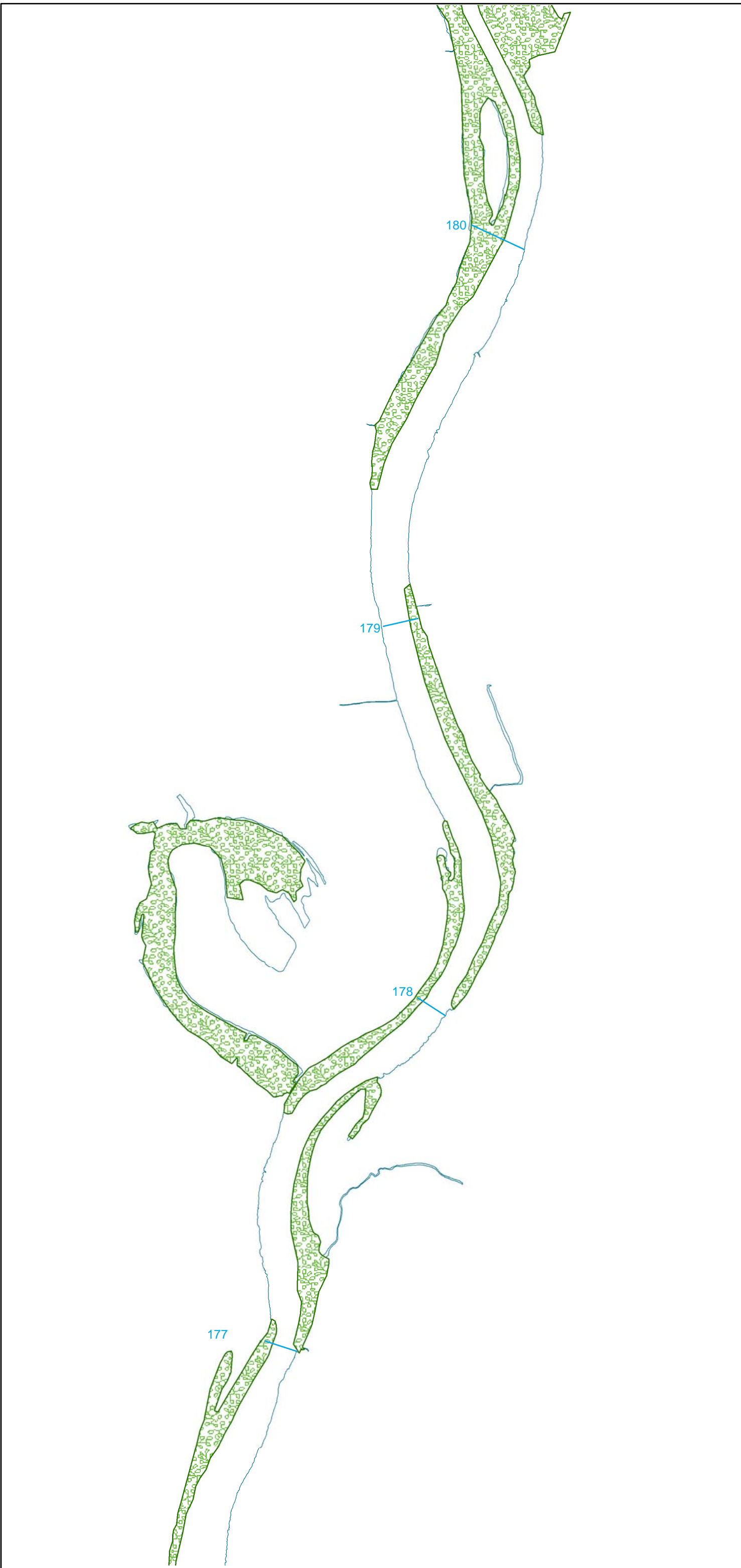
-  ESUH Areas
-  River Miles
-  Dams and Locks
-  Shoreline

General Electric Company Hudson River Project

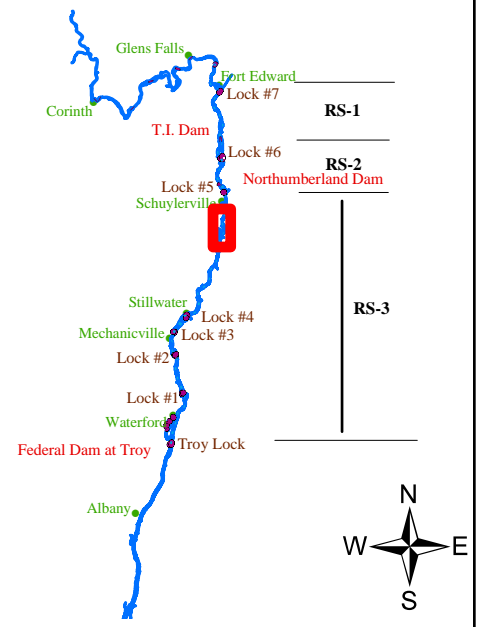
Figure J-5

Especially Sensitive or Unique Habitat in the upper Hudson River identified by natural resource agencies

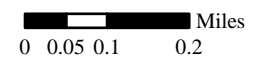








LOCATOR MAP OF THE UPPER HUDSON RIVER



GRAPHIC SCALE



LEGEND

-  ESUH Areas
-  River Miles
-  Dams and Locks
-  Shoreline

**General Electric Company
Hudson River Project**

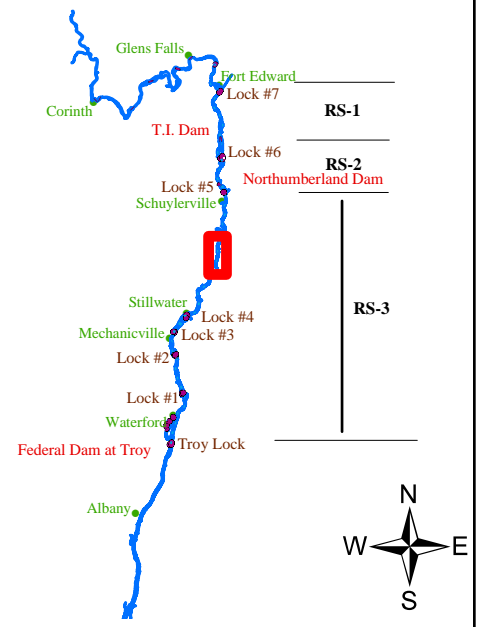
Figure J-6

Especially Sensitive or Unique
Habitat in the upper Hudson River
identified by natural resource agencies

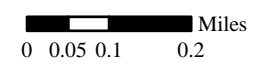








LOCATOR MAP OF THE UPPER HUDSON RIVER



GRAPHIC SCALE



LEGEND

-  ESUH Areas
-  River Miles
-  Dams and Locks
-  Shoreline

General Electric Company Hudson River Project

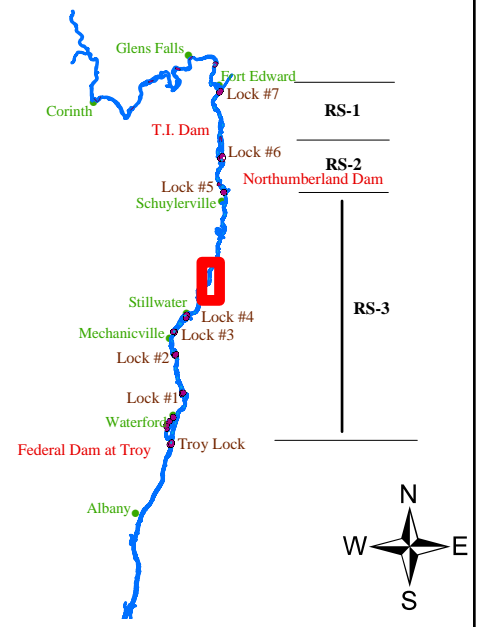
Figure J-7

Especially Sensitive or Unique Habitat in the upper Hudson River identified by natural resource agencies

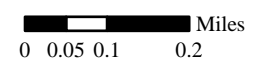








LOCATOR MAP OF THE UPPER HUDSON RIVER



GRAPHIC SCALE



LEGEND

-  ESUH Areas
-  River Miles
-  Dams and Locks
-  Shoreline

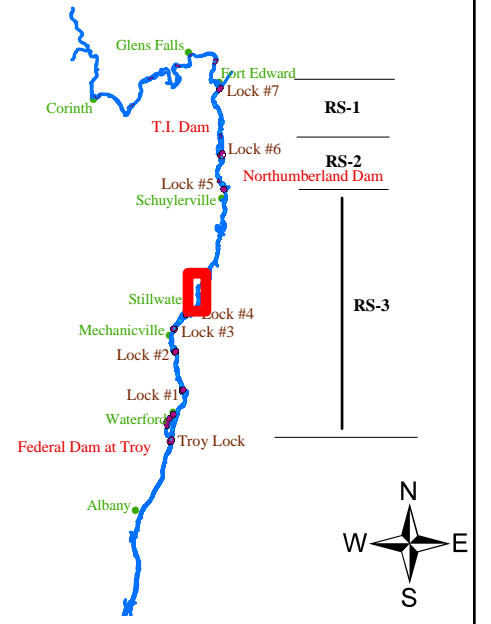
General Electric Company Hudson River Project

Figure J-8

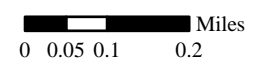
Especially Sensitive or Unique Habitat in the upper Hudson River identified by natural resource agencies







LOCATOR MAP OF THE UPPER HUDSON RIVER



GRAPHIC SCALE



LEGEND

-  ESUH Areas
-  River Miles
-  Dams and Locks
-  Shoreline



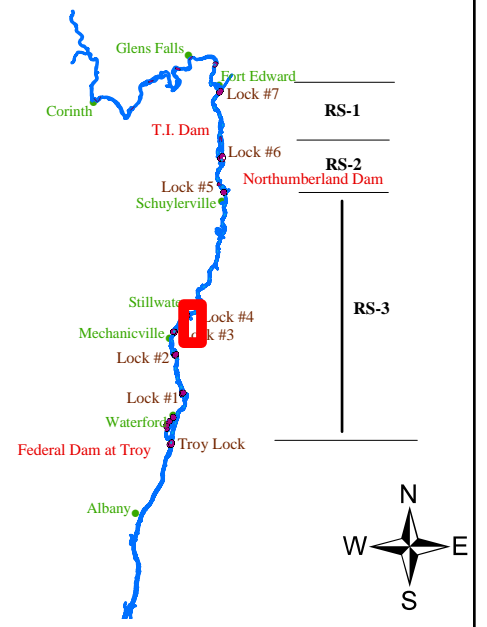
General Electric Company Hudson River Project

Figure J-9

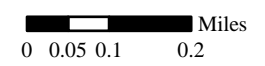
Especially Sensitive or Unique Habitat in the upper Hudson River identified by natural resource agencies







**LOCATOR MAP OF THE
UPPER HUDSON RIVER**

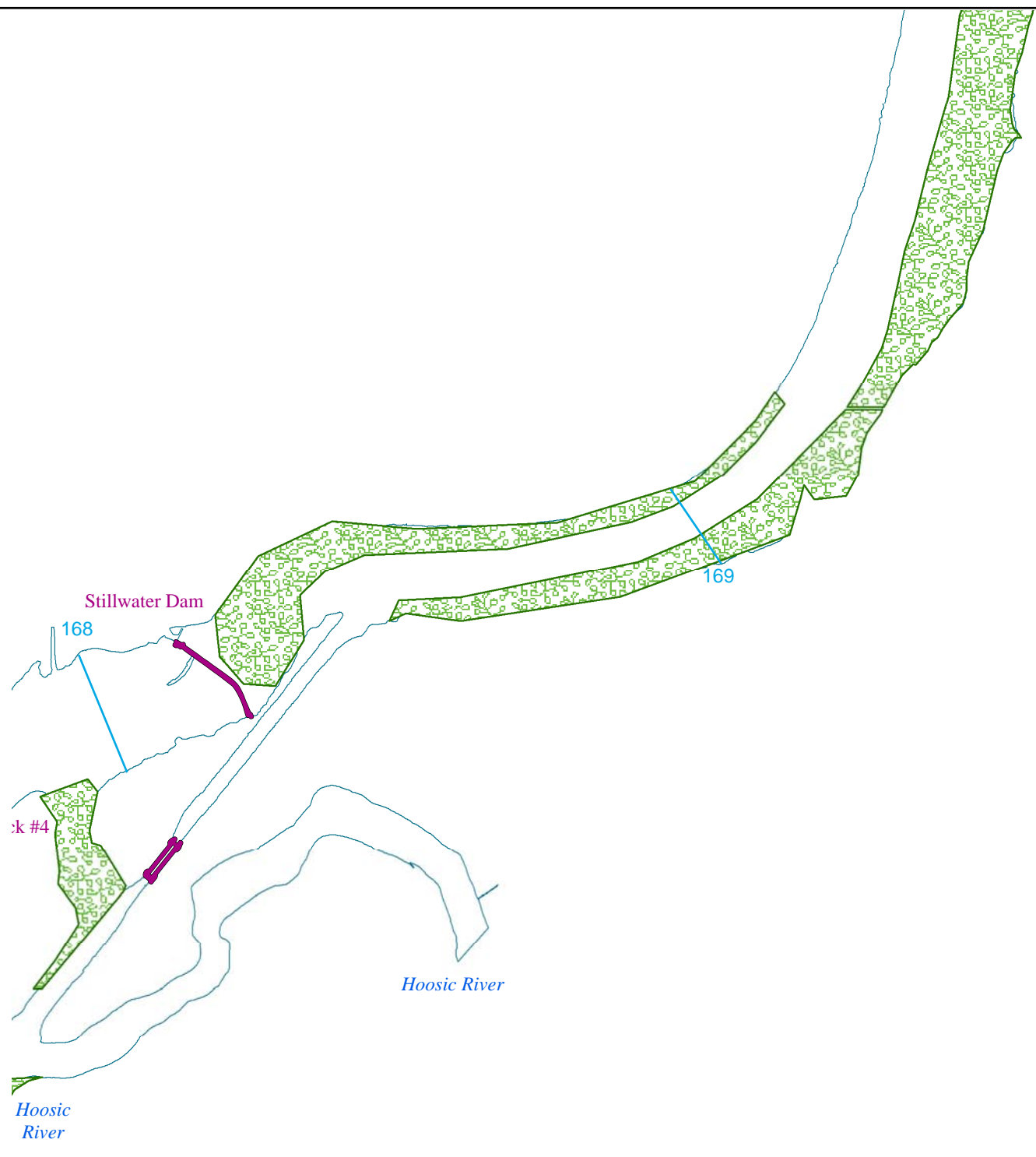


GRAPHIC SCALE



LEGEND

-  ESUH Areas
-  River Miles
-  Dams and Locks
-  Shoreline



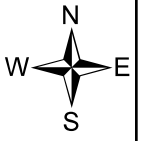
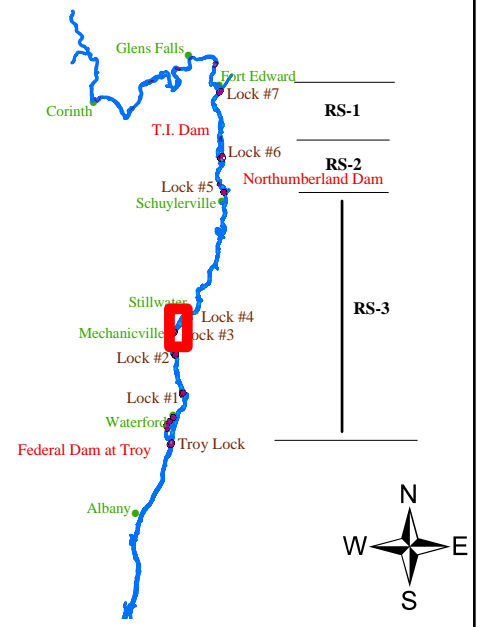
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Hudson River Project**

Figure J-10

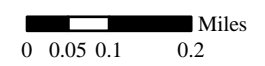
Especially Sensitive or Unique
Habitat in the upper Hudson River
identified by natural resource agencies







LOCATOR MAP OF THE UPPER HUDSON RIVER

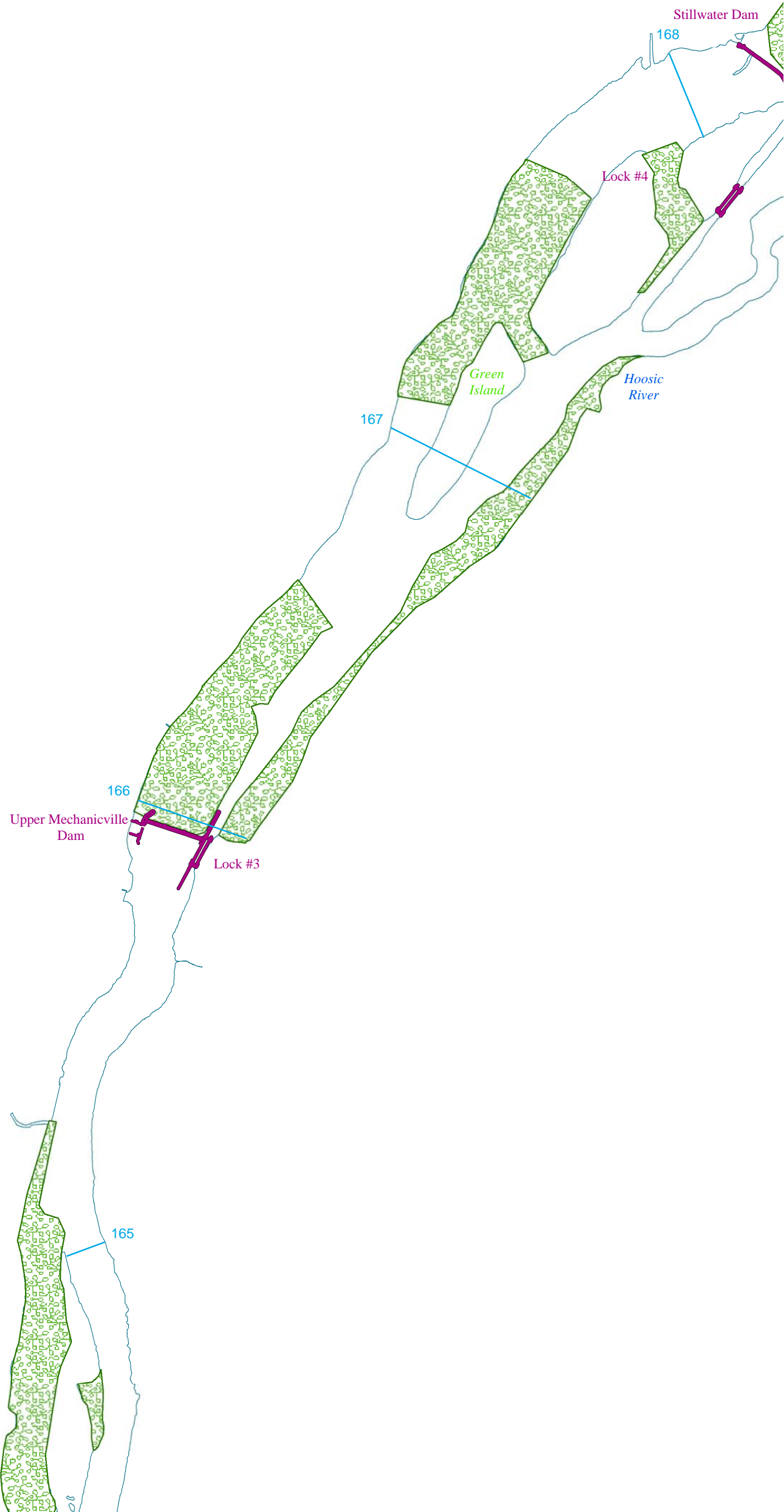


GRAPHIC SCALE



LEGEND

-  ESUH Areas
-  River Miles
-  Dams and Locks
-  Shoreline



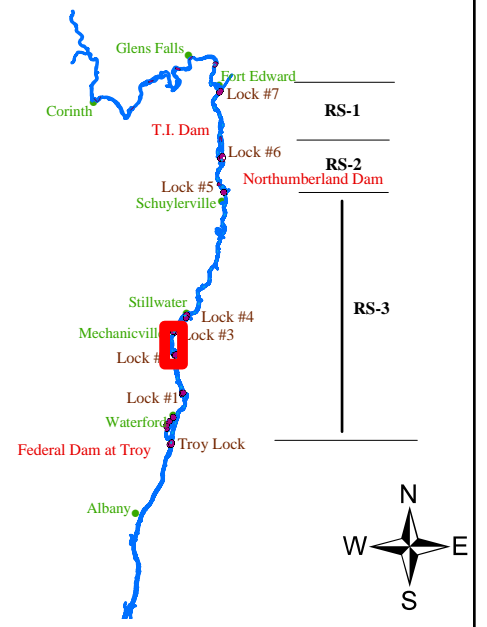
General Electric Company Hudson River Project

Figure J-11

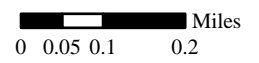
Especially Sensitive or Unique Habitat in the upper Hudson River identified by natural resource agencies







LOCATOR MAP OF THE UPPER HUDSON RIVER

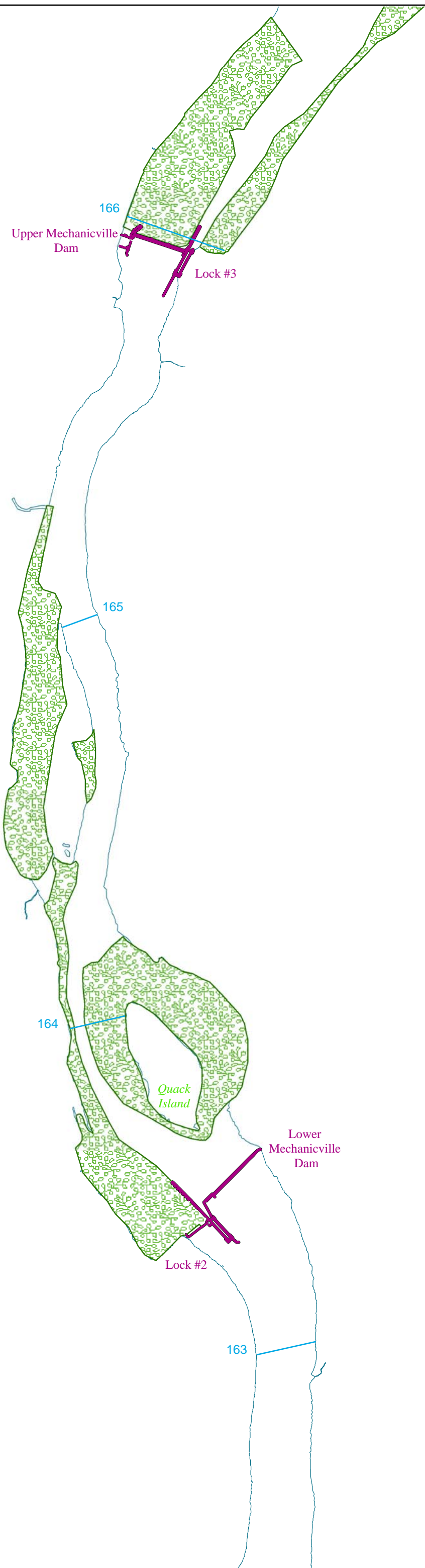


GRAPHIC SCALE



LEGEND

-  ESUH Areas
-  River Miles
-  Dams and Locks
-  Shoreline

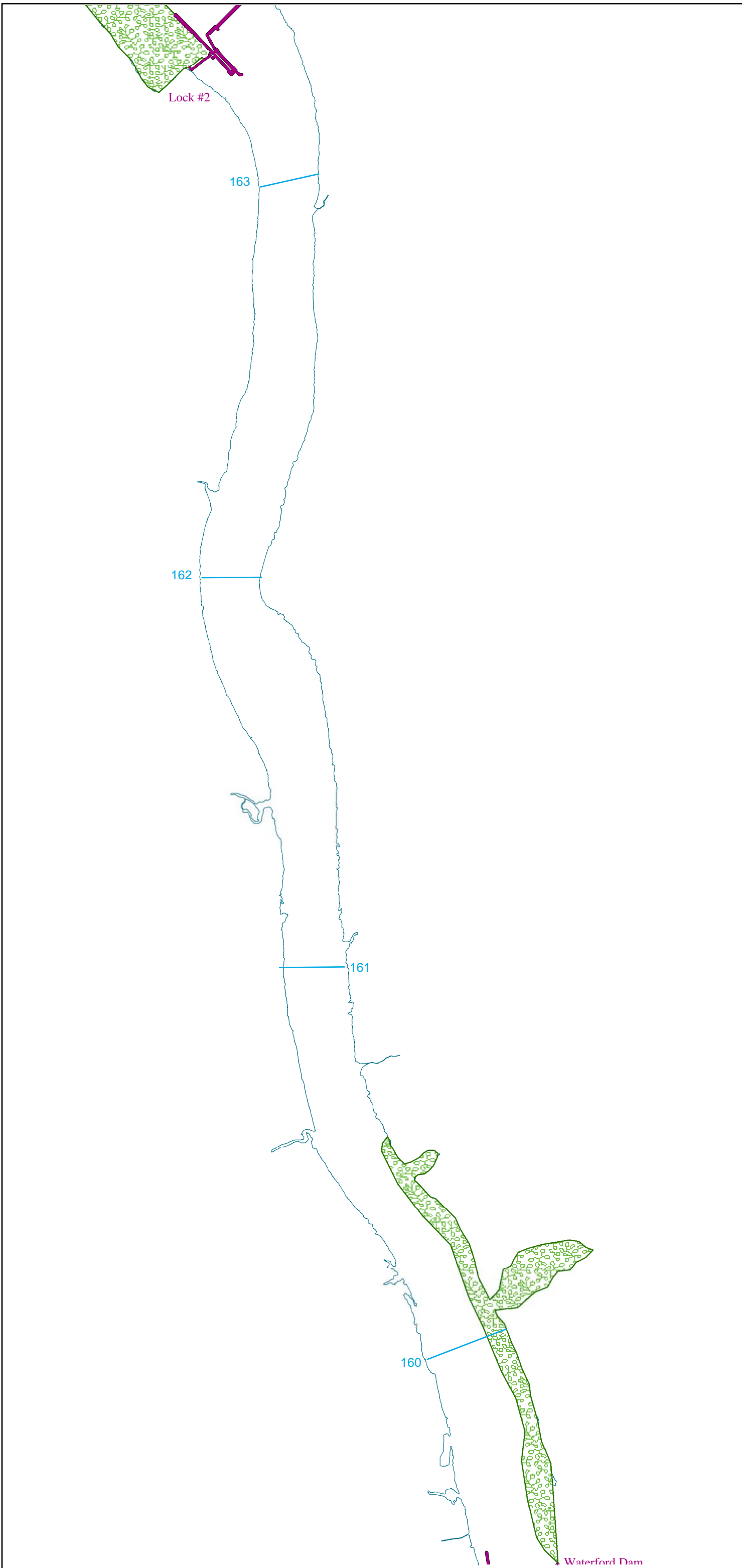


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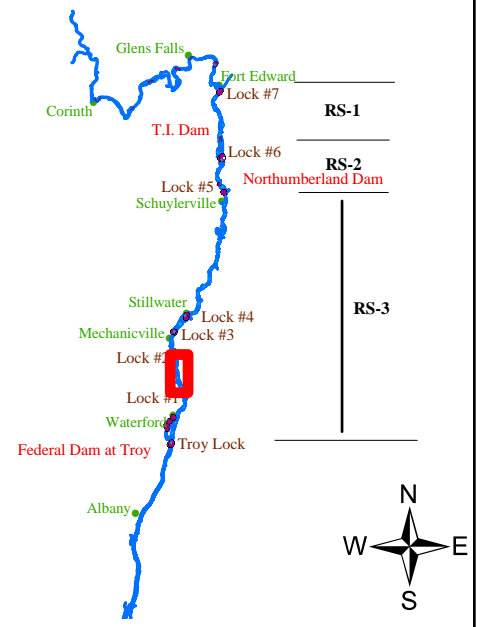
Figure J-12

Especially Sensitive or Unique Habitat in the upper Hudson River identified by natural resource agencies

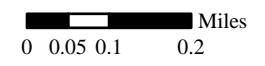








LOCATOR MAP OF THE UPPER HUDSON RIVER



GRAPHIC SCALE



LEGEND

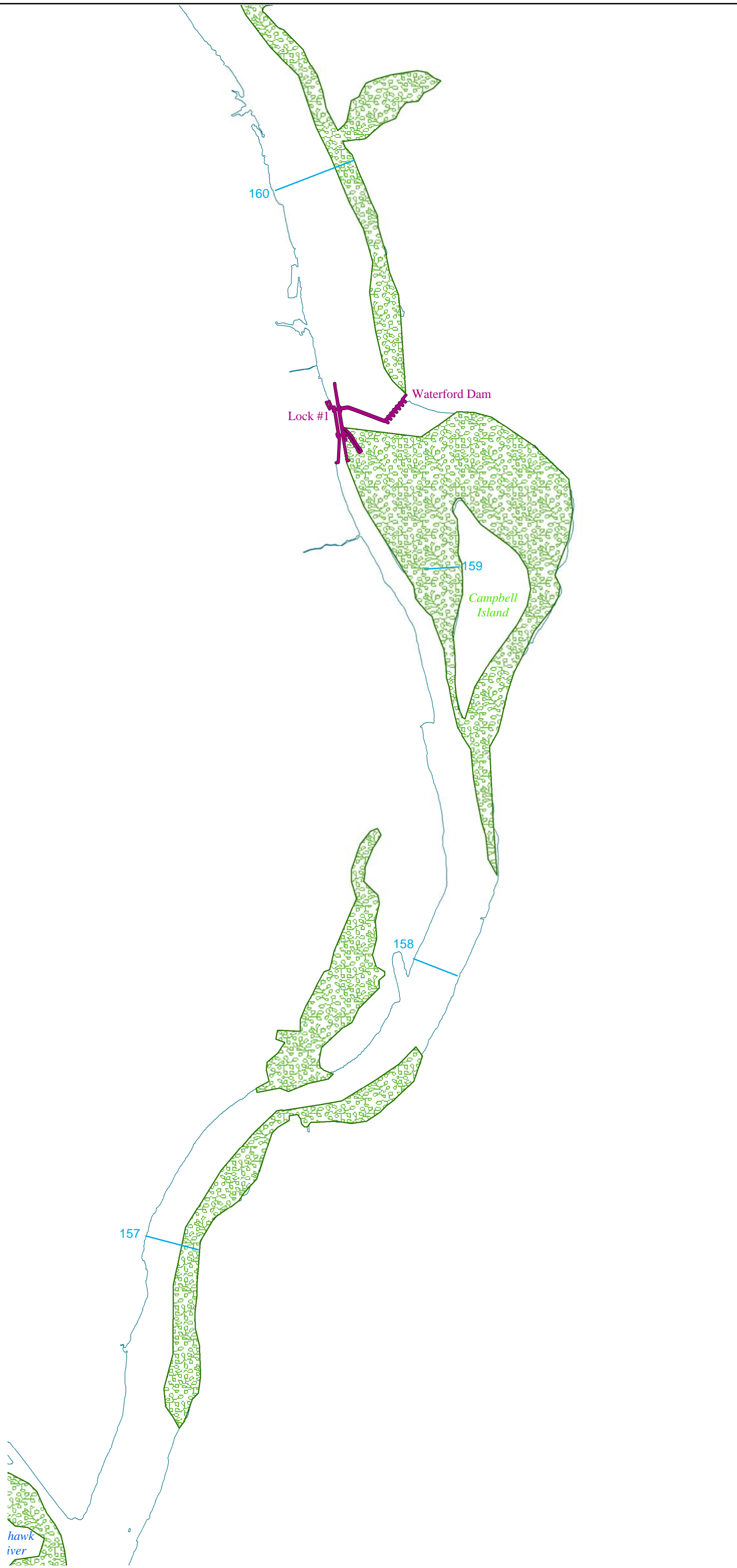
-  ESUH Areas
-  River Miles
-  Dams and Locks
-  Shoreline

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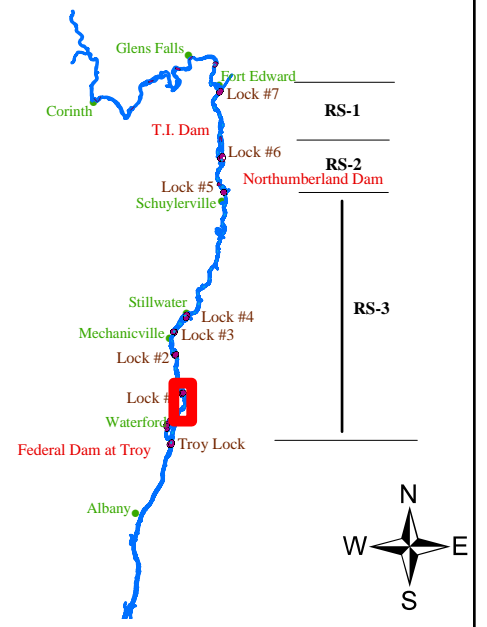
Figure J-13

Especially Sensitive or Unique Habitat in the upper Hudson River identified by natural resource agencies

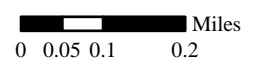








LOCATOR MAP OF THE UPPER HUDSON RIVER



GRAPHIC SCALE



LEGEND

-  ESUH Areas
-  River Miles
-  Dams and Locks
-  Shoreline

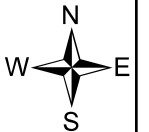
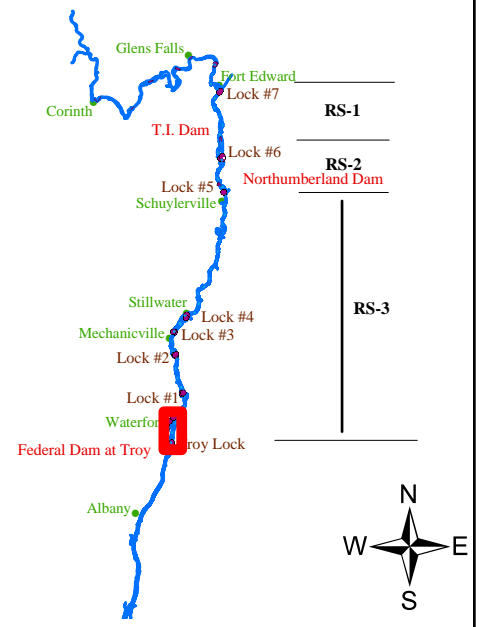
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Figure J-14

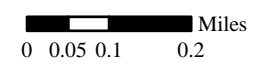
Especially Sensitive or Unique Habitat in the upper Hudson River identified by natural resource agencies







LOCATOR MAP OF THE UPPER HUDSON RIVER

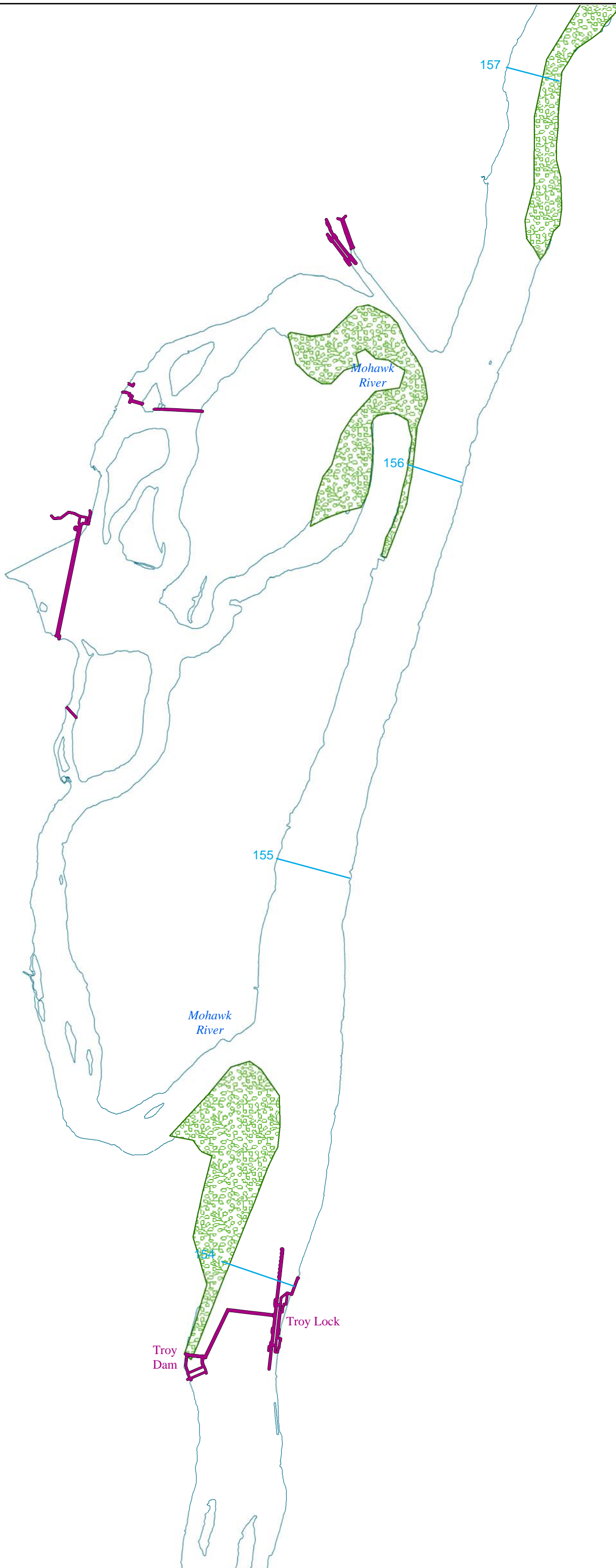


GRAPHIC SCALE



LEGEND

-  ESUH Areas
-  River Miles
-  Dams and Locks
-  Shoreline



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Figure J-15

Especially Sensitive or Unique Habitat in the upper Hudson River identified by natural resource agencies

