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2006 WETLAND MONITORING REPORT

Peconic River
Upton, New York

Prepared for

BROOKHAVEN NATIONAL LABORATORY
Long Term Environmental Operations
Safety and Security Group
Upton, New York

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1.0 INTRODUCTION

Roux Associates, Inc. (Roux Associates) has prepared the following Wetland Monitoring Report on behalf of Brookhaven National Laboratory (BNL) to document and describe the results of vegetation surveys conducted within the Peconic River wetland resources in Upton and Manorvillle, New York (Figure 1). The objective of this wetland monitoring was to document the presence or absence of wetland vegetation along sections of the Peconic River remediated by Envirocon between May 2004 and May 2005 (Envirocon, Inc., 2005). The New York State Department of Environmental Conservation (NYSDEC) approved all remediation and restoration plans for sections of the river on BNL property and outside BNL property via equivalency permits (Louis Berger, 2004a and 2004b). In accordance with the NYSDEC equivalency permits, BNL is required to perform monitoring and maintenance of the restored areas of the Peconic River (AOC 30) for two growing seasons. The following report documents the results of the second growing season (2006) monitoring activities and demonstrates compliance with the approved equivalency permit conditions. The NYSDEC equivalency permit requirements are summarized in the following table:

Summary of Plant Community Definitions and NYSDEC Equivalency Permit Requirements

Plant Community	Definition	NYSDEC permit equivalency wetland restoration percent cover requirement
Low Marsh	Low marsh areas are generally classified as those locations in which mean water levels are between six and 12 inches in depth. Common species include: soft rush (*Juncus effusus*), pickerel weed (*Pontederia cordata*) and arrow arum (*Peltandra virginica*)	65%
High Marsh	High marsh areas are generally classified as those locations in which mean water levels are less than six inches in depth. Common species include: woolgrass (*Scirpus cyperinus*), cattail (*Typha latifolia*) and marsh fern (*Thelypteris palustris*)	85%
Open Water	Areas with surface water greater than 12 inches in depth are generally classified as open water. Common species include: sweet-scented water lily (*Nymphaea odorata*), bur-reed (*Sparganium americanum*) and common duckweed (*Lemna minor*)	NA
Invasive Species	These plants are invasive or have a high potential to become invasive in all or part of their U.S. range. Most are introduced to the United States, but some are harmful pests in parts of this country, and valuable natives in others (USDA 2006). Examples of invasive wetland plant species are common reed (*Phragmites australis*), reed canary grass (*Phalaris arundinacea*) and purple loosestrife (*Lythrum salicaria*).	<10%

The results of the wetland monitoring will be used to evaluate the current Peconic River wetland vegetative cover and to support the objectives of the wetland restoration plans. A survival rate of 85 percent for all planted material and naturally recruited plant material is targeted by the end of the second growing season. A satisfactory stand after the second growing season will be defined as having 85 percent cover within the designated high marsh zones and 65 percent cover within the designated low marsh (percentage lower due to greater interspersion with open water). Sediment remediation occurred within designated low marsh and open water areas; therefore, high marsh areas were not disturbed. Thus, the overall goal for a satisfactory stand after the second growing season will be defined as having 65 percent cover within the designated low marsh.

The following report summarizes the field observations of plant diversity, structure, and abundance for the wetland communities encountered along the restored sections of the Peconic River. The report is organized by areas on BNL property (Areas A, B, C, and D) and areas outside BNL property (Areas D, E, P, and Manor Road). All sections of the river outside BNL property that were surveyed for this report are located on Suffolk County parklands within the Robert Cushman Murphy County Park. The report includes an evaluation of the wetland restoration success and recommendations to ensure the future success of the restored wetland areas. Photo documentation of the vegetation present within each transect are provided as Appendices A through H.

2.0 SITE SETTING AND DESCRIPTION

The following sections describe the setting of the survey area and provide a brief description and history of the specific areas that were the subject of this survey.

2.1 Site Background

BNL, located on 5,265 acres in Upton, New York, is owned by the United States Department of Energy (USDOE) and operated by Brookhaven Science Associates, Inc (BSA). The U.S. Army used the site, formerly known as Camp Upton, during World Wars I and II. Between the two world wars, the site served as a Civilian Conservation Corps (CCC) Camp. In 1947, BNL was established as a multi-discipline scientific research center with emphasis on programs that require large-scale research tools such as nuclear reactors, particle accelerators, and physical, biomedical, and environmental laboratories. Inadvertent historical releases of contaminants and past waste disposal practices have resulted in the introduction of contaminants to the BNL sewage treatment plant (STP) and subsequent deposition in sections of the Peconic River.

In 1980, BNL was placed on the NYSDEC's list of Inactive Hazardous Waste Disposal Sites. In 1989, it was included on the United States Environmental Protection Agency's (USEPA) National Priorities List of Superfund sites. BNL has a total of 30 areas of concern (AOCs) grouped into distinct Operable Units (OUs).

The Peconic River was characterized in several investigations reported in the Operable Unit V Remedial Investigation Report (BNL, 1998), the Plutonium Contamination Characterization and Radiological Dose and Risk Assessment Report (BNL, 2000), and supplemental sediment sampling conducted prior to the cleanup. Based on the results of the remedial investigation activities and supplemental sampling, the Peconic River was segmented into seven areas (A, B, C, D, E, P, and Manor Road) and remediated (Envirocon, 2005). The limits and extent of the OUV remediation of the Peconic River are illustrated in Plate 1.

2.2 Baseline Conditions

The Peconic River is a turbid, slow moving warm-water river with abundant aquatic and emergent vegetation. The upper branch of the Peconic River originates west of the William Floyd Parkway and flows east through the BNL property and the Suffolk County parkland and

enters the Peconic Bay near Riverhead. The river has been dammed in numerous places below the BNL property to form large ponds.

Extensive wooded swamps and sedge marshes border most of the river. The terrestrial habitat north of the Peconic River is classified as a moderately mature pitch pine and oak forest which consists of pitch pine (*Pinus rigida*), fire cherry (*Prunus pensylvanica*), black locust (*Robinia pseudo-acacia*), and oaks. The shrubs are dominated by huckleberry (*Gaylussacia sp*.) and lowbush blueberry (*Vaccinium angustifolium*). The habitat south of the river is classified as a predominantly deciduous forest. Fire suppression has caused natural succession to progress; i.e., mature pitch pine is being displaced by the more dominant black locust, red maple (*Acer rubrum*), black oak (*Quercus nigra*), white oak (*Quercus alba*), and fire cherry species. The ground cover consists of orchard grass (*Dactylis glomerata*), bracken fern (*Pteridium aquilinum*), switchgrass (*Panicum virgatum*), and fall panicum (*Panicum dichotomiflorum*); coralberry (*Symphoricarpos orbiculatus*) is the most common shrub.

The Peconic River wetland areas located within the BNL property limits were previously delineated by Lawler, Matusky and Skelly Engineers (1995). Palustrine forested wetlands and emergent wetlands are the two types of wetlands that have been identified along the Peconic River on the BNL site. Both wetland types are associated with the headwaters of the Peconic River and are found where a prolonged period of inundation and saturation prevents the growth of a forested shrub community.

During the 2002 growing season, preliminary vegetation surveys were conducted along the Peconic River and the dominant plant communities were documented (Appel and Ricciotti, 2002). Results of the vegetation surveys indicated four major plant communities along the Peconic River: shrub/forested, high marsh, low marsh, and open water.

In 2003, Roux Associates completed a detailed inventory of the Peconic River wetland areas to document and delineate the vegetation and hydrology of the wetland resources present prior to sediment remediation (Roux Associates, 2003). Overall the dominant herbaceous vegetation observed in the Peconic River wetlands on BNL property included common duckweed (*Lemna minor*), tussock sedge (*Carex stricta*), common reed (*Phragmites australis*), water starwort

(*Callitriche sp*), American bur-reed (*Sparganium americanum*), and reed canary grass (*Phalaris arundinacea*).

The dominant herbaceous vegetation observed in the Peconic River wetlands outside BNL included tussock sedge, purple fringed riccia (*Ricciocarpus natans*), blue joint grass (*Calamagrostis canadensis*), reed canary grass, common duckweed, American bur-reed and woolgrass (*Scirpus cyperinus*). The results of the wetland assessment were subsequently used as guidelines to restore the wetlands following OUV remediation activities.

2.3 Summary of 2005 Monitoring Results

Upon completion of 2005 wetland monitoring field activities, Roux Associates and BNL submitted the 2005 Wetland Monitoring Report to the NYSDEC, USEPA, the Suffolk County Department of Parks, Recreation and Conservation, and the Suffolk County Department of Health Services (Roux Associates, 2006). Overall, during the Summer 2005 survey 87 percent of the low marsh areas exhibited vegetation cover. All the low marsh plant communities met the NYSDEC equivalency permit minimum goal of 65 percent cover, with the exception of Area D on BNL property.

The dominant herbaceous vegetation observed within the Peconic River wetlands on BNL property (Areas A, B, C and D; monitoring transects WAT-1 through WAT-30) included common duckweed, tussock sedge, and mild water-pepper (*Polygonum hydropiperoides*). Open water areas exhibited an average of 18 percent vegetative cover. This percent coverage excludes floating vegetation, such as common duckweed. Low marsh areas surveyed exhibited an average of 82 percent vegetative cover. High marsh areas exhibited 99 percent vegetative cover; however, these areas were not impacted and thus were expected to exhibit high percent cover.

The dominant herbaceous vegetation observed in the Peconic River wetland areas located outside BNL property (Areas D, E, P, and Manor Road; WAT-31 through WAT-64) included tussock sedge, mild water-pepper, reed canary grass, pink water speedwell (*Veronica catenata*), and American bur-reed. Open water areas outside BNL exhibited an average of 43 percent vegetative cover. Ninety-two percent of the low marsh areas surveyed were considered vegetated and 100 percent of the high marsh areas were vegetated.

2.4 Summary of 2006 Maintenance Activities

Upon completion of the 2005 monitoring activities, Roux Associates and BNL identified two maintenance action items: revegetation and invasive species control. Low marsh areas/transects that exhibited vegetative cover significantly (greater than 10 percent) below the recommended goal would require supplemental plantings in order to meet the equivalency permit goal of 65 percent cover by the end of the 2006. Similarly, in accordance with the NYSDEC equivalency permits (Louis Berger, 2004a and 2004b), invasive species cannot contribute more than 10 percent cover in any wetland restoration area. Two invasive species were observed within the 2005 monitoring transects in quantities exceeding the 10 percent cover limit: common reed and reed canary grass. The following sections provide further detail regarding the recommended maintenance activities.

2.4.1 Transplanting

Between August 3 and August 17, 2006, Roux Associates installed approximately 2,215 plants within low marsh areas that did not exhibit 65 percent vegetation cover during the 2005 survey (Areas C, D on BNL property, and D off BNL property). The following wetland species were salvaged from non-remediation areas of the Peconic River: American bur-reed, tussock sedge, cattail (*Typha latifolia*), soft rush (*Juncus effusus*), wool grass, pickerel weed (*Pontederia cordata*), and lurid sedge (*Carex lurida*). To minimize the spread of invasive species, transplants were not salvaged from areas that contained reed canary grass, common reed, or other invasive species. The transplants were trimmed to approximately six-inch stalk height, cleaned, divided into approximately two-inch plugs, and planted in an alternating three-foot on center pattern consistent with the NYSDEC Equivalency Permits (Louis Berger, 2004a and 2004b).

2.4.2 Invasive Species Control

As noted above, two invasive species were observed in quantities exceeding the 10 percent cover limit during the 2005 monitoring activities: common reed and reed canary grass. Common reed was observed along transects WAT-20 through WAT-22, WAT-35 and WAT-36, WAT-39 through WAT-41 WAT-50 and WAT-54 (Roux Associates, 2006) during the 2005 monitoring survey. Hand pulling of new common reed shoots was conducted between June 27 and July 12, 2006 within the low marsh and open water areas that were previously restored. All rhizomes, stems, and leaves associated with the shoots that were removed were placed in approximately 20

industrial 40-gallon garbage bags and disposed of as part of the onsite BNL refuse. Areas with pre-existing large stands of common reed within non-remediated areas of the Peconic River were not removed.

Reed canary grass was observed in the remediated wetland areas, as well as throughout sections of the river that did not require remediation. Reed canary grass is a persistent and widespread species along the Peconic River. Control of reed canary grass by hand pulling was not recommended in the goals for the 2006 maintenance activities (Appendix I).

3.0 2006 SCOPE OF WORK

The objective of wetland monitoring is to document the status of the vegetation and hydrology of the restored areas of the Peconic River wetlands. In order to meet these objectives, in 2005 Roux Associates established a total of 64 transects perpendicular to the Peconic River in the wetland areas on BNL property (Areas A through D) and outside BNL property (Areas D, E, P and Manor Road; Plate 1). Consistent with 2005 monitoring activities, the wetland monitoring approach was based upon a NYSDEC approved protocol, tailored specifically to the wetland resources of the Peconic River.

In conformance with the NYSDEC equivalency permits for the Peconic River Restoration Programs, a survival rate of 85 percent for all planted material and naturally recruited plant material was targeted by the end of the second full growing season (i.e., Fall 2006). However, during field inspections, planted species could not be differentiated from the presence of naturally occurring species. As percent cover is directly proportional to species survivability, Roux Associates applied this common method to evaluate restoration success through monitoring of individual species percent cover over a given area.

All 2006 activities were delayed by the unusually high surface water levels (Section 4.0). In response to the 2005 survey results, Roux Associates removed *Phragmites* from remediated areas of the river between June 27 and July 12, 2006 and the transplanting of wetland plants occurred between August 3 and August 17, 2006. Between August 29 and September 11, 2006, Roux Associates completed a field survey of the Peconic River wetland resources along each previously established transect. Vegetative species were recorded and classified using the USFWS categories as listed under Regional and National Indicator columns in the "National List of Plant Species that Occur in Wetlands" (USFWS, 1988). The indicator status of each dominant species, together with the percent coverage of the plant species, was recorded. Plants were inspected for signs of stress, deleterious insect infestation, and wildlife herbivory (i.e., leaf spots, leaf damage, leaf discolorations, chlorosis, leaf wilting, or curling and disease). Surface water depths were recorded at each plant community transition (i.e. depth of water at the low marsh and open water interface) and at the deepest portion of the center channel. Representative color photographs were collected to document field conditions from fixed photo stations located at each transect (Appendices A through H).

4.0 SURVEY RESULTS

Wetland monitoring activities included a detailed vegetative inventory of the 64 transects located within the wetland resources along the Peconic River from the BNL Sewage Treatment Plant to Schultz Road, as well as upstream and downstream of Manor Road in Manorville (Plate 1). The following sections provide summary observations of plant diversity, structure, and abundance. Plant communities were evaluated based upon presence or absence of vegetation and percent cover. Detailed results of the vegetation surveys are found in Table 1. A summary of the dominant species present for each area is presented in Table 2. Common duckweed was not included as a component of the vegetative cover present within the low marsh or open water areas while compiling the data results in Table 2. Table 3 summarizes surface water depths by area, while Table 4 summarizes low marsh vegetation percent cover. Table 5 summarizes invasive species percent cover by area, transect and species and Table 6 provides a summary of invasive species percent cover within the restored open water and low marsh areas.

A significant increase in precipitation was recorded prior to the 2006 survey period (compared to precipitation records prior to the 2005 survey period). The total precipitation received over the past five years compared to the 10-year average is presented in the table below.

Monthly Precipitation Records

Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total
2001-2002	1.04	0.74	2.59	3.07	1.16	5.05	4.58	4.48	4.37	1.37	3.94	5.84	38.23
2002-2003	6.40	6.18	5.63	2.48	5.74	5.99	5.11	6.07	12.28	2.38	5.19	5.22	68.67
2003-2004	4.80	3.63	4.22	2.15	3.14	3.47	4.94	2.59	1.34	3.05	4.30	5.14	42.77
2004-2005	1.62	2.16	1.96	3.32	2.10	2.47	2.53	2.36	1.48	2.16	0.87	1.09	24.12
2005-2006	22.14	5.00	4.6	5.52	2.87	0.89	7.17	6.73	6.73	5.73	6.43	4.50	78.31
10-year average	5.38	3.47	4.05	4.33	3.33	5.22	4.58	4.44	4.95	3.18	4.45	4.24	49.92

*Note: Precipitation data is based on climatological data collected at Brookhaven National Laboratory located in Upton, New York.

Overall, the increase in precipitation received resulted in a concomitant increase in water levels, which changed the dynamics of the marsh areas. On average, open water depths measured in September 2006 increased 21 inches from August 2005 (Table 3). Areas that were previously designated in the 2005 survey as low marsh were classified as open water and areas that were designated high marsh were classified as low marsh during the 2006 survey.

4.1 Wetland Survey On BNL Property

A total of 30 monitoring transects (WAT-1 through WAT-30) are located across the Peconic River wetlands on BNL property. The dominant herbaceous vegetation observed included tussock sedge, soft rush, mild water-pepper, common duckweed, and American bur-reed. A summary of the percent cover of the dominant species observed per plant community is provided in Table 2. Open water areas exhibited an average of 31 percent vegetative cover. This percent coverage excludes floating vegetation, such as duckweed. Low marsh areas surveyed exhibited an average of 90 percent vegetative cover. High marsh areas exhibited 100 percent vegetative cover; however, these areas were not impacted and, thus, were expected to exhibit high percent cover. Low marsh surface water depths were approximately 9 inches higher than measured in 2005 and open water surface water depths were approximately 21 inches higher than measured in 2005 (Table 3).

4.1.1 Area A

Area A begins at the BNL STP and extends approximately half a mile along the Peconic River to the intersection of the Peconic River and the East Firebreak Road (WAT-1 through WAT-11; Plate 1). Photographs documenting the plant diversity, structure, and abundance in Area A can be found in Appendix A. On the southwestern bank, a dirt access road runs parallel to the river. The reaches of the river in Area A have been significantly altered through historic pre-remediation berm and channel construction. Due to the extensive channelization in the upper reaches of Area A, open water was the predominant plant community observed.

The open water plant community was dominated by the floating aquatic plant common duckweed and the emergent species American bur-reed. Low marsh surface water depths were relatively the same as measured in 2005. However, open water surface water depths were approximately 8 inches higher than measured in 2005 (Table 3). The low marsh areas located along the edges of the open water were approximately 2 feet wide. These emergent marsh areas were dominated by tussock sedge, soft rush, rice cutgrass (*Leersia oryzoides*), northern bugleweed (*Lycopus uniflorus*), marsh fern (*Thelypteris palustris*), and mild water-pepper (Table 2).

Overall, 65 percent of Area A was recorded as vegetated. Low marsh areas exhibited 100 percent vegetative cover, whereas the open water areas averaged 30 percent cover (primarily dominated by duckweed). The only invasive species observed within Area A was the common greenbrier (*Smilax rotundifolia*), comprising less than one percent of the vegetation.

4.1.2 Area B

Area B originates at the intersection of the Peconic River and East Firebreak Road, extending along the Peconic River for slightly greater than 0.1 miles (WAT-12 through WAT-14; Plate 1). Photographs documenting the plant diversity, structure, and abundance in Area B can be found in Appendix B.

Area B is characterized as an emergent marsh community with a narrow open water channel. In 2006, surface water depths in the low marsh and open water areas were approximately 3 inches and 14 inches higher than recorded in 2005, respectively (Table 3). Low marsh wetland communities dominated the edges of the excavated channel in which the river flows for approximately 700 feet. Dominant species observed within the low marsh included Canadian rush (*Juncus canadensis*), soft rush, mild water-pepper, rice cutgrass, marsh fern, and tussock sedge. The only transect with a designated high marsh area was WAT-12. Similar to the low marsh, the high marsh area was dominated by tussock sedge. However, the undisturbed high marsh was also dominated by sweet pepperbush (*Clethra alnifolia*). Both the low marsh and high marsh communities exhibited 100 percent vegetative cover (Table 2).

In 2006, the open water area in Area B was approximately 10 feet wide, approximately five feet wider than the open water width observed during the 2005 monitoring survey. The area was dominated by common duckweed, rice cut-grass, mild water-pepper, and American bur-reed. Approximately 72 percent of the open water area was characterized as vegetated.

Invasive species were only observed along transect WAT-12 within the Area B monitoring transects. The observed invasive species included common greenbrier and poison ivy (*Toxicodendron radicans*), together comprising approximately 1 percent of the total species cover within Area B.

4.1.3 Area C

Area B transitions to Area C with the widening of the river from 10 feet to a predominately open water habitat approximately 190 feet wide, flanked by low marsh emergent plant communities (WAT-15 through WAT-22; Plate 1). Low marsh surface water depths were approximately 10 inches higher than measured in 2005 and open water surface water depths were approximately 24 inches higher than measured in 2005 (Table 3). Approximately 96 percent of the open water areas were non-vegetated, while the remaining 4 percent was comprised of common duckweed and miscellaneous species.

The width of the open water habitat begins to narrow approximately 800 feet downstream, corresponding with the confluence of a small backwater marsh on the north side of the river (northeast side of transects WAT-17 and WAT-18). The backwater area was dominated by common duckweed in the main channel and tussock sedge, wool grass, and lurid sedge within the low marsh island. Non-vegetated areas comprised approximately 80 percent of the backwater.

The main channel low marsh areas were dominated by tussock sedge, soft rush, rice cut-grass, mild water-pepper, and wool grass. The average percent cover of the low marsh areas was estimated to be 80 percent (Table 2). There was no definitive high marsh area present. The surrounding shrub-forested wetland community was dominated by sweet pepperbush and highbush blueberry (*Vaccinium corymbosum*) shrubs, dense greenbriar woody vines with a black gum (*Nyssa sylvatica*), and red maple canopy.

Invasive species (common reed and greenbrier) were observed along transects WAT-16, 17, 18, 20, 21, and 22. However, the common reed observed on the low marsh island and shrub forested island on WAT-17, 18, 20, and 22 were not within the remediation areas. In addition, invasive species did not exceed 10 percent cover, constituting less than one percent cover over Area C (Table 5).

4.1.4 Area D On BNL Property

The section of Area D on BNL property (WAT-23 through WAT-30) begins with the transition from a low marsh emergent wetland and red maple forested canopy to an open water habitat at

WAT-23. This section of Area D primarily consisted of open water plant communities until convergence with the Z-path Site access road. High marsh was not observed within Area D on BNL property. Within areas designated as low marsh, surface water levels averaged 18 inches, 17 inches higher than recorded in 2005 (Table 3). Photographs documenting the plant diversity, structure, and abundance in Area D are located in Appendix D.

Area D was dominated by tussock sedge, soft rush, common duckweed, mild water-pepper, wool grass, and American bur-reed. On average, 55 percent of Area D exhibited vegetative cover. Open water areas exhibited 19 percent cover, comprised predominately of duckweed and miscellaneous (each contributing less than 5 percent cover) species (Table 2). The low marsh areas exhibited 79 percent cover, dominated by tussock sedge, soft rush, pickerel weed, mild water pepper, wool grass, and American burr-reed.

The only invasive species present within the low marsh areas was greenbrier (WAT-24, 26 and 27). However, total percent cover of greenbrier contributed to less than two percent of all the species present in Area D. Reed canary grass was observed along the perimeter of the remediated areas.

4.2 Wetland Survey Outside BNL Property

Wetland monitoring was conducted on Areas D, E, P, and Manor Road (WAT-31 through WAT-64). The dominant herbaceous vegetation observed in these wetland areas included American bur-reed, reed canary grass, rice cut-grass, and tussock sedge. Open water areas outside BNL exhibited an average of 53 percent vegetative cover. The open water percent coverage excludes floating vegetation, such as common duckweed. Ninety-five percent of the low marsh areas surveyed were considered vegetated and 99 percent of the high marsh areas were vegetated. A summary of the average percent cover of the dominant species per area is provided in Table 2. Low marsh surface water depths were approximately 13 inches higher than measured during the 2005 monitoring survey. Open water surface water depths were approximately 21 inches higher than measured in 2005 (Table 3).

4.2.1 Area D Outside BNL Property

Area D outside BNL property (WAT-31 through WAT-35) extends beyond the BNL eastern property boundary into Suffolk County parkland (WAT-31; Plate1). Area D plant communities included open water and low marsh. There were no designated high marsh communities during the 2006 field survey; however, high marsh communities were observed during the 2005 field survey. It is important to note that this portion of Area D was relatively dry (two inches standing water) during the 2005 monitoring survey, while open water depths averaged 30 inches during the 2006 monitoring survey. Photographs documenting the plant diversity, structure, and abundance in Area D are located in Appendix E.

A more diverse community of open water vegetative species were present in Area D outside BNL property compared to the common duckweed dominated open water on BNL property. American bur-reed was the dominant species observed in the open water, contributing 21 percent to the total vegetative cover of 48 percent (Table 2). Mild water-pepper, American bur-reed, reed canary grass, and rice cut-grass were the dominant herbaceous species observed in the low marsh areas, contributing to the total percent cover of 89 percent (Table 2).

Invasive species such as reed canary grass, greenbrier, and common reed were observed throughout the Area D monitoring transects. Reed canary grass was observed in the restored low marsh areas between transects WAT-31 and WAT-34, reaching up to 40 percent cover (south edge WAT-32). Common reed was observed only within WAT-35, which was not within the remediation area, representing 15 percent of the species present within the shrub-forested low marsh. Overall the common reed represented less than one percent of the species present throughout Area D.

4.2.2 Area E

The plant communities characterizing the Area E (WAT-36 through WAT-44) wetlands included open water, low marsh, high marsh, and bordering shrub-forested wetlands. Photographs documenting the plant diversity, structure, and abundance in Area E are located in Appendix F. Area E begins at the transition from emergent wetlands to a shrub-forested wetland (WAT-36; Plate 1). After approximately 300 feet of forested canopy, the wetland classification shifts back to an emergent marsh habitat. Low marsh surface water depths were approximately 10 inches

higher than measured in 2005. Open water surface water depths were approximately 22 inches higher than measured in 2005 (Table 3).

Both the high and low marsh areas were well vegetated, exhibiting 96 and 92 percent cover respectively. The open water of Area E was 62 percent vegetated, a significant increase from the 2005 monitoring year total of 48 percent. The dominant species observed in the open water areas was American bur-reed, while the low marsh areas were dominated by the emergent species rice cut-grass, Canadian rush, and wool grass. The undisturbed high marsh areas, located along the upper banks of the emergent wetlands, were dominated by blue joint grass, common reed, and swamp loosestrife (*Decodon verticillatus*). A red maple and black gum canopy, and sweet pepperbush and highbush blueberry shrubs primarily dominated the bordering shrub-forested wetland communities.

Approximately 800 feet into the emergent marsh habitat, the plant communities shift from diverse low and high marshes to a *Phragmites* dominated low marsh (WAT-39 and WAT-40). The *Phragmites* marsh spans approximately 700 feet then transitions to a Canadian rush, rice cut-grass, soft rush, and American bur-reed, dominated low marsh. This emergent marsh transitions into the area known as the Ice Pond. The Ice Pond is primarily open water surrounded by low marsh habitats and shrub-forested communities. The low marsh areas surrounding the Ice Pond were dominated by wool grass, rice cut-grass, American bur-reed and tussock sedge on the western and northeastern banks. The shrub-forested communities were dominated by sweet pepperbush and red maple. Beyond the Ice Pond, the wetland plant communities were dominated by the emergent marsh species wool grass, tussock sedge, American bur-reed, and cattail.

Invasive species (primarily *Phragmites*) were observed within four of the nine transects surveyed (WAT-37, WAT-39, WAT-40 and WAT-41) (Table 5). However, only the northern side of these transects were within the remediated sections of the Peconic River, therefore the invasive species present within transects WAT-37 and WAT-41 were not included.

4.2.3 Area P

The area designated as Area P (WAT-45 through WAT-54) begins at the transition from the emergent marsh wetlands to a shrub-forested wetland with low marsh under story approximately 1,440 feet downstream from the Ice Pond (WAT-45; Plate 1). Low marsh surface water depths were approximately 13 inches higher than measured in 2005. Open water surface water depths were approximately 18 inches higher than measured in 2005 (Table 3). Photographs documenting the plant diversity, structure, and abundance in Area P are located in Appendix G.

Red maple dominated the canopy cover over Area P. The open water areas were dominated by American bur-reed, rice cutgrass, ribbonleaf pondweed (*Potamogeton epihydrus*) and lady's thumb (*Polygonum persicaria*), contributing to 70 percent cover. Sweet pepperbush was commonly observed growing on hummocks interspersed within the tussock sedge, rice cutgrass, pickerel weed, and American bur-reed dominated low marsh habitat (98 percent cover) (Table 2). High marsh areas exhibited 100 percent vegetative cover dominated by tussock sedge, reed canary, wool grass, and American bur-reed, which separated the low marsh from the adjacent shrub-forested wetland areas.

Common invasive species observed throughout Area P included poison ivy (WAT-54), *Phragmites* (WAT-50 and WAT-54), and reed canary grass (WAT-52 and WAT-53) (Table 5). Transect WAT-50 was the only transect located within the remediation area.

4.2.4 Manor Road

The Manor Road area is located approximately 6,000 linear feet downstream of Area P, situated on both upstream (WAT-55 through WAT-57) and downstream (WAT-58 through WAT-64) sides of Manor Road. The extent of the area remediated/restored along Manor Road was well defined by the abrupt narrowing of the Peconic River emergent marsh from approximately 80 feet wide to a shrub-forested canopy covered open water area seven feet wide. A former access path was observed approximately 25 feet to the north and upstream of WAT-64, the last transect surveyed. Low marsh and open water surface water depths were approximately 18 inches higher than measured in 2005 (Table 3). Photographs documenting the plant diversity, structure, and abundance in the Manor Road area are located in Appendix H.

The low marsh areas of Manor Road were dominated by American bur-reed, rice cutgrass, and reed canary grass, contributing to the 100 percent total vegetated cover. The open water areas were generally 20 feet wide and dominated by water-purslane (*Ludwigia palustris*) and reed canary grass, resulting in 32 percent vegetated cover. The low marsh areas were flanked by a red maple and sweet pepperbush dominated shrub-forested community. High marsh areas exhibited 100 percent vegetative cover dominated by tussock sedge, winterberry holly (*Ilex verticillata*), and reed canary grass.

Invasive species were observed throughout all transects downstream of Manor Road, except WAT-64 and two transects upstream of Manor Road (WAT-55 and WAT-56). Poison Ivy was observed within transects WAT-57 and WAT-63; while multiflora rose (*Rosa multiflora*) was also observed along transect WAT-57 (Table 5). Reed canary grass was observed along transects WAT-58 through WAT-64. Average reed canary grass percent cover was 11 percent within the low marsh areas, while its overall percent composition within the high marsh areas was 61 percent. The high marsh areas were not disturbed during remediation and thus did not require restoration. Thus, the reed canary grass observed is pre-existing. The overall percent cover of reed canary grass within Manor Road is approximately 23 percent.

5.0 CONCLUSIONS

In conformance with the NYSDEC equivalency permits for the Peconic River Restoration Program, three requirements must be met by the end of the 2006-growing season:

1. *85 percent survival of the target density of installed plant material and naturally recruited plant material by the end of the second growing season (i.e., September 2006) BNL will continue monitoring past 2006 until successful revegetation has been demonstrated.*

    a. As demonstrated by the 2006 monitoring results, the required 85 percent survival has been achieved with an average percent cover of 92 percent. Survivability of the planted material and the naturally recruited plant material was evaluated based upon individual species percent cover for the 30 transects on the BNL property and the 34 transects outside the BNL property. The relevant data is detailed in Table 1 and summarized at the bottom of Table 4.

2. *Predominance of native vegetation within restored low marsh and shrub-forest wetland areas. A target density of woody plants shrub/forest areas will be 300 stems/acre. A target percent cover of 65 percent will be provided by vegetation within the low marsh (percentage lower due to greater interspersion within open water).*

    a. Through supplemental wetland revegetation efforts in 2006 and demonstrated by the 2006 monitoring results, the required coverage (65 percent) of native vegetation within restored low marsh and shrub-forest wetland areas has been met. Remediated sections of the Peconic River were restricted to designated low marsh zones and did not extend into or impact the shrub-forest wetland areas. Thus a satisfactory stand after the second full growing season was defined as having 65 percent cover within the designated low marsh zones. The percent vegetation cover in the remediated low marsh areas on BNL property ranged between 79 percent and 100 percent and with an overall average of 90 percent. Outside BNL property the percent vegetation cover in the remediated low marsh areas ranged between 89 and 100 percent for an overall average of 95 percent. The overall average for all 64 transects monitored was 92 percent vegetation coverage. This overall

average substantially exceeds the required 65% low marsh vegetation coverage requirement.

3. *Invasive Species: The NYSDEC equivalency permit requirement for invasive species control is less than 10 percent cover in any one wetland restoration area provided by invasive species such as common reed, reed canary grass and purple loosestrife. The wetland community types to which the NYSDEC equivalency permit requirement for invasive species control apply include the remediated open water and low marsh areas.*

   a. The above invasive species requirement (less than 10 percent cover in any one wetland restoration area by invasive species such as common reed, red canary grass and purple loosestrife) has been achieved. Percent cover of common reed and purple loosestrife for each of the eight wetland restoration areas ranges between 0 percent to less than 1 percent (Table 6). Reed canary grass is the most dominant of the invasive wetland plants. Because reed canary grass was well established in the Peconic River before the remediation project took place and its control would require extensive use of herbicides or excavation both of which pose potential negative impacts, NYSDEC has dropped the requirement for control of reed canary grass but recommended the control of Phragmites australis (common reed) (Attachment I). For common reed, the maximum percent cover observed among all of the remediated low marsh and open water areas in 2006 was less than 1 percent. No purple loosestrife was identified in any of the 64 transects.

6.0 RECOMMENDATIONS

Phragmites Control: BNL met the NYSDEC permit equivalency requirement of less than 10 percent wetland invasive species coverage through the completion of *Phragmites* control events conducted in 2004, 2005and 2006.

At the end of the growing season in 2004, glyphosate herbicide was applied to mature and young common reed plants growing in Areas C and D on BNL property. This work was conducted in accordance with Aquatic Pesticide Permit No. AV100604CGS01 issued by the New York State Department of Environmental Conservation.

Due to the location of the common reed in adjacent wetland areas excluded from remediation, Roux Associates wetland monitoring protocol stressed the identification and early detection to minimize invasion of the remediated areas by these aggressive species. Based on the 2005 and 2006 wetland survey results, Roux Associates' field personnel hand pulled *Phragmites* shoots when observed during both the 2005 and 2006 monitoring activities. However, significant pre-existing stands of common reed are located along the edges of restored areas and continued control may require further mechanical and/or chemical removal in the future. The necessity for this would first be evaluated with the NYSDEC, Suffolk County Departments of Parks and Health Services and the USEPA. During the 2006 wetland survey, *Phragmites* was observed in restored low marsh areas along several transects at levels that do not require control according to the NYSDEC permit equivalency permit, WAT-16 (7 percent), WAT-21 (1 percent), WAT-39 (1 percent), WAT-40 (1 percent), and WAT-50 (3 percent)(Table 5). As a proactive approach to invasive species control, Roux Associates recommends that BNL hand-pull *Phragmites australis* shoots in the remediated areas during the spring to early summer period of 2007 to abate the spread of *Phragmites* runners into the restored areas. If sections of the remediated areas are identified with large stands of *Phragmites* in 2007, BNL should consider control through cutting of the *Phragmites* shoots to below water level, followed by the collection, removal, and disposal of the tassels, thus allowing light to reach the soil. The increased light will encourage germination of seeds from desirable plants. The plants should be cut just before the end of July when most of the food reserves are in the aerial portion of the plant. Based on the success of the 2006 and 2007 maintenance activities to control *Phragmites*, BNL may also need to evaluate

alternative control methods, such as glyphosate application, with the NYSDEC, the Suffolk County Parks and Health Services Departments and the USEPA.

7.0 REFERENCES

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Table 1. Results of the 2006 Peconic River Wetland Monitoring Field Survey

Area	Transect No.	Plant Community	Location	Species	Common Name	Indicator Status	Percent Cover	Subtotal
A	WAT-1	low marsh	south	*Calamagrostis canadensis*	Blue Joint	FACW+	15	100
A	WAT-1	low marsh	south	*Carex cristatella*	Crested Sedge	FACW+	5	
A	WAT-1	low marsh	south	*Juncus effusus*	Soft Rush	FACW+	5	
A	WAT-1	low marsh	south	*Thelypteris palustris*	Marsh Fern	FACW+	70	
A	WAT-1	low marsh	south	*Woodwardia areolata*	Netted Chainfern	FACW+	5	
A	WAT-1	open water	center	*Calamagrostis canadensis*	Blue Joint	FACW+	5	100
A	WAT-1	open water	center	*Sparganium americanum*	American Bur-reed	OBL	95	
A	WAT-2	open water	center	*Calamagrostis canadensis*	Blue Joint	FACW+	3	100
A	WAT-2	open water	center	*Callitriche sp.*	Water Starwort	OBL	2	
A	WAT-2	open water	center	*Carex stricta*	Tussock Sedge	OBL	5	
A	WAT-2	open water	center	*Sparganium americanum*	American Bur-reed	OBL	90	
A	WAT-3	open water	center	*Betula populifolia*	Gray Birch	FAC	3	20
A	WAT-3	open water	center	*Lemna minor*	Common Duckweed	OBL	15	
A	WAT-3	open water	center	*Aronia arbutifolia*	Red Chokeberry	FACW	2	
A	WAT-4	open water	center	*Callitriche sp.*	Water Starwort	OBL	3	12
A	WAT-4	open water	center	*Hypericum virginicum*	Marsh St. John's Wort	OBL	1	
A	WAT-4	open water	center	*Juncus effusus*	Soft Rush	FACW+	2	
A	WAT-4	open water	center	*Leersia oryzoides*	Rice Cut-grass	OBL	2	
A	WAT-4	open water	center	*Sparganium americanum*	American Bur-reed	OBL	2	
A	WAT-4	open water	center		unknown aquatic herb		2	
A	WAT-5	low marsh	south	*Juncus effusus*	Soft Rush	FACW+	10	100
A	WAT-5	low marsh	south	*Leersia oryzoides*	Rice Cut-grass	OBL	5	
A	WAT-5	low marsh	south	*Rubus spp.*	Raspberry	FAC-	5	
A	WAT-5	low marsh	south	*Thelypteris palustris*	Marsh Fern	FACW+	80	
A	WAT-5	open water	center	*Lemna minor*	Common Duckweed	OBL	10	30
A	WAT-5	open water	center	*Sparganium americanum*	American Bur-reed	OBL	20	
A	WAT-5	low marsh	north	*Hypericum virginicum*	Marsh St. John's Wort	OBL	2	100
A	WAT-5	low marsh	north	*Juncus effusus*	Soft Rush	FACW+	90	
A	WAT-5	low marsh	north	*Leersia oryzoides*	Rice Cut-grass	OBL	5	
A	WAT-5	low marsh	north	*Vitis labrusca*	Fox Grape	FACU	3	
A	WAT-6	open water	center	*Lemna minor*	Common Duckweed	OBL	10	45
A	WAT-6	open water	center	*Sparganium americanum*	American Bur-reed	OBL	35	
A	WAT-6	low marsh	north	*Galium palustre*	Common Marsh Bedstraw	OBL	1	100
A	WAT-6	low marsh	north	*Juncus effusus*	Soft Rush	FACW+	90	
A	WAT-6	low marsh	north	*Leersia oryzoides*	Rice Cut-grass	OBL	5	
A	WAT-6	low marsh	north	*Lemna minor*	Common Duckweed	OBL	1	
A	WAT-6	low marsh	north	*Lycopus uniflorus*	Northern Bugleweed	OBL	3	
A	WAT-7	low marsh	south	*Cyperus strigosus*	Umbrella Sedge	FACW	2	100
A	WAT-7	low marsh	south	*Dichanthelium clandestinum*	Deer Tongue Grass	FAC+	20	
A	WAT-7	low marsh	south	*Juncus effusus*	Soft Rush	FACW+	20	
A	WAT-7	low marsh	south	*Leersia oryzoides*	Rice Cut-grass	OBL	5	
A	WAT-7	low marsh	south	*Spiraea tomentosa*	Steeplebush	FACW	50	
A	WAT-7	low marsh	south	*Solidago tenuifolia*	Slender Fragrant Goldenrod	FACU	3	
A	WAT-7	open water	center	*Lemna minor*	Common Duckweed	OBL	20	85
A	WAT-7	open water	center	*Sparganium americanum*	American Bur-reed	OBL	65	
A	WAT-7	low marsh	north	*Bidins frondosa*	Devil's Beggartick	FACW	2	100
A	WAT-7	low marsh	north	*Cyperus strigosus*	Umbrella Sedge	FACW	7	

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Area	Transect No.	Plant Community	Location	Species	Common Name	Indicator Status	Percent Cover	Subtotal
A	WAT-7	low marsh	north	*Dichanthelium clandestinum*	Deer Tongue Grass	FAC+	2	
A	WAT-7	low marsh	north	*Juncus canadensis*	Canadian Rush	OBL	2	
A	WAT-7	low marsh	north	*Juncus effusus*	Soft Rush	FACW+	28	
A	WAT-7	low marsh	north	*Leersia oryzoides*	Rice Cut-grass	OBL	28	
A	WAT-7	low marsh	north	*Lycopus uniflorus*	Northern Bugleweed	OBL	30	
A	WAT-7	low marsh	north	*Smilax rotundifolia*	Greenbrier	FAC	1	
A	WAT-8	low marsh	west	*Carex stricta*	Tussock Sedge	OBL	40	100
A	WAT-8	low marsh	west	*Clethra alnifolia*	Sweet Pepperbush	FAC+	2	
A	WAT-8	low marsh	west	*Juncus effusus*	Soft Rush	FACW+	2	
A	WAT-8	low marsh	west	*Leersia oryzoides*	Rice Cut-grass	OBL	1	
A	WAT-8	low marsh	west	*Lycopus uniflorus*	Northern Bugleweed	OBL	2	
A	WAT-8	low marsh	west	*Osmunda regalis*	Royal Fern	OBL	40	
A	WAT-8	low marsh	west	*Rumex Acetosella*	Common Sheep Sorrel	UPL	1	
A	WAT-8	low marsh	west	*Smilax rotundifolia*	Greenbrier	FAC	1	
A	WAT-8	low marsh	west		unknown grass		2	
A	WAT-8	low marsh	west	*Vaccinium corymbosum*	Highbush Blueberry	FACW-	5	
A	WAT-8	low marsh	west	*Vitis labrusca*	Fox Grape	FACU	4	
A	WAT-8	open water	center	*Lemna minor*	Common Duckweed	OBL	40	40
A	WAT-8	low marsh	east	*Leersia oryzoides*	Rice Cut-grass	OBL	10	100
A	WAT-8	low marsh	east	*Lycopus uniflorus*	Northern Bugleweed	OBL	75	
A	WAT-8	low marsh	east	*Vitis labrusca*	Fox Grape	FACU	15	
A	WAT-9	low marsh	south	*Bidens frondosa*	Devil's Beggartick	FACW	1	100
A	WAT-9	low marsh	south	*Juncus effusus*	Soft Rush	FACW+	80	
A	WAT-9	low marsh	south	*Leersia oryzoides*	Rice Cut-grass	OBL	3	
A	WAT-9	low marsh	south	*Lemna minor*	Common Duckweed	OBL	5	
A	WAT-9	low marsh	south	*Spiraea tomentosa*	Steeplebush	FACW	5	
A	WAT-9	low marsh	south	*Thelypteris palustris*	Marsh Fern	FACW+	4	
A	WAT-9	low marsh	south	*Vitis labrusca*	Fox Grape	FACU	1	
A	WAT-9	low marsh	south	*Woodwardia areolata*	Netted Chainfern	FACW+	1	
A	WAT-9	open water	center	*Lemna minor*	Common Duckweed	OBL	100	100
A	WAT-9	low marsh	north	*Carex stricta*	Tussock Sedge	OBL	10	100
A	WAT-9	low marsh	north	*Clethra alnifolia*	Sweet Pepperbush	FAC+	5	
A	WAT-9	low marsh	north	*Hypericum virginicum*	Marsh St. John's Wort	OBL	2	
A	WAT-9	low marsh	north	*Juncus effusus*	Soft Rush	FACW+	5	
A	WAT-9	low marsh	north	*Leersia oryzoides*	Rice Cut-grass	OBL	3	
A	WAT-9	low marsh	north	*Lycopus uniflorus*	Northern Bugleweed	OBL	15	
A	WAT-9	low marsh	north	*Osmunda cinnamomea*	Cinnamon Fern	FACW	10	
A	WAT-9	low marsh	north	*Smilax rotundifolia*	Greenbrier	FAC	5	
A	WAT-9	low marsh	north	*Vaccinium corymbosum*	Highbush Blueberry	FACW-	15	
A	WAT-9	low marsh	north	*Woodwardia areolata*	Netted Chainfern	FACW+	30	
A	WAT-10	open water	west - center	*Callitriche sp.*	Water Starwort	OBL	15	25
A	WAT-10	open water	west - center	*Lemna minor*	Common Duckweed	OBL	10	
A	WAT-10	low marsh	east	*Carex stricta*	Tussock Sedge	OBL	80	100
A	WAT-10	low marsh	east	*Lycopus uniflorus*	Northern Bugleweed	OBL	1	
A	WAT-10	low marsh	east	*Nyssa sylvatica*	Black Gum	FAC	1	
A	WAT-10	low marsh	east	*Osmunda cinnamomea*	Cinnamon Fern	FACW	6	
A	WAT-10	low marsh	east	*Smilax rotundifolia*	Greenbrier	FAC	2	

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Area	Transect No.	Plant Community	Location	Species	Common Name	Indicator Status	Percent Cover	Subtotal
A	WAT-10	low marsh	east	*Woodwardia areolata*	Netted Chainfern	FACW+	10	
A	WAT-11	shrub forest/open water	west	*Acer rubrum*	Red Maple	FAC	20	100
A	WAT-11	shrub forest/open water	west	*Lemna minor*	Common Duckweed	OBL	50	
A	WAT-11	shrub forest/open water	west	*Nyssa sylvatica*	Black Gum	FAC	30	
A	WAT-11	low marsh/open water	west	*Carex stricta*	Tussock Sedge	OBL	10	100
A	WAT-11	low marsh/open water	west	*Hypericum virginicum*	Marsh St. John's Wort	OBL	1	
A	WAT-11	low marsh/open water	west	*Leersia oryzoides*	Rice Cut-grass	OBL	4	
A	WAT-11	low marsh/open water	west	*Lemna minor*	Common Duckweed	OBL	85	
A	WAT-11	low marsh	west - center	*Bidens frondosa*	Devil's Beggartick	FACW	3	100
A	WAT-11	low marsh	west - center	*Carex stricta*	Tussock Sedge	OBL	65	
A	WAT-11	low marsh	west - center	*Hypericum virginicum*	Marsh St. John's Wort	OBL	10	
A	WAT-11	low marsh	west - center	*Lemna minor*	Common Duckweed	OBL	12	
A	WAT-11	low marsh	west - center	*Vaccinium corymbosum*	Highbush Blueberry	FACW-	10	
A	WAT-11	low marsh/shrub forest	east - center	*Acer rubrum*	Red Maple	FAC	8	100
A	WAT-11	low marsh/shrub forest	east - center	*Carex stricta*	Tussock Sedge	OBL	70	
A	WAT-11	low marsh/shrub forest	east - center	*Clethra alnifolia*	Sweet Pepperbush	FAC+	5	
A	WAT-11	low marsh/shrub forest	east - center	*Lemna minor*	Common Duckweed	OBL	10	
A	WAT-11	low marsh/shrub forest	east - center	*Nyssa sylvatica*	Black Gum	FAC	7	
A	WAT-11	open water	east	*Carex stricta*	Tussock Sedge	OBL	1	100
A	WAT-11	open water	east	*Leersia oryzoides*	Rice Cut-grass	OBL	4	
A	WAT-11	open water	east	*Lemna minor*	Common Duckweed	OBL	60	
A	WAT-11	open water	east	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	5	
A	WAT-11	open water	east	*Sparganium americanum*	American Bur-reed	OBL	30	
A	WAT-11	low marsh	east	*Bidens frondosa*	Devil's Beggartick	FACW	2	100
A	WAT-11	low marsh	east	*Carex stricta*	Tussock Sedge	OBL	1	
A	WAT-11	low marsh	east	*Cyperus strigosus*	Umbrella Sedge	FACW	5	
A	WAT-11	low marsh	east	*Hypericum virginicum*	Marsh St. John's Wort	OBL	1	
A	WAT-11	low marsh	east	*Leersia oryzoides*	Rice Cut-grass	OBL	1	
A	WAT-11	low marsh	east	*Lemna minor*	Common Duckweed	OBL	10	
A	WAT-11	low marsh	east	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	30	
A	WAT-11	low marsh	east	*Scirpus cyperinus*	Wool Grass	FACW+	10	
A	WAT-11	low marsh	east	*Sparganium americanum*	American Bur-reed	OBL	30	
A	WAT-11	low marsh	east	*Thelypteris palustris*	Marsh Fern	FACW+	10	
B	WAT-12	low marsh	west	*Carex stricta*	Tussock Sedge	OBL	32	100
B	WAT-12	low marsh	west	*Erechtites hieraciifolia*	Pilewort	FACU	3	
B	WAT-12	low marsh	west	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	5	
B	WAT-12	low marsh	west	*Scutellaria lateriflora*	Blue Skullcap	FACW+	10	
B	WAT-12	low marsh	west	*Smilax rotundifolia*	Greenbrier	FAC	3	
B	WAT-12	low marsh	west	*Thelypteris palustris*	Marsh Fern	FACW+	45	
B	WAT-12	low marsh	west	*Woodwardia areolata*	Netted Chainfern	FACW+	2	
B	WAT-12	open water	center	*Callitriche sp.*	Water Starwort	OBL	10	90
B	WAT-12	open water	center	*Juncus effusus*	Soft Rush	FACW+	8	
B	WAT-12	open water	center	*Leersia oryzoides*	Rice Cut-grass	OBL	10	
B	WAT-12	open water	center	*Lemna minor*	Common Duckweed	OBL	3	
B	WAT-12	open water	center	*Lycopus uniflorus*	Northern Bugleweed	OBL	3	
B	WAT-12	open water	center	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	49	
B	WAT-12	open water	center	*Sparganium americanum*	American Bur-reed	OBL	7	

Table 1. Results of the 2006 Peconic River Wetland Monitoring Field Survey

Area	Transect No.	Plant Community	Location	Species	Common Name	Indicator Status	Percent Cover	Subtotal
B	WAT-12	low marsh	east	*Juncus effusus*	Soft Rush	FACW+	50	100
B	WAT-12	low marsh	east	*Leersia oryzoides*	Rice Cut-grass	OBL	13	
B	WAT-12	low marsh	east	*Smilax rotundifolia*	Greenbrier	FAC	2	
B	WAT-12	low marsh	east	*Thelypteris palustris*	Marsh Fern	FACW+	35	
B	WAT-12	high marsh	east	*Bidens frondosa*	Devil's Beggartick	FACW	5	100
B	WAT-12	high marsh	east	*Carex stricta*	Tussock Sedge	OBL	50	
B	WAT-12	high marsh	east	*Clethra alnifolia*	Sweet Pepperbush	FAC+	35	
B	WAT-12	high marsh	east	*Galium palustre*	Common Marsh Bedstraw	OBL	2	
B	WAT-12	high marsh	east	*Smilax rotundifolia*	Greenbrier	FAC	5	
B	WAT-12	high marsh	east	*Toxicodendron radicans*	Poison Ivy	FAC	3	
B	WAT-13	low marsh	southeast	*Carex stricta*	Tussock Sedge	OBL	40	100
B	WAT-13	low marsh	southeast	*Erechtites hieraciifolia*	Pilewort	FACU	5	
B	WAT-13	low marsh	southeast	*Juncus effusus*	Soft Rush	FACW+	10	
B	WAT-13	low marsh	southeast	*Morella pensylvanica*	Northern Bayberry	FAC	20	
B	WAT-13	low marsh	southeast	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	5	
B	WAT-13	low marsh	southeast	*Spiraea tomentosa*	Steeplebush	FACW	10	
B	WAT-13	low marsh	southeast	*Thelypteris palustris*	Marsh Fern	FACW+	10	
B	WAT-13	open water	center	*Lemna minor*	Common Duckweed	OBL	10	95
B	WAT-13	open water	center	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	10	
B	WAT-13	open water	center	*Sparganium americanum*	American Bur-reed	OBL	75	
B	WAT-13	low marsh	northwest	*Carex stricta*	Tussock Sedge	OBL	80	100
B	WAT-13	low marsh	northwest	*Panicum virgatum*	Switchgrass	FAC	5	
B	WAT-13	low marsh	northwest	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	15	
B	WAT-14	low marsh	west	*Carex stricta*	Tussock Sedge	OBL	17	100
B	WAT-14	low marsh	west	*Cyperus strigosus*	Umbrella Sedge	FACW	5	
B	WAT-14	low marsh	west	*Erechtites hieraciifolia*	Pilewort	FACU	3	
B	WAT-14	low marsh	west	*Hypericum virginicum*	Marsh St. John's Wort	OBL	1	
B	WAT-14	low marsh	west	*Juncus canadensis*	Canadian Rush	OBL	30	
B	WAT-14	low marsh	west	*Juncus effusus*	Soft Rush	FACW+	22	
B	WAT-14	low marsh	west	*Leersia oryzoides*	Rice Cut-grass	OBL	10	
B	WAT-14	low marsh	west	*Lycopus uniflorus*	Northern Bugleweed	OBL	1	
B	WAT-14	low marsh	west	*Morella pensylvanica*	Northern Bayberry	FAC	2	
B	WAT-14	low marsh	west	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	8	
B	WAT-14	low marsh	west	*Thelypteris palustris*	Marsh Fern	FACW+	1	
B	WAT-14	open water	center	*Hypericum virginicum*	Marsh St. John's Wort	OBL	2	50
B	WAT-14	open water	center	*Leersia oryzoides*	Rice Cut-grass	OBL	15	
B	WAT-14	open water	center	*Lemna minor*	Common Duckweed	OBL	5	
B	WAT-14	open water	center	*Ludwigia palustris*	Water-Purslane	FACW+	3	
B	WAT-14	open water	center	*Sparganium americanum*	American Bur-reed	OBL	25	
B	WAT-14	low marsh	east	*Juncus canadensis*	Canadian Rush	OBL	10	100
B	WAT-14	low marsh	east	*Juncus effusus*	Soft Rush	FACW+	10	
B	WAT-14	low marsh	east	*Leersia oryzoides*	Rice Cut-grass	OBL	60	
B	WAT-14	low marsh	east	*Lycopus uniflorus*	Northern Bugleweed	OBL	10	
B	WAT-14	low marsh	east	*Scutellaria lateriflora*	Blue Skullcap	FACW+	5	
B	WAT-14	low marsh	east	*Typha latifolia*	Cattail	OBL	5	
C	WAT-15	low marsh	west	*Carex stricta*	Tussock Sedge	OBL	15	95
C	WAT-15	low marsh	west	*Dulichium arundinaceum*	Threeway Sedge	OBL	2	

Table 1. Results of the 2006 Peconic River Wetland Monitoring Field Survey

Area	Transect No.	Plant Community	Location	Species	Common Name	Indicator Status	Percent Cover	Subtotal
C	WAT-15	low marsh	west	*Eleocharis acicularis*	Needle Spikerush	OBL	1	
C	WAT-15	low marsh	west	*Juncus canadensis*	Canadian Rush	OBL	30	
C	WAT-15	low marsh	west	*Juncus effusus*	Soft Rush	FACW+	5	
C	WAT-15	low marsh	west	*Leersia oryzoides*	Rice Cut-grass	OBL	29	
C	WAT-15	low marsh	west	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	5	
C	WAT-15	low marsh	west	*Scirpus cyperinus*	Wool Grass	FACW+	5	
C	WAT-15	low marsh	west	*Typha latifolia*	Cattail	OBL	3	
C	WAT-15	open water	center	*Lemna minor*	Common Duckweed	OBL	10	20
C	WAT-15	open water	center	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	5	
C	WAT-15	open water	center	*Scirpus cyperinus*	Wool Grass	FACW+	2	
C	WAT-15	open water	center	*Sparganium americanum*	American Bur-reed	OBL	3	
C	WAT-15	low marsh	east	*Carex stricta*	Tussock Sedge	OBL	36	100
C	WAT-15	low marsh	east	*Eleocharis acicularis*	Needle Spikerush	OBL	1	
C	WAT-15	low marsh	east	*Hypericum virginicum*	Marsh St. John's Wort	OBL	5	
C	WAT-15	low marsh	east	*Juncus canadensis*	Canadian Rush	OBL	1	
C	WAT-15	low marsh	east	*Juncus effusus*	Soft Rush	FACW+	1	
C	WAT-15	low marsh	east	*Leersia oryzoides*	Rice Cut-grass	OBL	4	
C	WAT-15	low marsh	east	*Lemna minor*	Common Duckweed	OBL	5	
C	WAT-15	low marsh	east	*Lycopus uniflorus*	Northern Bugleweed	OBL	1	
C	WAT-15	low marsh	east	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	2	
C	WAT-15	low marsh	east	*Scirpus cyperinus*	Wool Grass	FACW+	35	
C	WAT-15	low marsh	east	*Typha latifolia*	Cattail	OBL	3	
C	WAT-15	low marsh	east	*Agrostis alba*	Red Top	FACW	3	
C	WAT-15	low marsh	east	*Vaccinium corymbosum*	Highbush Blueberry	FACW-	3	
C	WAT-16	low marsh	southwest	*Carex stricta*	Tussock Sedge	OBL	50	100
C	WAT-16	low marsh	southwest	*Eleocharis acicularis*	Needle Spikerush	OBL	1	
C	WAT-16	low marsh	southwest	*Juncus canadensis*	Canadian Rush	OBL	10	
C	WAT-16	low marsh	southwest	*Juncus effusus*	Soft Rush	FACW+	5	
C	WAT-16	low marsh	southwest	*Leersia oryzoides*	Rice Cut-grass	OBL	14	
C	WAT-16	low marsh	southwest	*Panicum virgatum*	Switchgrass	FAC	5	
C	WAT-16	low marsh	southwest	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	10	
C	WAT-16	low marsh	southwest	*Polygonum persicaria*	Lady's Thumb	FACW	2	
C	WAT-16	low marsh	southwest	*Typha latifolia*	Cattail	OBL	3	
C	WAT-16	open water	center	*Carex stricta*	Tussock Sedge	OBL	3	35
C	WAT-16	open water	center	*Lemna minor*	Common Duckweed	OBL	32	
C	WAT-16	low marsh	northeast	*Leersia oryzoides*	Rice Cut-grass	OBL	5	100
C	WAT-16	low marsh	northeast	*Lemna minor*	Common Duckweed	OBL	18	
C	WAT-16	low marsh	northeast	*Phragmites australis*	Common Reed	FACW	7	
C	WAT-16	low marsh	northeast	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	50	
C	WAT-16	low marsh	northeast	*Scirpus cyperinus*	Wool Grass	FACW+	20	
C	WAT-17	low marsh	south	*Carex stricta*	Tussock Sedge	OBL	20	100
C	WAT-17	low marsh	south	*Cyperus strigosus*	Umbrella Sedge	FACW	1	
C	WAT-17	low marsh	south	*Juncus canadensis*	Canadian Rush	OBL	4	
C	WAT-17	low marsh	south	*Leersia oryzoides*	Rice Cut-grass	OBL	5	
C	WAT-17	low marsh	south	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	65	
C	WAT-17	low marsh	south	*Scutellaria lateriflora*	Blue Skullcap	FACW+	5	
C	WAT-17	open water	center	*Lemna minor*	Common Duckweed	OBL	85	90

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Area	Transect No.	Plant Community	Location	Species	Common Name	Indicator Status	Percent Cover	Subtotal
C	WAT-17	open water	center	*Sparganium americanum*	American Bur-reed	OBL	5	
C	WAT-17	low marsh island	south	*Carex stricta*	Tussock Sedge	OBL	12	100
C	WAT-17	low marsh island	south	*Lemna minor*	Common Duckweed	OBL	20	
C	WAT-17	low marsh island	south	*Phragmites australis*	Common Reed	FACW	1	
C	WAT-17	low marsh island	south	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	2	
C	WAT-17	low marsh island	south	*Scirpus cyperinus*	Wool Grass	FACW+	65	
C	WAT-17	low marsh island	north	*Carex lurida*	Lurid Sedge	OBL	20	95
C	WAT-17	low marsh island	north	*Hypericum virginicum*	Marsh St. John's Wort	OBL	2	
C	WAT-17	low marsh island	north	*Lemna minor*	Common Duckweed	OBL	5	
C	WAT-17	low marsh island	north	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	2	
C	WAT-17	low marsh island	north	*Scirpus cyperinus*	Wool Grass	FACW+	55	
C	WAT-17	low marsh island	north	*Craex sp.*			10	
C	WAT-17	low marsh island	north	*Vaccinium corymbosum*	Highbush Blueberry	FACW-	1	
C	WAT-17	open water (backwater)	north	*Lemna minor*	Common Duckweed	OBL	30	30
C	WAT-17	low marsh	north	*Carex lurida*	Lurid Sedge	OBL	60	80
C	WAT-17	low marsh	north	*Decodon verticillatus*	Swamp loosestrife	OBL	5	
C	WAT-17	low marsh	north	*Juncus effusus*	Soft Rush	FACW+	5	
C	WAT-17	low marsh	north	*Lemna minor*	Common Duckweed	OBL	10	
C	WAT-18	low marsh	southwest	*Agrostis alba*	Red Top	FACW	5	70
C	WAT-18	low marsh	southwest	*Callitriche sp.*	Water Starwort	OBL	9	
C	WAT-18	low marsh	southwest	*Carex stricta*	Tussock Sedge	OBL	10	
C	WAT-18	low marsh	southwest	*Lemna minor*	Common Duckweed	OBL	5	
C	WAT-18	low marsh	southwest	*Ludwigia palustris*	Water-Purslane	FACW+	1	
C	WAT-18	low marsh	southwest	*Scirpus cyperinus*	Wool Grass	FACW+	40	
C	WAT-18	open water	southwest	*Lemna minor*	Common Duckweed	OBL	90	95
C	WAT-18	open water	southwest	*Sparganium americanum*	American Bur-reed	OBL	5	
C	WAT-18	low marsh island	center	*Agrostis alba*	Red Top	FACW	1	85
C	WAT-18	low marsh island	center	*Carex stricta*	Tussock Sedge	OBL	55	
C	WAT-18	low marsh island	center	*Eleocharis acicularis*	Needle Spikerush	OBL	1	
C	WAT-18	low marsh island	center	*Hypericum virginicum*	Marsh St. John's Wort	OBL	1	
C	WAT-18	low marsh island	center	*Juncus effusus*	Soft Rush	FACW+	5	
C	WAT-18	low marsh island	center	*Leersia oryzoides*	Rice Cut-grass	OBL	3	
C	WAT-18	low marsh island	center	*Lycopus uniflorus*	Northern Bugleweed	OBL	1	
C	WAT-18	low marsh island	center	*Phragmites australis*	Common Reed	FACW	1	
C	WAT-18	low marsh island	center	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	10	
C	WAT-18	low marsh island	center	*Scutellaria lateriflora*	Blue Skullcap	FACW+	1	
C	WAT-18	low marsh island	center	*Thelypteris palustris*	Marsh Fern	FACW+	5	
C	WAT-18	low marsh island	center	*Typha latifolia*	Cattail	OBL	1	
C	WAT-18	open water (backwater)	northeast	*Lemna minor*	Common Duckweed	OBL	5	10
C	WAT-18	open water (backwater)	northeast	*Scirpus cyperinus*	Wool Grass	FACW+	5	
C	WAT-18	low marsh	northeast	*Eleocharis acicularis*	Needle Spikerush	OBL	2	95
C	WAT-18	low marsh	northeast	*Juncus canadensis*	Canadian Rush	OBL	10	
C	WAT-18	low marsh	northeast	*Juncus effusus*	Soft Rush	FACW+	60	
C	WAT-18	low marsh	northeast	*Lemna minor*	Common Duckweed	OBL	18	
C	WAT-18	low marsh	northeast	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	5	
C	WAT-19	low marsh	west	*Carex stricta*	Tussock Sedge	OBL	40	100
C	WAT-19	low marsh	west	*Eleocharis acicularis*	Needle Spikerush	OBL	2	

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Area	Transect No.	Plant Community	Location	Species	Common Name	Indicator Status	Percent Cover	Subtotal
C	WAT-19	low marsh	west	*Juncus canadensis*	Canadian Rush	OBL	1	
C	WAT-19	low marsh	west	*Juncus effusus*	Soft Rush	FACW+	4	
C	WAT-19	low marsh	west	*Leersia oryzoides*	Rice Cut-grass	OBL	3	
C	WAT-19	low marsh	west	*Lemna minor*	Common Duckweed	OBL	12	
C	WAT-19	low marsh	west	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	20	
C	WAT-19	low marsh	west	*Scirpus cyperinus*	Wool Grass	FACW+	8	
C	WAT-19	low marsh	west	*Sparganium americanum*	American Bur-reed	OBL	6	
C	WAT-19	low marsh	west	*Typha latifolia*	Cattail	OBL	4	
C	WAT-19	open water	center	*Lemna minor*	Common Duckweed	OBL	75	75
C	WAT-19	low marsh	east	*Carex stricta*	Tussock Sedge	OBL	5	100
C	WAT-19	low marsh	east	*Eleocharis acicularis*	Needle Spikerush	OBL	1	
C	WAT-19	low marsh	east	*Hypericum virginicum*	Marsh St. John's Wort	OBL	1	
C	WAT-19	low marsh	east	*Juncus effusus*	Soft Rush	FACW+	7	
C	WAT-19	low marsh	east	*Lemna minor*	Common Duckweed	OBL	40	
C	WAT-19	low marsh	east	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	3	
C	WAT-19	low marsh	east	*Scirpus cyperinus*	Wool Grass	FACW+	40	
C	WAT-19	low marsh	east	*Typha latifolia*	Cattail	OBL	3	
C	WAT-20	low marsh	west	*Carex cristatella*	Crested Sedge	FACW+	5	100
C	WAT-20	low marsh	west	*Carex stricta*	Tussock Sedge	OBL	40	
C	WAT-20	low marsh	west	*Cyperus strigosus*	Umbrella Sedge	FACW	1	
C	WAT-20	low marsh	west	*Eleocharis acicularis*	Needle Spikerush	OBL	1	
C	WAT-20	low marsh	west	*Erechtites hieraciifolia*	Pilewort	FACU	1	
C	WAT-20	low marsh	west	*Juncus effusus*	Soft Rush	FACW+	5	
C	WAT-20	low marsh	west	*Leersia oryzoides*	Rice Cut-grass	OBL	18	
C	WAT-20	low marsh	west	*Lemna minor*	Common Duckweed	OBL	5	
C	WAT-20	low marsh	west	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	10	
C	WAT-20	low marsh	west	*Scirpus cyperinus*	Wool Grass	FACW+	7	
C	WAT-20	low marsh	west	*Scutellaria lateriflora*	Blue Skullcap	FACW+	3	
C	WAT-20	low marsh	west	*Typha latifolia*	Cattail	OBL	1	
C	WAT-20	low marsh	west	*Vaccinium corymbosum*	Highbush Blueberry	FACW-	3	
C	WAT-20	open water	center	*Lemna minor*	Common Duckweed	OBL	100	100
C	WAT-20	shrub forest island	east	*Acer rubrum*	Red Maple	FAC	30	100
C	WAT-20	shrub forest island	east	*Clethra alnifolia*	Sweet Pepperbush	FAC+	30	
C	WAT-20	shrub forest island	east	*Phragmites australis*	Common Reed	FACW	5	
C	WAT-20	shrub forest island	east	*Smilax rotundifolia*	Greenbrier	FAC	10	
C	WAT-20	shrub forest island	east	*Vaccinium corymbosum*	Highbush Blueberry	FACW-	25	
C	WAT-20	open water (backwater)	east	*Lemna minor*	Common Duckweed	OBL	100	100
C	WAT-20	low marsh	east	*Carex stricta*	Tussock Sedge	OBL	27	100
C	WAT-20	low marsh	east	*Juncus effusus*	Soft Rush	FACW+	5	
C	WAT-20	low marsh	east	*Lemna minor*	Common Duckweed	OBL	40	
C	WAT-20	low marsh	east	*Scirpus cyperinus*	Wool Grass	FACW+	27	
C	WAT-20	low marsh	east	*Smilax rotundifolia*	Greenbrier	FAC	1	
C	WAT-21	open water	center	*Lemna minor*	Common Duckweed	OBL	5	18
C	WAT-21	open water	center	*Sparganium americanum*	American Bur-reed	OBL	10	
C	WAT-21	open water	center	*Veronica catenata*	Pink Water Speedwell	OBL	1	
C	WAT-21	open water	center	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	1	
C	WAT-21	open water	center	*Carex stricta*	Tussock Sedge	OBL	1	

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Area	Transect No.	Plant Community	Location	Species	Common Name	Indicator Status	Percent Cover	Subtotal
C	WAT-21	low marsh	east	*Carex scoparia*	Broom Sedge	FACW	7	100
C	WAT-21	low marsh	east	*Vaccinium corymbosum*	Highbush Blueberry	FACW-	1	
C	WAT-21	low marsh	east	*Carex stricta*	Tussock Sedge	OBL	10	
C	WAT-21	low marsh	east	*Juncus effusus*	Soft Rush	FACW+	7	
C	WAT-21	low marsh	east	*Leersia oryzoides*	Rice Cut-grass	OBL	50	
C	WAT-21	low marsh	east	*Lemna minor*	Common Duckweed	OBL	16	
C	WAT-21	low marsh	east	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	5	
C	WAT-21	low marsh	east	*Smilax rotundifolia*	Greenbrier	FAC	3	
C	WAT-21	low marsh	east	*Thelypteris palustris*	Marsh Fern	FACW+	1	
C	WAT-22	low marsh	west	*Carex scoparia*	Broom Sedge	FACW	5	70
C	WAT-22	low marsh	west	*Smilax rotundifolia*	Greenbrier	FAC	1	
C	WAT-22	low marsh	west	*Leersia oryzoides*	Rice Cut-grass	OBL	15	
C	WAT-22	low marsh	west	*Juncus effusus*	Soft Rush	FACW+	13	
C	WAT-22	low marsh	west	*Scirpus cyperinus*	Wool Grass	FACW+	15	
C	WAT-22	low marsh	west	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	15	
C	WAT-22	low marsh	west	*Scutellaria lateriflora*	Blue Skullcap	FACW+	1	
C	WAT-22	low marsh	west	*Lemna minor*	Common Duckweed	OBL	5	
C	WAT-22	open water	center	*Lemna minor*	Common Duckweed	OBL	5	10
C	WAT-22	open water	center	*Scirpus cyperinus*	Wool Grass	FACW+	5	
C	WAT-22	low marsh island	west	*Carex scoparia*	Broom Sedge	FACW	8	93
C	WAT-22	low marsh island	west	*Leersia oryzoides*	Rice Cut-grass	OBL	50	
C	WAT-22	low marsh island	west	*Lycopus uniflorus*	Northern Bugleweed	OBL	1	
C	WAT-22	low marsh island	west	*Phragmites australis*	Common Reed	FACW	2	
C	WAT-22	low marsh island	west	*Scutellaria lateriflora*	Blue Skullcap	FACW+	2	
C	WAT-22	low marsh island	west	*Vaccinium corymbosum*	Highbush Blueberry	FACW-	30	
C	WAT-22	open water (backwater)	west	*Lemna minor*	Common Duckweed	OBL	10	10
C	WAT-22	low marsh	east	*Carex stricta*	Tussock Sedge	OBL	15	100
C	WAT-22	low marsh	east	*Smilax rotundifolia*	Greenbrier	FAC	5	
C	WAT-22	low marsh	east	*Lemna minor*	Common Duckweed	OBL	65	
C	WAT-22	low marsh	east	*Vaccinium corymbosum*	Highbush Blueberry	FACW-	15	
D - On BNL	WAT-23	low marsh	west	*Carex stricta*	Tussock Sedge	OBL	75	95
D - On BNL	WAT-23	low marsh	west	*Leucothoe racemosa*	Fetterbush	FACW	5	
D - On BNL	WAT-23	low marsh	west	*Lemna minor*	Common Duckweed	OBL	15	
D - On BNL	WAT-23	open water	center	*Lemna minor*	Common Duckweed	OBL	5	78
D - On BNL	WAT-23	open water	center	*Acer rubrum*	Red Maple	FAC	30	
D - On BNL	WAT-23	open water	center	*Leucothoe racemosa*	Fetterbush	FACW	20	
D - On BNL	WAT-23	open water	center	*Vaccinium corymbosum*	Highbush Blueberry	FACW-	10	
D - On BNL	WAT-23	open water	center	*Leersia oryzoides*	Rice Cut-grass	OBL	2	
D - On BNL	WAT-23	open water	center	*Carex stricta*	Tussock Sedge	OBL	3	
D - On BNL	WAT-23	open water	center	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	2	
D - On BNL	WAT-23	open water	center	*Carex scoparia*	Broom Sedge	FACW	1	
D - On BNL	WAT-23	open water	center	*Smilax rotundifolia*	Greenbrier	FAC	1	
D - On BNL	WAT-23	open water	center	*Juncus effusus*	Soft Rush	FACW+	3	
D - On BNL	WAT-23	open water	center	*Callitriche sp.*	Water Starwort	OBL	1	
D - On BNL	WAT-23	low marsh island	east	*Carex stricta*	Tussock Sedge	OBL	25	100
D - On BNL	WAT-23	low marsh island	east	*Vaccinium corymbosum*	Highbush Blueberry	FACW-	15	
D - On BNL	WAT-23	low marsh island	east	*Nyssa sylvatica*	Black Gum	FAC	10	

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Area	Transect No.	Plant Community	Location	Species	Common Name	Indicator Status	Percent Cover	Subtotal
D - On BNL	WAT-23	low marsh island	east	*Lemna minor*	Common Duckweed	OBL	50	
D - On BNL	WAT-23	low marsh backwater	east	*Lemna minor*	Common Duckweed	OBL	100	100
D - On BNL	WAT-23	low marsh	east	*Carex stricta*	Tussock Sedge	OBL	100	100
D - On BNL	WAT-24	low marsh	west	*Lemna minor*	Common Duckweed	OBL	20	100
D - On BNL	WAT-24	low marsh	west	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	40	
D - On BNL	WAT-24	low marsh	west	*Scirpus cyperinus*	Wool Grass	FACW+	35	
D - On BNL	WAT-24	low marsh	west	*Juncus effusus*	Soft Rush	FACW+	1	
D - On BNL	WAT-24	low marsh	west	*Smilax rotundifolia*	Greenbrier	FAC	1	
D - On BNL	WAT-24	low marsh	west	*Sparganium americanum*	American Bur-reed	OBL	3	
D - On BNL	WAT-24	open water	center	*Lemna minor*	Common Duckweed	OBL	100	100
D - On BNL	WAT-24	low marsh	east	*Carex stricta*	Tussock Sedge	OBL	25	100
D - On BNL	WAT-24	low marsh	east	*Smilax rotundifolia*	Greenbrier	FAC	1	
D - On BNL	WAT-24	low marsh	east	*Lemna minor*	Common Duckweed	OBL	30	
D - On BNL	WAT-24	low marsh	east	*Scirpus cyperinus*	Wool Grass	FACW+	19	
D - On BNL	WAT-24	low marsh	east	*Juncus effusus*	Soft Rush	FACW+	25	
D - On BNL	WAT-25	low marsh	west	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	40	95
D - On BNL	WAT-25	low marsh	west	*Ludwigia palustris*	Water-Purslane	FACW+	10	
D - On BNL	WAT-25	low marsh	west	*Juncus effusus*	Soft Rush	FACW+	40	
D - On BNL	WAT-25	low marsh	west	*Lemna minor*	Common Duckweed	OBL	5	
D - On BNL	WAT-25	open water	center	*Lemna minor*	Common Duckweed	OBL	15	33
D - On BNL	WAT-25	open water	center	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	5	
D - On BNL	WAT-25	open water	center	*Sparganium americanum*	American Bur-reed	OBL	2	
D - On BNL	WAT-25	open water	center	*Potamogeton epihydrus*	Ribbonleaf Pondweed	OBL	1	
D - On BNL	WAT-25	open water	center	*Acer rubrum*	Red Maple	FAC	10	
D - On BNL	WAT-25	low marsh	east	*Juncus effusus*	Soft Rush	FACW+	25	100
D - On BNL	WAT-25	low marsh	east	*Carex stricta*	Tussock Sedge	OBL	45	
D - On BNL	WAT-25	low marsh	east	*Leersia oryzoides*	Rice Cut-grass	OBL	3	
D - On BNL	WAT-25	low marsh	east	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	10	
D - On BNL	WAT-25	low marsh	east	*Carex lurida*	Lurid Sedge	OBL	3	
D - On BNL	WAT-25	low marsh	east	*Ludwigia palustris*	Water-Purslane	FACW+	1	
D - On BNL	WAT-25	low marsh	east	*Lemna minor*	Common Duckweed	OBL	13	
D - On BNL	WAT-26	low marsh	west	*Carex stricta*	Tussock Sedge	OBL	90	100
D - On BNL	WAT-26	low marsh	west	*Lemna minor*	Common Duckweed	OBL	5	
D - On BNL	WAT-26	low marsh	west	*Smilax rotundifolia*	Greenbrier	FAC	5	
D - On BNL	WAT-26	open water	center	*Lemna minor*	Common Duckweed	OBL	35	50
D - On BNL	WAT-26	open water	center	*Juncus canadensis*	Canadian Rush	OBL	2	
D - On BNL	WAT-26	open water	center	*Juncus effusus*	Soft Rush	FACW+	5	
D - On BNL	WAT-26	open water	center	*Ludwigia palustris*	Water-Purslane	FACW+	3	
D - On BNL	WAT-26	open water	center	*Sparganium americanum*	American Bur-reed	OBL	5	
D - On BNL	WAT-26	low marsh	east	*Lemna minor*	Common Duckweed	OBL	39	100
D - On BNL	WAT-26	low marsh	east	*Sparganium americanum*	American Bur-reed	OBL	10	
D - On BNL	WAT-26	low marsh	east	*Decodon verticillatus*	Swamp loosestrife	OBL	35	
D - On BNL	WAT-26	low marsh	east	*Eleocharis acicularis*	Needle Spikerush	OBL	10	
D - On BNL	WAT-26	low marsh	east	*Hypericum virginicum*	Marsh St. John's Wort	OBL	5	
D - On BNL	WAT-26	low marsh	east	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	1	
D - On BNL	WAT-27	low marsh	southwest	*Carex scoparia*	Broom Sedge	FACW	1	100
D - On BNL	WAT-27	low marsh	southwest	*Smilax rotundifolia*	Greenbrier	FAC	15	

Table 1. Results of the 2006 Peconic River Wetland Monitoring Field Survey

Area	Transect No.	Plant Community	Location	Species	Common Name	Indicator Status	Percent Cover	Subtotal
D - On BNL	WAT-27	low marsh	southwest	*Hypericum virginicum*	Marsh St. John's Wort	OBL	1	
D - On BNL	WAT-27	low marsh	southwest	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	10	
D - On BNL	WAT-27	low marsh	southwest	*Lemna minor*	Common Duckweed	OBL	22	
D - On BNL	WAT-27	low marsh	southwest	*Juncus effusus*	Soft Rush	FACW+	50	
D - On BNL	WAT-27	low marsh	southwest	*Erechtites hieraciifolia*	Pilewort	FACU	1	
D - On BNL	WAT-27	open water	center	*Lemna minor*	Common Duckweed	OBL	50	50
D - On BNL	WAT-27	low marsh	northeast	*Juncus effusus*	Soft Rush	FACW+	10	100
D - On BNL	WAT-27	low marsh	northeast	*Scirpus cyperinus*	Wool Grass	FACW+	8	
D - On BNL	WAT-27	low marsh	northeast	*Ludwigia palustris*	Water-Purslane	FACW+	5	
D - On BNL	WAT-27	low marsh	northeast	*Lemna minor*	Common Duckweed	OBL	62	
D - On BNL	WAT-27	low marsh	northeast	*Leersia oryzoides*	Rice Cut-grass	OBL	15	
D - On BNL	WAT-28	low marsh open water	north	*Decodon verticillatus*	Swamp loosestrife	OBL	15	100
D - On BNL	WAT-28	low marsh open water	north	*Typha latifolia*	Cattail	OBL	1	
D - On BNL	WAT-28	low marsh open water	north	*Pontederia cordata*	Pickerel weed	OBL	2	
D - On BNL	WAT-28	low marsh open water	north	*Lemna minor*	Common Duckweed	OBL	30	
D - On BNL	WAT-28	low marsh open water	north	*Nymphaea odorata*	Sweet-scented water Lily	OBL	5	
D - On BNL	WAT-28	low marsh open water	north	*Carex lurida*	Lurid Sedge	OBL	40	
D - On BNL	WAT-28	low marsh open water	north	*Ludwigia palustris*	Water-Purslane	FACW+	2	
D - On BNL	WAT-28	low marsh open water	north	*Juncus effusus*	Soft Rush	FACW+	5	
D - On BNL	WAT-28	open water	center	*Lemna minor*	Common Duckweed	OBL	82	100
D - On BNL	WAT-28	open water	center	*Sparganium americanum*	American Bur-reed	OBL	15	
D - On BNL	WAT-28	open water	center	*Ludwigia palustris*	Water-Purslane	FACW+	3	
D - On BNL	WAT-29	low marsh	northwest	*Juncus effusus*	Soft Rush	FACW+	10	100
D - On BNL	WAT-29	low marsh	northwest	*Ludwigia palustris*	Water-Purslane	FACW+	2	
D - On BNL	WAT-29	low marsh	northwest	*Lemna minor*	Common Duckweed	OBL	13	
D - On BNL	WAT-29	low marsh	northwest	*Scirpus cyperinus*	Wool Grass	FACW+	10	
D - On BNL	WAT-29	low marsh	northwest	*Pontederia cordata*	Pickerel weed	OBL	65	
D - On BNL	WAT-29	open water	center	*Lemna minor*	Common Duckweed	OBL	5	5
D - On BNL	WAT-29	low marsh	southeast	*Lemna minor*	Common Duckweed	OBL	20	100
D - On BNL	WAT-29	low marsh	southeast	*Decodon verticillatus*	Swamp loosestrife	OBL	10	
D - On BNL	WAT-29	low marsh	southeast	*Scirpus validus*	Soft-stem Bulrush	OBL	20	
D - On BNL	WAT-29	low marsh	southeast	*Ludwigia palustris*	Water-Purslane	FACW+	5	
D - On BNL	WAT-29	low marsh	southeast	*Bidins frondosa*	Devil's Beggartick	FACW	25	
D - On BNL	WAT-29	low marsh	southeast	*Sparganium americanum*	American Bur-reed	OBL	20	
D - On BNL	WAT-30	low marsh	northwest	*Carex stricta*	Tussock Sedge	OBL	25	100
D - On BNL	WAT-30	low marsh	northwest	*Juncus effusus*	Soft Rush	FACW+	20	
D - On BNL	WAT-30	low marsh	northwest	*Pontederia cordata*	Pickerel weed	OBL	25	
D - On BNL	WAT-30	low marsh	northwest	*Ludwigia palustris*	Water-Purslane	FACW+	5	
D - On BNL	WAT-30	low marsh	northwest	*Sparganium americanum*	American Bur-reed	OBL	20	
D - On BNL	WAT-30	low marsh	northwest	*Lemna minor*	Common Duckweed	OBL	5	
D - On BNL	WAT-30	open water	center	*Lemna minor*	Common Duckweed	OBL	15	15
D - On BNL	WAT-30	low marsh	southeast	*Pontederia cordata*	Pickerel weed	OBL	60	86
D - On BNL	WAT-30	low marsh	southeast	*Sparganium americanum*	American Bur-reed	OBL	15	
D - On BNL	WAT-30	low marsh	southeast	*Ludwigia palustris*	Water-Purslane	FACW+	5	
D - On BNL	WAT-30	low marsh	southeast	*Hypericum virginicum*	Marsh St. John's Wort	OBL	1	
D - On BNL	WAT-30	low marsh	southeast	*Lemna minor*	Common Duckweed	OBL	5	
D - Outside BNL	WAT-31	low marsh	east	*Lemna minor*	Common Duckweed	OBL	10	100

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Area	Transect No.	Plant Community	Location	Species	Common Name	Indicator Status	Percent Cover	Subtotal
D - Outside BNL	WAT-31	low marsh	east	*Sparganium americanum*	American Bur-reed	OBL	90	
D - Outside BNL	WAT-31	open water	center	*Sparganium americanum*	American Bur-reed	OBL	30	100
D - Outside BNL	WAT-31	open water	center	*Pontederia cordata*	Pickerel weed	OBL	10	
D - Outside BNL	WAT-31	open water	center	*Lemna minor*	Common Duckweed	OBL	60	
D - Outside BNL	WAT-31	low marsh	west	*Sparganium americanum*	American Bur-reed	OBL	79	100
D - Outside BNL	WAT-31	low marsh	west	*Lemna minor*	Common Duckweed	OBL	5	
D - Outside BNL	WAT-31	low marsh	west	*Smilax rotundifolia*	Greenbrier	FAC	1	
D - Outside BNL	WAT-31	low marsh	west	*Phalaris arundinacea*	Reed Canary Grass	FACW+	15	
D - Outside BNL	WAT-32	low marsh	north	*Sparganium americanum*	American Bur-reed	OBL	50	100
D - Outside BNL	WAT-32	low marsh	north	*Juncus effusus*	Soft Rush	FACW+	10	
D - Outside BNL	WAT-32	low marsh	north	*Lemna minor*	Common Duckweed	OBL	20	
D - Outside BNL	WAT-32	low marsh	north	*Ludwigia palustris*	Water-Purslane	FACW+	10	
D - Outside BNL	WAT-32	low marsh	north		unknown aquatic herb		10	
D - Outside BNL	WAT-32	open water	center	*Ludwigia palustris*	Water-Purslane	FACW+	7	100
D - Outside BNL	WAT-32	open water	center	*Nymphaea odorata*	Sweet-scented water Lily	OBL	28	
D - Outside BNL	WAT-32	open water	center	*Lemna minor*	Common Duckweed	OBL	40	
D - Outside BNL	WAT-32	open water	center		unknown aquatic herb		10	
D - Outside BNL	WAT-32	open water	center	*Sparganium americanum*	American Bur-reed	OBL	15	
D - Outside BNL	WAT-32	low marsh	south	*Sparganium americanum*	American Bur-reed	OBL	35	100
D - Outside BNL	WAT-32	low marsh	south	*Juncus effusus*	Soft Rush	FACW+	15	
D - Outside BNL	WAT-32	low marsh	south	*Lemna minor*	Common Duckweed	OBL	10	
D - Outside BNL	WAT-32	low marsh	south	*Phalaris arundinacea*	Reed Canary Grass	FACW+	40	
D - Outside BNL	WAT-33	low marsh	northwest	*Ludwigia palustris*	Water-Purslane	FACW+	5	100
D - Outside BNL	WAT-33	low marsh	northwest		unknown aquatic herb		5	
D - Outside BNL	WAT-33	low marsh	northwest	*Sparganium americanum*	American Bur-reed	OBL	75	
D - Outside BNL	WAT-33	low marsh	northwest	*Lemna minor*	Common Duckweed	OBL	5	
D - Outside BNL	WAT-33	low marsh	northwest	*Phalaris arundinacea*	Reed Canary Grass	FACW+	2	
D - Outside BNL	WAT-33	low marsh	northwest	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	8	
D - Outside BNL	WAT-33	open water	center	*Ludwigia palustris*	Water-Purslane	FACW+	1	65
D - Outside BNL	WAT-33	open water	center	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	1	
D - Outside BNL	WAT-33	open water	center	*Sparganium americanum*	American Bur-reed	OBL	35	
D - Outside BNL	WAT-33	open water	center	*Leersia oryzoides*	Rice Cut-grass	OBL	7	
D - Outside BNL	WAT-33	open water	center	*Lemna minor*	Common Duckweed	OBL	20	
D - Outside BNL	WAT-33	open water	center	*Callitriche sp.*	Water Starwort	OBL	1	
D - Outside BNL	WAT-33	low marsh	southeast	*Leersia oryzoides*	Rice Cut-grass	OBL	54	100
D - Outside BNL	WAT-33	low marsh	southeast		unknown aquatic herb		5	
D - Outside BNL	WAT-33	low marsh	southeast	*Phalaris arundinacea*	Reed Canary Grass	FACW+	25	
D - Outside BNL	WAT-33	low marsh	southeast	*Sparganium americanum*	American Bur-reed	OBL	5	
D - Outside BNL	WAT-33	low marsh	southeast	*Smilax rotundifolia*	Greenbrier	FAC	1	
D - Outside BNL	WAT-33	low marsh	southeast	*Lemna minor*	Common Duckweed	OBL	10	
D - Outside BNL	WAT-34	low marsh	east	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	10	100
D - Outside BNL	WAT-34	low marsh	east	*Sparganium americanum*	American Bur-reed	OBL	35	
D - Outside BNL	WAT-34	low marsh	east	*Carex scoparia*	Broom Sedge	FACW	2	
D - Outside BNL	WAT-34	low marsh	east	*Smilax rotundifolia*	Greenbrier	FAC	2	
D - Outside BNL	WAT-34	low marsh	east	*Juncus effusus*	Soft Rush	FACW+	10	
D - Outside BNL	WAT-34	low marsh	east	*Phalaris arundinacea*	Reed Canary Grass	FACW+	10	
D - Outside BNL	WAT-34	low marsh	east	*Decodon verticillatus*	Swamp loosestrife	OBL	15	

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Area	Transect No.	Plant Community	Location	Species	Common Name	Indicator Status	Percent Cover	Subtotal
D - Outside BNL	WAT-34	low marsh	east		unknown aquatic herb		8	
D - Outside BNL	WAT-34	low marsh	east	*Lemna minor*	Common Duckweed	OBL	8	
D - Outside BNL	WAT-34	open water	center	*Lemna minor*	Common Duckweed	OBL	30	73
D - Outside BNL	WAT-34	open water	center	*Sparganium americanum*	American Bur-reed	OBL	2	
D - Outside BNL	WAT-34	open water	center	*Ludwigia palustris*	Water-Purslane	FACW+	5	
D - Outside BNL	WAT-34	open water	center	*Leersia oryzoides*	Rice Cut-grass	OBL	1	
D - Outside BNL	WAT-34	open water	center	*Nymphaea odorata*	Sweet-scented water Lily	OBL	10	
D - Outside BNL	WAT-34	open water	center		unknown aquatic herb		25	
D - Outside BNL	WAT-34	low marsh	west	*Lemna minor*	Common Duckweed	OBL	5	85
D - Outside BNL	WAT-34	low marsh	west		unknown aquatic herb		10	
D - Outside BNL	WAT-34	low marsh	west	*Ludwigia palustris*	Water-Purslane	FACW+	1	
D - Outside BNL	WAT-34	low marsh	west	*Phalaris arundinacea*	Reed Canary Grass	FACW+	7	
D - Outside BNL	WAT-34	low marsh	west	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	20	
D - Outside BNL	WAT-34	low marsh	west	*Sparganium americanum*	American Bur-reed	OBL	30	
D - Outside BNL	WAT-34	low marsh	west	*Carex lurida*	Lurid Sedge	OBL	5	
D - Outside BNL	WAT-34	low marsh	west	*Scirpus cyperinus*	Wool Grass	FACW+	7	
D - Outside BNL	WAT-35	low marsh	northeast	*Phragmites australis*	Common Reed	FACW	2	100
D - Outside BNL	WAT-35	low marsh	northeast	*Hypericum virginicum*	Marsh St. John's Wort	OBL	1	
D - Outside BNL	WAT-35	low marsh	northeast	*Smilax rotundifolia*	Greenbrier	FAC	1	
D - Outside BNL	WAT-35	low marsh	northeast	*Carex lurida*	Lurid Sedge	OBL	15	
D - Outside BNL	WAT-35	low marsh	northeast	*Carex stricta*	Tussock Sedge	OBL	20	
D - Outside BNL	WAT-35	low marsh	northeast	*Leersia oryzoides*	Rice Cutgrass	OBL	57	
D - Outside BNL	WAT-35	low marsh	northeast	*Juncus effusus*	Soft Rush	FACW+	2	
D - Outside BNL	WAT-35	low marsh	northeast	*Erechtites hieraciifolia*	Pilewort	FACU	1	
D - Outside BNL	WAT-35	low marsh	northeast	*Thelypteris palustris*	Marsh Fern	FACW+	1	
D - Outside BNL	WAT-35	open water	center	*Pontederia cordata*	Pickerel weed	OBL	7	36
D - Outside BNL	WAT-35	open water	center	*Juncus effusus*	Soft Rush	FACW+	3	
D - Outside BNL	WAT-35	open water	center	*Hypericum virginicum*	Marsh St. John's Wort	OBL	1	
D - Outside BNL	WAT-35	open water	center	*Lemna minor*	Common Duckweed	OBL	5	
D - Outside BNL	WAT-35	open water	center	*Leersia oryzoides*	Rice Cutgrass	OBL	20	
D - Outside BNL	WAT-35	low marsh	southwest	*Carex lurida*	Lurid Sedge	OBL	21	100
D - Outside BNL	WAT-35	low marsh	southwest	*Carex stricta*	Tussock Sedge	OBL	15	
D - Outside BNL	WAT-35	low marsh	southwest	*Erechtites hieraciifolia*	Pilewort	FACU	1	
D - Outside BNL	WAT-35	low marsh	southwest	*Leersia oryzoides*	Rice Cutgrass	OBL	30	
D - Outside BNL	WAT-35	low marsh	southwest	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	6	
D - Outside BNL	WAT-35	low marsh	southwest	*Scutellaria lateriflora*	Blue Skullcap	FACW+	1	
D - Outside BNL	WAT-35	low marsh	southwest	*Caltha palustris*	Yellow Marsh Marigold	OBL	1	
D - Outside BNL	WAT-35	low marsh	southwest	*Leucothoe racemosa*	Fetterbush	FACW	1	
D - Outside BNL	WAT-35	low marsh	southwest		unknown grass		2	
D - Outside BNL	WAT-35	low marsh	southwest	*Lycopus uniflorus*	Northern Bugleweed	OBL	1	
D - Outside BNL	WAT-35	low marsh	southwest	*Thelypteris palustris*	Marsh Fern	FACW+	3	
D - Outside BNL	WAT-35	low marsh	southwest	*Scirpus cyperinus*	Wool Grass	FACW+	5	
D - Outside BNL	WAT-35	low marsh	southwest	*Phalaris arundinacea*	Reed Canary Grass	FACW+	4	
D - Outside BNL	WAT-35	low marsh	southwest	*Callitriche sp.*	Water Starwort	OBL	2	
D - Outside BNL	WAT-35	low marsh	southwest	*Juncus effusus*	Soft Rush	FACW+	4	
D - Outside BNL	WAT-35	low marsh	southwest	*Juncus canadensis*	Canadian Rush	OBL	3	
D - Outside BNL	WAT-35	shrub forested low marsh	northeast	*Carex lurida*	Lurid Sedge	OBL	8	100

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Area	Transect No.	Plant Community	Location	Species	Common Name	Indicator Status	Percent Cover	Subtotal
D - Outside BNL	WAT-35	shrub forested low marsh	northeast	*Carex stricta*	Tussock Sedge	OBL	15	
D - Outside BNL	WAT-35	shrub forested low marsh	northeast	*Callitriche sp.*	Water Starwort	OBL	3	
D - Outside BNL	WAT-35	shrub forested low marsh	northeast	*Lycopus uniflorus*	Northern Bugleweed	OBL	2	
D - Outside BNL	WAT-35	shrub forested low marsh	northeast	*Leersia oryzoides*	Rice Cutgrass	OBL	53	
D - Outside BNL	WAT-35	shrub forested low marsh	northeast	*Phragmites australis*	Common Reed	FACW	15	
D - Outside BNL	WAT-35	shrub forested low marsh	northeast	*Juncus effusus*	Soft Rush	FACW+	2	
D - Outside BNL	WAT-35	shrub forested low marsh	northeast	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	2	
E	WAT-36	high marsh	east	*Calamagrostis canadensis*	Blue Joint	FACW+	20	100
E	WAT-36	high marsh	east	*Carex stricta*	Tussock Sedge	OBL	10	
E	WAT-36	high marsh	east	*Hypericum virginicum*	Marsh St. John's Wort	OBL	5	
E	WAT-36	high marsh	east	*Juncus effusus*	Soft Rush	FACW+	2	
E	WAT-36	high marsh	east	*Lycopus uniflorus*	Northern Bugleweed	OBL	10	
E	WAT-36	high marsh	east	*Smilax rotundifolia*	Greenbrier	FAC	1	
E	WAT-36	high marsh	east	*Thelypteris palustris*	Marsh Fern	FACW+	16	
E	WAT-36	high marsh	east	*Acer rubrum*	Red Maple-seedlings	FAC	1	
E	WAT-36	high marsh	east	*Juncus canadensis*	Canadian Rush	OBL	5	
E	WAT-36	high marsh	east	*Leersia oryzoides*	Rice Cutgrass	OBL	30	
E	WAT-36	low marsh	east	*Carex stricta*	Tussock Sedge	OBL	5	100
E	WAT-36	low marsh	east	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	10	
E	WAT-36	low marsh	east	*Phalaris arundinacea*	Reed Canary Grass	FACW+	80	
E	WAT-36	low marsh	east	*Juncus effusus*	Soft Rush	FACW+	5	
E	WAT-36	open water	center	*Sparganium americanum*	American Bur-reed	OBL	90	100
E	WAT-36	open water	center	*Lemna minor*	Common Duckweed	OBL	5	
E	WAT-36	open water	center	*Leersia oryzoides*	Rice Cutgrass	OBL	5	
E	WAT-36	low marsh	west	*Phalaris arundinacea*	Reed Canary Grass	FACW+	15	95
E	WAT-36	low marsh	west	*Carex stricta*	Tussock Sedge	OBL	5	
E	WAT-36	low marsh	west	*Leersia oryzoides*	Rice Cutgrass	OBL	20	
E	WAT-36	low marsh	west	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	5	
E	WAT-36	low marsh	west	*Juncus effusus*	Soft Rush	FACW+	20	
E	WAT-36	low marsh	west	*Juncus canadensis*	Canadian Rush	OBL	20	
E	WAT-36	low marsh	west	*Lemna minor*	Common Duckweed	OBL	5	
E	WAT-36	low marsh	west	*Eleocharis acicularis*	Needle Spikerush	OBL	5	
E	WAT-37	high marsh/shrub-forested	east	*Calamagrostis canadensis*	Blue Joint	FACW+	23	100
E	WAT-37	high marsh/shrub-forested	east	*Phragmites australis*	Common Reed	FACW	1	
E	WAT-37	high marsh/shrub-forested	east	*Leersia oryzoides*	Rice Cutgrass	OBL	20	
E	WAT-37	high marsh/shrub-forested	east	*Clethra alnifolia*	Sweet Pepperbush	FAC+	5	
E	WAT-37	high marsh/shrub-forested	east	*Decodon verticillatus*	Swamp loosestrife	OBL	10	
E	WAT-37	high marsh/shrub-forested	east	*Hypericum virginicum*	Marsh St. John's Wort	OBL	1	
E	WAT-37	high marsh/shrub-forested	east	*Leucothoe racemosa*	Fetter-bush	FACW	5	
E	WAT-37	high marsh/shrub-forested	east	*Aronia arbutifolia*	Red Chokeberry	FACW	5	
E	WAT-37	high marsh/shrub-forested	east	*Lycopus uniflorus*	Northern Bugleweed	OBL	10	
E	WAT-37	high marsh/shrub-forested	east	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	5	
E	WAT-37	high marsh/shrub-forested	east	*Thelypteris palustris*	Marsh Fern	FACW+	10	
E	WAT-37	high marsh/shrub-forested	east	*Carex lurida*	Lurid Sedge	OBL	5	
E	WAT-37	low marsh	east	*Calamagrostis canadensis*	Blue Joint	FACW+	30	100
E	WAT-37	low marsh	east	*Decodon verticillatus*	Swamp loosestrife	OBL	10	
E	WAT-37	low marsh	east	*Juncus effusus*	Soft Rush	FACW+	15	

Table 1. Results of the 2006 Peconic River Wetland Monitoring Field Survey

Area	Transect No.	Plant Community	Location	Species	Common Name	Indicator Status	Percent Cover	Subtotal
E	WAT-37	low marsh	east	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	10	
E	WAT-37	low marsh	east	*Sparganium americanum*	American Bur-reed	OBL	5	
E	WAT-37	low marsh	east	*Eleocharis acicularis*	Needle Spikerush	OBL	5	
E	WAT-37	low marsh	east	*Lemna minor*	Common Duckweed	OBL	5	
E	WAT-37	low marsh	east		unknown aquatic herb		5	
E	WAT-37	low marsh	east	*Carex lurida*	Lurid Sedge	OBL	15	
E	WAT-37	open water	center	*Eleocharis acicularis*	Needle Spikerush	OBL	5	100
E	WAT-37	open water	center	*Lemna minor*	Common Duckweed	OBL	20	
E	WAT-37	open water	center	*Sparganium americanum*	American Bur-reed	OBL	70	
E	WAT-37	open water	center	*Leersia oryzoides*	Rice Cutgrass	OBL	5	
E	WAT-37	low marsh	west	*Calamagrostis canadensis*	Blue Joint	FACW+	35	100
E	WAT-37	low marsh	west	*Eleocharis acicularis*	Needle Spikerush	OBL	5	
E	WAT-37	low marsh	west	*Juncus canadensis*	Canadian Rush	OBL	10	
E	WAT-37	low marsh	west	*Juncus effusus*	Soft Rush	FACW+	20	
E	WAT-37	low marsh	west	*Scirpus cyperinus*	Wool Grass	FACW+	5	
E	WAT-37	low marsh	west	*Decodon verticillatus*	Swamp loosestrife	OBL	2	
E	WAT-37	low marsh	west	*Leersia oryzoides*	Rice Cutgrass	OBL	5	
E	WAT-37	low marsh	west	*Thelypteris palustris*	Marsh Fern	FACW+	5	
E	WAT-37	low marsh	west	*Lycopus uniflorus*	Northern Bugleweed	OBL	5	
E	WAT-37	low marsh	west	*Phalaris arundinacea*	Reed Canary Grass	FACW+	3	
E	WAT-37	low marsh	west	*Carex lurida*	Lurid Sedge	OBL	5	
E	WAT-38	low marsh	southeast	*Juncus effusus*	Soft Rush	FACW+	3	93
E	WAT-38	low marsh	southeast	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	20	
E	WAT-38	low marsh	southeast	*Typha latifolia*	Cattail	OBL	25	
E	WAT-38	low marsh	southeast	*Lemna minor*	Common Duckweed	OBL	2	
E	WAT-38	low marsh	southeast	*Scirpus validus*	Soft-stem Bulrush	OBL	1	
E	WAT-38	low marsh	southeast	*Carex sp.*			10	
E	WAT-38	low marsh	southeast	*Callitriche sp.*	Water Starwort	OBL	5	
E	WAT-38	low marsh	southeast	*Sparganium americanum*	American Bur-reed	OBL	2	
E	WAT-38	low marsh	southeast	*Leersia oryzoides*	Rice Cutgrass	OBL	5	
E	WAT-38	low marsh	southeast	*Decodon verticillatus*	Swamp loosestrife	OBL	5	
E	WAT-38	low marsh	southeast	*Eleocharis acicularis*	Needle Spikerush	OBL	15	
E	WAT-38	open water	center	*Sparganium americanum*	American Bur-reed	OBL	35	100
E	WAT-38	open water	center	*Lemna minor*	Common Duckweed	OBL	20	
E	WAT-38	open water	center	*Ludwigia palustris*	Water-Purslane	FACW+	20	
E	WAT-38	open water	center		unknown aquatic herb		20	
E	WAT-38	open water	center	*Leersia oryzoides*	Rice Cutgrass	OBL	5	
E	WAT-38	low marsh	northwest	*Juncus canadensis*	Canadian Rush	OBL	25	85
E	WAT-38	low marsh	northwest	*Typha latifolia*	Cattail	OBL	5	
E	WAT-38	low marsh	northwest	*Sparganium americanum*	American Bur-reed	OBL	5	
E	WAT-38	low marsh	northwest	*Leersia oryzoides*	Rice Cutgrass	OBL	10	
E	WAT-38	low marsh	northwest	*Lemna minor*	Common Duckweed	OBL	20	
E	WAT-38	low marsh	northwest	*Scirpus validus*	Soft-stem Bulrush	OBL	15	
E	WAT-38	low marsh	northwest	*Ludwigia palustris*	Water-Purslane	FACW+	5	
E	WAT-38	high marsh	northwest	*Calamagrostis canadensis*	Blue Joint	FACW+	85	100
E	WAT-38	high marsh	northwest	*Sparganium americanum*	American Bur-reed	OBL	8	
E	WAT-38	high marsh	northwest	*Carex sp.*			7	

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Area	Transect No.	Plant Community	Location	Species	Common Name	Indicator Status	Percent Cover	Subtotal
E	WAT-39	low marsh	southeast	*Phragmites australis*	Common Reed	FACW	98	100
E	WAT-39	low marsh	southeast	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	1	
E	WAT-39	low marsh	southeast	*Scutellaria lateriflora*	Blue Skullcap	FACW+	1	
E	WAT-39	open water	center	*Lemna minor*	Common Duckweed	OBL	10	95
E	WAT-39	open water	center	*Pontederia cordata*	Pickerel weed	OBL	5	
E	WAT-39	open water	center	*Sparganium americanum*	American Bur-reed	OBL	80	
E	WAT-39	low marsh	northwest	*Juncus canadensis*	Canadian Rush	OBL	69	100
E	WAT-39	low marsh	northwest	*Juncus effusus*	Soft Rush	FACW+	2	
E	WAT-39	low marsh	northwest	*Pontederia cordata*	Pickerel weed	OBL	1	
E	WAT-39	low marsh	northwest	*Typha latifolia*	Cattail	OBL	2	
E	WAT-39	low marsh	northwest	*Sparganium americanum*	American Bur-reed	OBL	10	
E	WAT-39	low marsh	northwest	*Leersia oryzoides*	Rice Cutgrass	OBL	15	
E	WAT-39	low marsh	northwest	*Phragmites australis*	Common Reed	FACW	1	
E	WAT-39	open water - northwest	northwest	*Sparganium americanum*	American Bur-reed	OBL	70	100
E	WAT-39	open water - northwest	northwest	*Lemna minor*	Common Duckweed	OBL	25	
E	WAT-39	open water - northwest	northwest	*Leersia oryzoides*	Rice Cutgrass	OBL	5	
E	WAT-39	high marsh	northwest	*Carex stricta*	Tussock Sedge	OBL	8	80
E	WAT-39	high marsh	northwest	*Hypericum virginicum*	Marsh St. John's Wort	OBL	5	
E	WAT-39	high marsh	northwest	*Juncus effusus*	Soft Rush	FACW+	5	
E	WAT-39	high marsh	northwest	*Leucothoe racemosa*	Fetter-bush	FACW	3	
E	WAT-39	high marsh	northwest	*Phragmites australis*	Common Reed	FACW	7	
E	WAT-39	high marsh	northwest	*Juncus canadensis*	Canadian Rush	OBL	5	
E	WAT-39	high marsh	northwest	*Decodon verticillatus*	Swamp loosestrife	OBL	2	
E	WAT-39	high marsh	northwest	*Lycopus uniflorus*	Northern Bugleweed	OBL	5	
E	WAT-39	high marsh	northwest	*Calamagrostis canadensis*	Blue Joint	FACW+	40	
E	WAT-40	low marsh	south	*Phragmites australis*	Common Reed	FACW	96	100
E	WAT-40	low marsh	south	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	2	
E	WAT-40	low marsh	south	*Scutellaria lateriflora*	Blue Skullcap	FACW+	2	
E	WAT-40	open water	center	*Lemna minor*	Common Duckweed	OBL	5	14
E	WAT-40	open water	center	*Sparganium americanum*	American Bur-reed	OBL	4	
E	WAT-40	open water	center	*Nymphaea odorata*	Sweet-scented water Lily	OBL	1	
E	WAT-40	open water	center		unknown aquatic herb		2	
E	WAT-40	open water	center	*Pontederia cordata*	Pickerel weed	OBL	2	
E	WAT-40	low marsh	north	*Juncus canadensis*	Canadian Rush	OBL	54	90
E	WAT-40	low marsh	north	*Phragmites australis*	Common Reed	FACW	1	
E	WAT-40	low marsh	north	*Pontederia cordata*	Pickerel weed	OBL	1	
E	WAT-40	low marsh	north	*Typha latifolia*	Cattail	OBL	2	
E	WAT-40	low marsh	north	*Ludwigia palustris*	Water-Purslane	FACW+	5	
E	WAT-40	low marsh	north		unknown aquatic herb		5	
E	WAT-40	low marsh	north	*Lemna minor*	Common Duckweed	OBL	5	
E	WAT-40	low marsh	north	*Scirpus cyperinus*	Wool Grass	FACW+	7	
E	WAT-40	low marsh	north	*Juncus effusus*	Soft Rush	FACW+	10	
E	WAT-40	high marsh	north	*Phragmites australis*	Common Reed	FACW	60	87
E	WAT-40	high marsh	north	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	5	
E	WAT-40	high marsh	north	*Juncus effusus*	Soft Rush	FACW+	5	
E	WAT-40	high marsh	north	*Carex stricta*	Tussock Sedge	OBL	5	
E	WAT-40	high marsh	north	*Carex scoparia*	Broom Sedge	FACW	2	

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Area	Transect No.	Plant Community	Location	Species	Common Name	Indicator Status	Percent Cover	Subtotal
E	WAT-40	high marsh	north	*Juncus canadensis*	Canadian Rush	OBL	5	
E	WAT-40	high marsh	north	*Lycopus uniflorus*	Northern Bugleweed	OBL	5	
E	WAT-41	high marsh	southeast	*Calamagrostis canadensis*	Blue Joint	FACW+	18	100
E	WAT-41	high marsh	southeast	*Decodon verticillatus*	Swamp loosestrife	OBL	50	
E	WAT-41	high marsh	southeast	*Juncus effusus*	Soft Rush	FACW+	13	
E	WAT-41	high marsh	southeast	*Scirpus cyperinus*	Wool Grass	FACW+	5	
E	WAT-41	high marsh	southeast	*Carex stricta*	Tussock Sedge	OBL	5	
E	WAT-41	high marsh	southeast	*Typha latifolia*	Cattail	OBL	2	
E	WAT-41	high marsh	southeast	*Leersia oryzoides*	Rice Cutgrass	OBL	7	
E	WAT-41	low marsh	southeast	*Eleocharis acicularis*	Needle Spikerush	OBL	2	95
E	WAT-41	low marsh	southeast	*Juncus canadensis*	Canadian Rush	OBL	30	
E	WAT-41	low marsh	southeast	*Juncus effusus*	Soft Rush	FACW+	11	
E	WAT-41	low marsh	southeast	*Pontederia cordata*	Pickerel weed	OBL	2	
E	WAT-41	low marsh	southeast	*Sparganium americanum*	American Bur-reed	OBL	7	
E	WAT-41	low marsh	southeast	*Typha latifolia*	Cattail	OBL	5	
E	WAT-41	low marsh	southeast	*Leersia oryzoides*	Rice Cutgrass	OBL	20	
E	WAT-41	low marsh	southeast	*Decodon verticillatus*	Swamp loosestrife	OBL	5	
E	WAT-41	low marsh	southeast	*Lemna minor*	Common Duckweed	OBL	5	
E	WAT-41	low marsh	southeast		unknown aquatic herb		5	
E	WAT-41	low marsh	southeast	*Nymphaea odorata*	Sweet-scented water Lily	OBL	3	
E	WAT-41	open water	center	*Nymphaea odorata*	Sweet-scented water Lily	OBL	10	36
E	WAT-41	open water	center	*Sparganium americanum*	American Bur-reed	OBL	10	
E	WAT-41	open water	center	*Typha latifolia*	Cattail	OBL	3	
E	WAT-41	open water	center	*Lemna minor*	Common Duckweed	OBL	5	
E	WAT-41	open water	center	*Ludwigia palustris*	Water-Purslane	FACW+	3	
E	WAT-41	open water	center	*Brasenia schreberi*	Watershield	OBL	5	
E	WAT-41	low marsh	northwest	*Juncus canadensis*	Canadian Rush	OBL	8	100
E	WAT-41	low marsh	northwest	*Leersia oryzoides*	Rice Cutgrass	OBL	5	
E	WAT-41	low marsh	northwest	*Pontederia cordata*	Pickerel weed	OBL	2	
E	WAT-41	low marsh	northwest	*Sparganium americanum*	American Bur-reed	OBL	20	
E	WAT-41	low marsh	northwest	*Typha latifolia*	Cattail	OBL	25	
E	WAT-41	low marsh	northwest	*Nymphaea odorata*	Sweet-scented water Lily	OBL	4	
E	WAT-41	low marsh	northwest	*Decodon verticillatus*	Swamp loosestrife	OBL	10	
E	WAT-41	low marsh	northwest	*Juncus effusus*	Soft Rush	FACW+	10	
E	WAT-41	low marsh	northwest	*Lemna minor*	Common Duckweed	OBL	5	
E	WAT-41	low marsh	northwest	*Ludwigia palustris*	Water-Purslane	FACW+	5	
E	WAT-41	low marsh	northwest		unknown aquatic herb		5	
E	WAT-41	low marsh	northwest	*Brasenia schreberi*	Watershield	OBL	1	
E	WAT-41	high marsh	northwest	*Calamagrostis canadensis*	Blue Joint	FACW+	60	100
E	WAT-41	high marsh	northwest	*Phragmites australis*	Common Reed	FACW	25	
E	WAT-41	high marsh	northwest	*Juncus canadensis*	Canadian Rush	OBL	10	
E	WAT-41	high marsh	northwest	*Decodon verticillatus*	Swamp loosestrife	OBL	5	
E	WAT-42	high marsh	north	*Calamagrostis canadensis*	Blue Joint	FACW+	50	100
E	WAT-42	high marsh	north	*Decodon verticillatus*	Swamp loosestrife	OBL	25	
E	WAT-42	high marsh	north	*Scirpus cyperinus*	Wool Grass	FACW+	13	
E	WAT-42	high marsh	north	*Typha latifolia*	Cattail	OBL	10	
E	WAT-42	high marsh	north	*Hypericum virginicum*	Marsh St. John's Wort	OBL	2	

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Area	Transect No.	Plant Community	Location	Species	Common Name	Indicator Status	Percent Cover	Subtotal
E	WAT-42	low marsh	north	*Calamagrostis canadensis*	Blue Joint	FACW+	5	100
E	WAT-42	low marsh	north	*Carex stricta*	Tussock Sedge	OBL	10	
E	WAT-42	low marsh	north	*Decodon verticillatus*	Swamp loosestrife	OBL	5	
E	WAT-42	low marsh	north	*Leersia oryzoides*	Rice Cutgrass	OBL	5	
E	WAT-42	low marsh	north	*Scirpus cyperinus*	Wool Grass	FACW+	40	
E	WAT-42	low marsh	north	*Hypericum virginicum*	Marsh St. John's Wort	OBL	2	
E	WAT-42	low marsh	north	*Sagittaria latifolia*	Common Arrowhead	OBL	2	
E	WAT-42	low marsh	north	*Lemna minor*	Common Duckweed	OBL	5	
E	WAT-42	low marsh	north	*Sparganium americanum*	American Bur-reed	OBL	26	
E	WAT-42	open water	center	*Lemna minor*	Common Duckweed	OBL	68	100
E	WAT-42	open water	center	*Nymphaea odorata*	Sweet-scented water Lily	OBL	2	
E	WAT-42	open water	center	*Sparganium americanum*	American Bur-reed	OBL	30	
E	WAT-42	low marsh	south	*Calamagrostis canadensis*	Blue Joint	FACW+	10	100
E	WAT-42	low marsh	south	*Decodon verticillatus*	Swamp loosestrife	OBL	5	
E	WAT-42	low marsh	south	*Leersia oryzoides*	Rice Cutgrass	OBL	15	
E	WAT-42	low marsh	south	*Scirpus cyperinus*	Wool Grass	FACW+	15	
E	WAT-42	low marsh	south	*Sparganium americanum*	American Bur-reed	OBL	15	
E	WAT-42	low marsh	south	*Typha latifolia*	Cattail	OBL	5	
E	WAT-42	low marsh	south	*Juncus effusus*	Soft Rush	FACW+	10	
E	WAT-42	low marsh	south	*Lemna minor*	Common Duckweed	OBL	10	
E	WAT-42	low marsh	south	*Carex stricta*	Tussock Sedge	OBL	10	
E	WAT-42	low marsh	south	*Eleocharis acicularis*	Needle Spikerush	OBL	5	
E	WAT-43	high marsh	north	*Leersia oryzoides*	Rice Cutgrass	OBL	15	100
E	WAT-43	high marsh	north	*Carex stricta*	Tussock Sedge	OBL	55	
E	WAT-43	high marsh	north	*Calamagrostis canadensis*	Blue Joint	FACW+	30	
E	WAT-43	low marsh	north	*Calamagrostis canadensis*	Blue Joint	FACW+	5	100
E	WAT-43	low marsh	north	*Eleocharis acicularis*	Needle Spikerush	OBL	1	
E	WAT-43	low marsh	north	*Juncus effusus*	Soft Rush	FACW+	10	
E	WAT-43	low marsh	north	*Scirpus cyperinus*	Wool Grass	FACW+	15	
E	WAT-43	low marsh	north	*Sparganium americanum*	American Bur-reed	OBL	15	
E	WAT-43	low marsh	north	*Decodon verticillatus*	Swamp loosestrife	OBL	4	
E	WAT-43	low marsh	north	*Leersia oryzoides*	Rice Cutgrass	OBL	42	
E	WAT-43	low marsh	north	*Lemna minor*	Common Duckweed	OBL	5	
E	WAT-43	low marsh	north	*Brasenia schreberi*	Watershield	OBL	1	
E	WAT-43	low marsh	north	*Carex stricta*	Tussock Sedge	OBL	2	
E	WAT-43	open water	center	*Lemna minor*	Common Duckweed	OBL	20	90
E	WAT-43	open water	center	*Nymphaea odorata*	Sweet-scented water Lily	OBL	2	
E	WAT-43	open water	center	*Sparganium americanum*	American Bur-reed	OBL	65	
E	WAT-43	open water	center	*Typha latifolia*	Cattail	OBL	2	
E	WAT-43	open water	center	*Brasenia schreberi*	Watershield	OBL	1	
E	WAT-43	low marsh	south	*Decodon verticillatus*	Swamp loosestrife	OBL	2	100
E	WAT-43	low marsh	south	*Eleocharis acicularis*	Needle Spikerush	OBL	2	
E	WAT-43	low marsh	south	*Leersia oryzoides*	Rice Cutgrass	OBL	38	
E	WAT-43	low marsh	south	*Pontederia cordata*	Pickerelweed	OBL	5	
E	WAT-43	low marsh	south	*Sparganium americanum*	American Bur-reed	OBL	15	
E	WAT-43	low marsh	south	*Typha latifolia*	Cattail	OBL	25	
E	WAT-43	low marsh	south	*Glyceria Canadensis*	Rattlesnake Mannagrass	OBL	1	

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Area	Transect No.	Plant Community	Location	Species	Common Name	Indicator Status	Percent Cover	Subtotal
E	WAT-43	low marsh	south	*Juncus effusus*	Soft Rush	FACW+	5	
E	WAT-43	low marsh	south	*Lemna minor*	Common Duckweed	OBL	5	
E	WAT-43	low marsh	south	*Peltandra virginica*	Arrow Arum	OBL	2	
E	WAT-44	low marsh	northeast	*Calamagrostis canadensis*	Blue Joint	FACW+	17	100
E	WAT-44	low marsh	northeast	*Carex stricta*	Tussock Sedge	OBL	5	
E	WAT-44	low marsh	northeast	*Clethra alnifolia*	Sweet Pepperbush	FAC+	1	
E	WAT-44	low marsh	northeast	*Decodon verticillatus*	Swamp loosestrife	OBL	1	
E	WAT-44	low marsh	northeast	*Juncus effusus*	Soft Rush	FACW+	2	
E	WAT-44	low marsh	northeast	*Scirpus cyperinus*	Wool Grass	FACW+	35	
E	WAT-44	low marsh	northeast	*Typha latifolia*	Cattail	OBL	30	
E	WAT-44	low marsh	northeast	*Leersia oryzoides*	Rice Cutgrass	OBL	5	
E	WAT-44	low marsh	northeast	*Lemna minor*	Common Duckweed	OBL	4	
E	WAT-44	open water	center	*Myriophyllum farwellii*	Farwell's Watermilifoil	OBL	5	100
E	WAT-44	open water	center	*Nymphaea odorata*	Sweet-scented water Lily	OBL	3	
E	WAT-44	open water	center	*Sparganium americanum*	American Bur-reed	OBL	85	
E	WAT-44	open water	center	*Potamogeton epihydrus*	Ribbonleaf Pondweed	OBL	2	
E	WAT-44	open water	center	*Pontederia cordata*	Pickerel weed	OBL	2	
E	WAT-44	open water	center	*Lemna minor*	Common Duckweed	OBL	3	
E	WAT-44	low marsh	southwest	*Calamagrostis canadensis*	Blue Joint	FACW+	5	92
E	WAT-44	low marsh	southwest	*Carex stricta*	Tussock Sedge	OBL	20	
E	WAT-44	low marsh	southwest	*Lycopus uniflorus*	Northern Bugleweed	OBL	2	
E	WAT-44	low marsh	southwest	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	1	
E	WAT-44	low marsh	southwest	*Pontederia cordata*	Pickerel weed	OBL	2	
E	WAT-44	low marsh	southwest	*Scirpus cyperinus*	Wool Grass	FACW+	20	
E	WAT-44	low marsh	southwest	*Sparganium americanum*	American Bur-reed	OBL	2	
E	WAT-44	low marsh	southwest	*Leersia oryzoides*	Rice Cut-grass	OBL	35	
E	WAT-44	low marsh	southwest	*Peltandra virginica*	Arrow Arum	OBL	2	
E	WAT-44	low marsh	southwest	*Decodon verticillatus*	Swamp loosestrife	OBL	3	
P	WAT-45	low marsh	east	*Carex stricta*	Tussock Sedge	OBL	20	100
P	WAT-45	low marsh	east	*Clethra alnifolia*	Sweet Pepperbush	FAC+	5	
P	WAT-45	low marsh	east	*Hypericum virginicum*	Marsh St. John's Wort	OBL	1	
P	WAT-45	low marsh	east	*Leersia oryzoides*	Rice Cut-grass	OBL	20	
P	WAT-45	low marsh	east	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	1	
P	WAT-45	low marsh	east	*Scirpus cyperinus*	Wool Grass	FACW+	20	
P	WAT-45	low marsh	east	*Sparganium americanum*	American Bur-reed	OBL	20	
P	WAT-45	low marsh	east	*Thelypteris palustris*	Marsh Fern	FACW+	8	
P	WAT-45	low marsh	east	*Juncus effusus*	Soft Rush	FACW+	3	
P	WAT-45	low marsh	east	*Callitriche sp.*	Water Starwort	OBL	2	
P	WAT-45	open water	center	*Lemna minor*	Common Duckweed	OBL	5	18
P	WAT-45	open water	center	*Myriophyllum farwellii*	Farwell's Watermilifoil	OBL	1	
P	WAT-45	open water	center	*Sparganium americanum*	American Bur-reed	OBL	5	
P	WAT-45	open water	center	*Ludwigia palustris*	Water-Purslane	FACW+	2	
P	WAT-45	open water	center	*Callitriche sp.*	Water Starwort	OBL	1	
P	WAT-45	open water	center		unknown aquatic herb		1	
P	WAT-45	open water	center	*Leersia oryzoides*	Rice Cut-grass	OBL	2	
P	WAT-45	open water	center	*Nymphaea odorata*	Sweet-scented water Lily	OBL	1	
P	WAT-45	low marsh	west	*Carex stricta*	Tussock Sedge	OBL	25	100

Table 1. Results of the 2006 Peconic River Wetland Monitoring Field Survey

Area	Transect No.	Plant Community	Location	Species	Common Name	Indicator Status	Percent Cover	Subtotal
P	WAT-45	low marsh	west	*Hypericum mutilum*	Dwarf St. John's Wort	FACW	2	
P	WAT-45	low marsh	west	*Sparganium americanum*	American Bur-reed	OBL	35	
P	WAT-45	low marsh	west	*Thelypteris palustris*	Marsh Fern	FACW+	1	
P	WAT-45	low marsh	west	*Leersia oryzoides*	Rice Cut-grass	OBL	35	
P	WAT-45	low marsh	west	*Woodwardia areolata*	Netted Chain Fern	FACW+	1	
P	WAT-45	low marsh	west	*Scutellaria lateriflora*	Blue Skullcap	FACW+	1	
P	WAT-46	low marsh	south	*Scutellaria lateriflora*	Blue Skullcap	FACW+	2	100
P	WAT-46	low marsh	south	*Carex stricta*	Tussock Sedge	OBL	15	
P	WAT-46	low marsh	south	*Toxicodendron radicans*	Poison Ivy	FAC	1	
P	WAT-46	low marsh	south	*Thelypteris palustris*	Marsh Fern	FACW+	15	
P	WAT-46	low marsh	south	*Hypericum virginicum*	Marsh St. John's Wort	OBL	2	
P	WAT-46	low marsh	south	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	1	
P	WAT-46	low marsh	south	*Sparganium americanum*	American Bur-reed	OBL	49	
P	WAT-46	low marsh	south	*Leersia oryzoides*	Rice Cut-grass	OBL	15	
P	WAT-46	open water	center	*Lemna minor*	Common Duckweed	OBL	3	100
P	WAT-46	open water	center	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	2	
P	WAT-46	open water	center	*Sparganium americanum*	American Bur-reed	OBL	61	
P	WAT-46	open water	center	*Bidens connata*	Purplestem Beggarticks	FACW+	1	
P	WAT-46	open water	center	*Ludwigia palustris*	Water-Purslane	FACW+	5	
P	WAT-46	open water	center	*Nymphaea odorata*	Sweet-scented water Lily	OBL	5	
P	WAT-46	open water	center	*Peltandra virginica*	Arrow Arum	OBL	3	
P	WAT-46	open water	center	*Thelypteris palustris*	Marsh Fern	FACW+	2	
P	WAT-46	open water	center	*Carex stricta*	Tussock Sedge	OBL	5	
P	WAT-46	open water	center	*Scutellaria lateriflora*	Blue Skullcap	FACW+	1	
P	WAT-46	open water	center	*Juncus effusus*	Soft Rush	FACW+	2	
P	WAT-46	open water	center	*Leersia oryzoides*	Rice Cut-grass	OBL	10	
P	WAT-46	low marsh	north	*Sparganium americanum*	American Bur-reed	OBL	7	95
P	WAT-46	low marsh	north	*Scirpus cyperinus*	Wool Grass	FACW+	5	
P	WAT-46	low marsh	north	*Carex stricta*	Tussock Sedge	OBL	70	
P	WAT-46	low marsh	north	*Clethra alnifolia*	Sweet Pepperbush	FAC+	8	
P	WAT-46	low marsh	north	*Lemna minor*	Common Duckweed	OBL	5	
P	WAT-47	low marsh	south	*Carex stricta*	Tussock Sedge	OBL	40	100
P	WAT-47	low marsh	south	*Sparganium americanum*	American Bur-reed	OBL	40	
P	WAT-47	low marsh	south	*Thelypteris palustris*	Marsh Fern	FACW+	20	
P	WAT-47	open water	center	*Lemna minor*	Common Duckweed	OBL	20	78
P	WAT-47	open water	center	*Sparganium americanum*	American Bur-reed	OBL	25	
P	WAT-47	open water	center	*Hypericum virginicum*	Marsh St. John's Wort	OBL	2	
P	WAT-47	open water	center	*Sagittaria latifolia*	Common Arrowhead	OBL	1	
P	WAT-47	open water	center	*Leersia oryzoides*	Rice Cut-grass	OBL	20	
P	WAT-47	open water	center	*Pontederia cordata*	Pickerel weed	OBL	3	
P	WAT-47	open water	center	*Bidens connata*	Purplestem Beggarticks	FACW+	1	
P	WAT-47	open water	center	*Carex stricta*	Tussock Sedge	OBL	5	
P	WAT-47	open water	center	*Nymphaea odorata*	Sweet-scented water Lily	OBL	1	
P	WAT-47	low marsh shrub forest	north	*Carex stricta*	Tussock Sedge	OBL	50	100
P	WAT-47	low marsh shrub forest	north	*Clethra alnifolia*	Sweet Pepperbush	FAC+	19	
P	WAT-47	low marsh shrub forest	north	*Hypericum virginicum*	Marsh St. John's Wort	OBL	2	
P	WAT-47	low marsh shrub forest	north	*Sparganium americanum*	American Bur-reed	OBL	25	

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Area	Transect No.	Plant Community	Location	Species	Common Name	Indicator Status	Percent Cover	Subtotal
P	WAT-47	low marsh shrub forest	north	*Leersia oryzoides*	Rice Cut-grass	OBL	3	
P	WAT-47	low marsh shrub forest	north	*Lycopus uniflorus*	Northern Bugleweed	OBL	1	
P	WAT-48	low marsh	northeast	*Peltandra virginica*	Arrow Arum	OBL	8	100
P	WAT-48	low marsh	northeast	*Scutellaria lateriflora*	Blue Skullcap	FACW+	2	
P	WAT-48	low marsh	northeast	*Carex stricta*	Tussock Sedge	OBL	40	
P	WAT-48	low marsh	northeast	*Sparganium americanum*	American Bur-reed	OBL	40	
P	WAT-48	low marsh	northeast	*Leersia oryzoides*	Rice Cut-grass	OBL	3	
P	WAT-48	low marsh	northeast	*Vaccinium corymbosum*	Highbush Blueberry	FACW-	7	
P	WAT-48	open water	center	*Sparganium americanum*	American Bur-reed	OBL	53	85
P	WAT-48	open water	center	*Peltandra virginica*	Arrow Arum	OBL	7	
P	WAT-48	open water	center	*Leersia oryzoides*	Rice Cut-grass	OBL	10	
P	WAT-48	open water	center	*Carex stricta*	Tussock Sedge	OBL	5	
P	WAT-48	open water	center	*Pontederia cordata*	Pickerel weed	OBL	2	
P	WAT-48	open water	center	*Juncus canadensis*	Canadian Rush	OBL	3	
P	WAT-48	open water	center	*Ludwigia palustris*	Water-Purslane	FACW+	2	
P	WAT-48	open water	center	*Callitriche sp.*	Water Starwort	OBL	2	
P	WAT-48	open water	center	*Nymphaea odorata*	Sweet-scented water Lily	OBL	1	
P	WAT-48	low marsh	southwest	*Bidens connata*	Purplestem Beggarticks	FACW+	1	100
P	WAT-48	low marsh	southwest	*Carex stricta*	Tussock Sedge	OBL	92	
P	WAT-48	low marsh	southwest	*Clethra alnifolia*	Sweet Pepperbush	FAC+	3	
P	WAT-48	low marsh	southwest	*Lycopus uniflorus*	Northern Bugleweed	OBL	2	
P	WAT-48	low marsh	southwest	*Leersia oryzoides*	Rice Cut-grass	OBL	2	
P	WAT-49	low marsh shrub forest	south	*Vaccinium corymbosum*	Highbush Blueberry	FACW-	10	73
P	WAT-49	low marsh shrub forest	south	*Carex stricta*	Tussock Sedge	OBL	50	
P	WAT-49	low marsh shrub forest	south	*Caltha palustris*	Yellow Marsh Marigold	OBL	3	
P	WAT-49	low marsh shrub forest	south	*Clethra alnifolia*	Sweet Pepperbush	FAC+	10	
P	WAT-49	open water	center		Non vegetated		0	0
P	WAT-49	low marsh	north	*Bidens connata*	Purplestem Beggarticks	FACW+	1	95
P	WAT-49	low marsh	north	*Carex stricta*	Tussock Sedge	OBL	69	
P	WAT-49	low marsh	north	*Clethra alnifolia*	Sweet Pepperbush	FAC+	10	
P	WAT-49	low marsh	north	*Vaccinium corymbosum*	Highbush Blueberry	FACW-	2	
P	WAT-49	low marsh	north	*Scirpus cyperinus*	Wool Grass	FACW+	5	
P	WAT-49	low marsh	north	*Lycopus uniflorus*	Northern Bugleweed	OBL	2	
P	WAT-49	low marsh	north	*Leersia oryzoides*	Rice Cut-grass	OBL	4	
P	WAT-49	low marsh	north	*Caltha palustris*	Yellow Marsh Marigold	OBL	1	
P	WAT-49	low marsh	north	*Galium palustre*	Common Marsh Bedstraw	OBL	1	
P	WAT-50	low marsh	southwest	*Bidens connata*	Purplestem Beggarticks	FACW+	1	100
P	WAT-50	low marsh	southwest	*Carex stricta*	Tussock Sedge	OBL	13	
P	WAT-50	low marsh	southwest	*Clethra alnifolia*	Sweet Pepperbush	FAC+	5	
P	WAT-50	low marsh	southwest	*Polygonum persicaria*	Lady's Thumb	FACW	1	
P	WAT-50	low marsh	southwest	*Sparganium americanum*	American Bur-reed	OBL	50	
P	WAT-50	low marsh	southwest	*Pontederia cordata*	Pickerel weed	OBL	5	
P	WAT-50	low marsh	southwest	*Leersia oryzoides*	Rice Cut-grass	OBL	15	
P	WAT-50	low marsh	southwest	*Peltandra virginica*	Arrow Arum	OBL	5	
P	WAT-50	low marsh	southwest	*Callitriche sp.*	Water Starwort	OBL	5	
P	WAT-50	open water	center	*Lemna minor*	Common Duckweed	OBL	5	60
P	WAT-50	open water	center	*Sparganium americanum*	American Bur-reed	OBL	40	

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Area	Transect No.	Plant Community	Location	Species	Common Name	Indicator Status	Percent Cover	Subtotal
P	WAT-50	open water	center	*Callitriche sp.*	Water Starwort	OBL	5	
P	WAT-50	open water	center	*Ludwigia palustris*	Water-Purslane	FACW+	5	
P	WAT-50	open water	center	*Potamogeton epihydrus*	Ribbonleaf Pondweed	OBL	5	
P	WAT-50	low marsh	northeast	*Carex stricta*	Tussock Sedge	OBL	5	100
P	WAT-50	low marsh	northeast	*Sparganium americanum*	American Bur-reed	OBL	50	
P	WAT-50	low marsh	northeast	*Phragmites australis*	Common Reed	FACW	3	
P	WAT-50	low marsh	northeast	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	2	
P	WAT-50	low marsh	northeast	*Polygonum persicaria*	Lady's Thumb	FACW	15	
P	WAT-50	low marsh	northeast	*Pontederia cordata*	Pickerel weed	OBL	10	
P	WAT-50	low marsh	northeast	*Leersia oryzoides*	Rice Cut-grass	OBL	5	
P	WAT-50	low marsh	northeast	*Callitriche sp.*	Water Starwort	OBL	5	
P	WAT-50	low marsh	northeast	*Ludwigia palustris*	Water-Purslane	FACW+	5	
P	WAT-51	high marsh	south	*Carex stricta*	Tussock Sedge	OBL	60	100
P	WAT-51	high marsh	south	*Sparganium americanum*	American Bur-reed	OBL	20	
P	WAT-51	high marsh	south	*Callitriche sp.*	Water Starwort	OBL	5	
P	WAT-51	high marsh	south	*Leersia oryzoides*	Rice Cut-grass	OBL	10	
P	WAT-51	high marsh	south	*Clethra alnifolia*	Sweet Pepperbush	FAC+	3	
P	WAT-51	high marsh	south	*Scutellaria lateriflora*	Blue Skullcap	FACW+	1	
P	WAT-51	high marsh	south	*Lycopus uniflorus*	Northern Bugleweed	OBL	1	
P	WAT-51	low marsh	south	*Pontederia cordata*	Pickerel weed	OBL	15	100
P	WAT-51	low marsh	south	*Sparganium americanum*	American Bur-reed	OBL	75	
P	WAT-51	low marsh	south	*Leersia oryzoides*	Rice Cut-grass	OBL	5	
P	WAT-51	low marsh	south	*Polygonum persicaria*	Lady's Thumb	FACW	1	
P	WAT-51	low marsh	south	*Ludwigia palustris*	Water-Purslane	FACW+	3	
P	WAT-51	low marsh	south	*Nymphaea odorata*	Sweet-scented water Lily	OBL	1	
P	WAT-51	open water	center	*Lemna minor*	Common Duckweed	OBL	3	35
P	WAT-51	open water	center	*Sparganium americanum*	American Bur-reed	OBL	12	
P	WAT-51	open water	center	*Myriophyllum alterniflorum*	Alternateflower Watermilifoil	OBL	3	
P	WAT-51	open water	center	*Potamogeton epihydrus*	Ribbonleaf Pondweed	OBL	10	
P	WAT-51	open water	center	*Pontederia cordata*	Pickerel weed	OBL	6	
P	WAT-51	open water	center	*Polygonum persicaria*	Lady's Thumb	FACW	1	
P	WAT-51	low marsh	north	*Carex stricta*	Tussock Sedge	OBL	35	100
P	WAT-51	low marsh	north	*Sparganium americanum*	American Bur-reed	OBL	3	
P	WAT-51	low marsh	north	*Polygonum persicaria*	Lady's Thumb	FACW	55	
P	WAT-51	low marsh	north	*Clethra alnifolia*	Sweet Pepperbush	FAC+	7	
P	WAT-52	high marsh	southeast	*Pontederia cordata*	Pickerel weed	OBL	2	100
P	WAT-52	high marsh	southeast	*Carex stricta*	Tussock Sedge	OBL	15	
P	WAT-52	high marsh	southeast	*Clethra alnifolia*	Sweet Pepperbush	FAC+	3	
P	WAT-52	high marsh	southeast	*Leersia oryzoides*	Rice Cut-grass	OBL	5	
P	WAT-52	high marsh	southeast	*Phalaris arundinacea*	Reed Canary Grass	FACW+	75	
P	WAT-52	low marsh	southeast	*Leersia oryzoides*	Rice Cutgrass	OBL	30	100
P	WAT-52	low marsh	southeast	*Pontederia cordata*	Pickerel weed	OBL	30	
P	WAT-52	low marsh	southeast	*Sparganium americanum*	American Bur-reed	OBL	30	
P	WAT-52	low marsh	southeast	*Polygonum persicaria*	Lady's Thumb	FACW	2	
P	WAT-52	low marsh	southeast	*Peltandra virginica*	Arrow Arum	OBL	5	
P	WAT-52	low marsh	southeast	*Nymphaea odorata*	Sweet-scented water Lily	OBL	3	
P	WAT-52	open water	center	*Lemna minor*	Common Duckweed	OBL	2	90

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Area	Transect No.	Plant Community	Location	Species	Common Name	Indicator Status	Percent Cover	Subtotal
P	WAT-52	open water	center	*Nymphaea odorata*	Sweet-scented water Lily	OBL	1	
P	WAT-52	open water	center	*Polygonum persicaria*	Lady's Thumb	FACW	9	
P	WAT-52	open water	center	*Sparganium americanum*	American Bur-reed	OBL	15	
P	WAT-52	open water	center	*Potamogeton epihydrus*	Ribbonleaf Pondweed	OBL	60	
P	WAT-52	open water	center	*Leersia oryzoides*	Rice Cutgrass	OBL	2	
P	WAT-52	open water	center	*Pontederia cordata*	Pickerel weed	OBL	1	
P	WAT-52	low marsh	northwest	*Leersia oryzoides*	Rice Cutgrass	OBL	20	100
P	WAT-52	low marsh	northwest	*Pontederia cordata*	Pickerel weed	OBL	15	
P	WAT-52	low marsh	northwest	*Sparganium americanum*	American Bur-reed	OBL	40	
P	WAT-52	low marsh	northwest	*Peltandra virginica*	Arrow Arum	OBL	5	
P	WAT-52	low marsh	northwest	*Typha latifolia*	Cattail	OBL	1	
P	WAT-52	low marsh	northwest	*Nymphaea odorata*	Sweet-scented water Lily	OBL	1	
P	WAT-52	low marsh	northwest	*Juncus canadensis*	Canadian Rush	OBL	5	
P	WAT-52	low marsh	northwest	*Ludwigia palustris*	Water-Purslane	FACW+	5	
P	WAT-52	low marsh	northwest	*Scirpus cyperinus*	Wool Grass	FACW+	5	
P	WAT-52	low marsh	northwest	*Polygonum persicaria*	Lady's Thumb	FACW	3	
P	WAT-52	high marsh	northwest	*Carex stricta*	Tussock Sedge	OBL	25	100
P	WAT-52	high marsh	northwest	*Clethra alnifolia*	Sweet Pepperbush	FAC+	5	
P	WAT-52	high marsh	northwest	*Thelypteris palustris*	Marsh Fern	FACW+	5	
P	WAT-52	high marsh	northwest	*Scirpus cyperinus*	Wool Grass	FACW+	65	
P	WAT-53	high marsh	east	*Carex stricta*	Tussock Sedge	OBL	25	100
P	WAT-53	high marsh	east	*Phalaris arundinacea*	Reed Canary Grass	FACW+	57	
P	WAT-53	high marsh	east	*Sparganium americanum*	American Bur-reed	OBL	2	
P	WAT-53	high marsh	east	*Thelypteris palustris*	Marsh Fern	FACW+	3	
P	WAT-53	high marsh	east	*Hypericum virginicum*	Marsh St. John's Wort	OBL	3	
P	WAT-53	high marsh	east	*Pontederia cordata*	Pickerel weed	OBL	3	
P	WAT-53	high marsh	east	*Galium palustre*	Common Marsh Bedstraw	OBL	2	
P	WAT-53	high marsh	east	*Scutellaria lateriflora*	Blue Skullcap	FACW+	5	
P	WAT-53	low marsh	east	*Carex stricta*	Tussock Sedge	OBL	5	100
P	WAT-53	low marsh	east	*Leersia oryzoides*	Rice Cutgrass	OBL	20	
P	WAT-53	low marsh	east	*Nymphaea odorata*	Sweet-scented water Lily	OBL	3	
P	WAT-53	low marsh	east	*Juncus canadensis*	Canadian Rush	OBL	10	
P	WAT-53	low marsh	east	*Dulichium arundinaceum*	Three Way Sedge	OBL	2	
P	WAT-53	low marsh	east	*Lycopus uniflorus*	Northern Bugleweed	OBL	2	
P	WAT-53	low marsh	east	*Sparganium americanum*	American Bur-reed	OBL	28	
P	WAT-53	low marsh	east	*Pontederia cordata*	Pickerel weed	OBL	15	
P	WAT-53	low marsh	east	*Ludwigia palustris*	Water-Purslane	FACW+	5	
P	WAT-53	low marsh	east	*Scirpus cyperinus*	Wool Grass	FACW+	3	
P	WAT-53	low marsh	east	*Polygonum persicaria*	Lady's Thumb	FACW	2	
P	WAT-53	low marsh	east	*Peltandra virginica*	Arrow Arum	OBL	5	
P	WAT-53	open water	center	*Lemna minor*	Common Duckweed	OBL	2	90
P	WAT-53	open water	center	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	8	
P	WAT-53	open water	center	*Polygonum persicaria*	Lady's Thumb	FACW	40	
P	WAT-53	open water	center	*Sparganium americanum*	American Bur-reed	OBL	5	
P	WAT-53	open water	center	*Pontederia cordata*	Pickerel weed	OBL	3	
P	WAT-53	open water	center	*Ludwigia palustris*	Water-Purslane	FACW+	2	
P	WAT-53	open water	center	*Potamogeton epihydrus*	Ribbonleaf Pondweed	OBL	24	

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Area	Transect No.	Plant Community	Location	Species	Common Name	Indicator Status	Percent Cover	Subtotal
P	WAT-53	open water	center	*Nymphaea odorata*	Sweet-scented water Lily	OBL	3	
P	WAT-53	open water	center	*Callitriche sp.*	Water Starwort	OBL	3	
P	WAT-53	low marsh	west	*Juncus canadensis*	Canadian Rush	OBL	10	100
P	WAT-53	low marsh	west	*Peltandra virginica*	Arrow Arum	OBL	5	
P	WAT-53	low marsh	west	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	1	
P	WAT-53	low marsh	west	*Pontederia cordata*	Pickerel weed	OBL	15	
P	WAT-53	low marsh	west	*Sparganium americanum*	American Bur-reed	OBL	2	
P	WAT-53	low marsh	west	*Typha latifolia*	Cattail	OBL	15	
P	WAT-53	low marsh	west	*Scirpus cyperinus*	Wool Grass	FACW+	15	
P	WAT-53	low marsh	west	*Leersia oryzoides*	Rice Cutgrass	OBL	30	
P	WAT-53	low marsh	west	*Juncus effusus*	Soft Rush	FACW+	1	
P	WAT-53	low marsh	west	*Polygonum persicaria*	Lady's Thumb	FACW	5	
P	WAT-53	low marsh	west	*Carex stricta*	Tussock Sedge	OBL	1	
P	WAT-54	high marsh	south	*Carex stricta*	Tussock Sedge	OBL	62	100
P	WAT-54	high marsh	south	*Clethra alnifolia*	Sweet Pepperbush	FAC+	2	
P	WAT-54	high marsh	south	*Carex lurida*	Lurid Sedge	OBL	5	
P	WAT-54	high marsh	south	*Sparganium americanum*	American Bur-reed	OBL	3	
P	WAT-54	high marsh	south	*Phragmites australis*	Common Reed	FACW	15	
P	WAT-54	high marsh	south	*Toxicodendron radicans*	Poison Ivy	FAC	4	
P	WAT-54	high marsh	south	*Thelypteris palustris*	Marsh Fern	FACW+	2	
P	WAT-54	high marsh	south	*Hypericum virginicum*	Marsh St. John's Wort	OBL	1	
P	WAT-54	high marsh	south	*Callitriche sp.*	Water Starwort	OBL	2	
P	WAT-54	high marsh	south	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	1	
P	WAT-54	high marsh	south	*Myriophyllum alterniflorum*	Alternateflower Watermilifoil	OBL	1	
P	WAT-54	high marsh	south	*Lycopus uniflorus*	Northern Bugleweed	OBL	1	
P	WAT-54	high marsh	south	*Galium palustre*	Common Marsh Bedstraw	OBL	1	
P	WAT-54	low marsh	south	*Myriophyllum alterniflorum*	Alternateflower Watermilifoil	OBL	1	100
P	WAT-54	low marsh	south	*Juncus canadensis*	Canadian Rush	OBL	20	
P	WAT-54	low marsh	south	*Typha latifolia*	Cattail	OBL	1	
P	WAT-54	low marsh	south	*Polygonum persicaria*	Lady's Thumb	FACW	10	
P	WAT-54	low marsh	south	*Sparganium americanum*	American Bur-reed	OBL	21	
P	WAT-54	low marsh	south	*Leersia oryzoides*	Rice Cutgrass	OBL	15	
P	WAT-54	low marsh	south	*Pontederia cordata*	Pickerel weed	OBL	20	
P	WAT-54	low marsh	south	*Nymphaea odorata*	Sweet-scented water Lily	OBL	7	
P	WAT-54	low marsh	south	*Ludwigia palustris*	Water-Purslane	FACW+	5	
P	WAT-54	open water	center	*Polygonum persicaria*	Lady's Thumb	FACW	45	93
P	WAT-54	open water	center	*Sparganium americanum*	American Bur-reed	OBL	15	
P	WAT-54	open water	center	*Potamogeton epihydrus*	Ribbonleaf Pondweed	OBL	20	
P	WAT-54	open water	center	*Pontederia cordata*	Pickerel weed	OBL	3	
P	WAT-54	open water	center	*Lemna minor*	Common Duckweed	OBL	2	
P	WAT-54	open water	center	*Myriophyllum alterniflorum*	Alternateflower Watermilifoil	OBL	3	
P	WAT-54	open water	center	*Ludwigia palustris*	Water-Purslane	FACW+	3	
P	WAT-54	open water	center	*Leersia oryzoides*	Rice Cutgrass	OBL	2	
P	WAT-54	low marsh	north	*Juncus canadensis*	Canadian Rush	OBL	10	100
P	WAT-54	low marsh	north	*Sparganium americanum*	American Bur-reed	OBL	47	
P	WAT-54	low marsh	north	*Myriophyllum alterniflorum*	Alternateflower Watermilifoil	OBL	1	
P	WAT-54	low marsh	north	*Polygonum persicaria*	Lady's Thumb	FACW	2	

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Area	Transect No.	Plant Community	Location	Species	Common Name	Indicator Status	Percent Cover	Subtotal
P	WAT-54	low marsh	north	*Leersia oryzoides*	Rice Cutgrass	OBL	10	
P	WAT-54	low marsh	north	*Pontederia cordata*	Pickerel weed	OBL	15	
P	WAT-54	low marsh	north	*Nymphaea odorata*	Sweet-scented water Lily	OBL	5	
P	WAT-54	low marsh	north	*Ludwigia palustris*	Water-Purslane	FACW+	10	
P	WAT-54	high marsh	north	*Carex stricta*	Tussock Sedge	OBL	65	100
P	WAT-54	high marsh	north	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	5	
P	WAT-54	high marsh	north	*Hypericum virginicum*	Marsh St. John's Wort	OBL	2	
P	WAT-54	high marsh	north	*Carex lurida*	Lurid Sedge	OBL	5	
P	WAT-54	high marsh	north	*Sparganium americanum*	American Bur-reed	OBL	16	
P	WAT-54	high marsh	north	*Cicuta bulbifera*	Bulb Bearing Water Hemlock	OBL	5	
P	WAT-54	high marsh	north	*Galium palustre*	Common Marsh Bedstraw	OBL	2	
MANOR ROAD	WAT-55	low marsh	southeast	*Bidens connata*	Purplestem Beggarticks	FACW+	1	100
MANOR ROAD	WAT-55	low marsh	southeast	*Carex stricta*	Tussock Sedge	OBL	65	
MANOR ROAD	WAT-55	low marsh	southeast	*Cicuta bulbifera*	Bulb Bearing Water Hemlock	OBL	10	
MANOR ROAD	WAT-55	low marsh	southeast	*Impatiens capensis*	Jewelweed	FACW	1	
MANOR ROAD	WAT-55	low marsh	southeast	*Thelypteris palustris*	Marsh Fern	FACW+	12	
MANOR ROAD	WAT-55	low marsh	southeast	*Sparganium americanum*	American Bur-reed	OBL	2	
MANOR ROAD	WAT-55	low marsh	southeast	*Polygonum persicaria*	Lady's Thumb	FACW	3	
MANOR ROAD	WAT-55	low marsh	southeast	*Calamagrostis canadensis*	Blue Joint	FACW+	5	
MANOR ROAD	WAT-55	low marsh	southeast	*Hypericum virginicum*	Marsh St. John's Wort	OBL	1	
MANOR ROAD	WAT-55	open water	center	*Myriophyllum alterniflorum*	Alternateflower Watermilifoil	OBL	2	50
MANOR ROAD	WAT-55	open water	center	*Ludwigia palustris*	Water-Purslane	FACW+	38	
MANOR ROAD	WAT-55	open water	center	*Polygonum persicaria*	Lady's Thumb	FACW	5	
MANOR ROAD	WAT-55	open water	center	*Leersia oryzoides*	Rice Cutgrass	OBL	2	
MANOR ROAD	WAT-55	open water	center		unknown aquatic grass		3	
MANOR ROAD	WAT-55	low marsh	northwest	*Carex stricta*	Tussock Sedge	OBL	2	100
MANOR ROAD	WAT-55	low marsh	northwest	*Cicuta bulbifera*	Bulb Bearing Water Hemlock	OBL	1	
MANOR ROAD	WAT-55	low marsh	northwest	*Myriophyllum alterniflorum*	Alternateflower Watermilifoil	OBL	5	
MANOR ROAD	WAT-55	low marsh	northwest	*Juncus canadensis*	Canadian Rush	OBL	15	
MANOR ROAD	WAT-55	low marsh	northwest	*Sparganium americanum*	American Bur-reed	OBL	25	
MANOR ROAD	WAT-55	low marsh	northwest	*Polygonum persicaria*	Lady's Thumb	FACW	10	
MANOR ROAD	WAT-55	low marsh	northwest	*Ludwigia palustris*	Water-Purslane	FACW+	40	
MANOR ROAD	WAT-55	low marsh	northwest	*Leersia oryzoides*	Rice Cutgrass	OBL	2	
MANOR ROAD	WAT-56	high marsh	southeast	*Acer rubrum*	Red Maple	FAC	3	100
MANOR ROAD	WAT-56	high marsh	southeast	*Carex stricta*	Tussock Sedge	OBL	75	
MANOR ROAD	WAT-56	high marsh	southeast	*Impatiens capensis*	Jewelweed	FACW	2	
MANOR ROAD	WAT-56	high marsh	southeast	*Sparganium americanum*	American Bur-reed	OBL	10	
MANOR ROAD	WAT-56	high marsh	southeast	*Cicuta bulbifera*	Bulb Bearing Water Hemlock	OBL	5	
MANOR ROAD	WAT-56	high marsh	southeast	*Myriophyllum alterniflorum*	Alternateflower Watermilifoil	OBL	5	
MANOR ROAD	WAT-56	low marsh	southeast	*Bidens connata*	Purplestem Beggarticks	FACW+	2	100
MANOR ROAD	WAT-56	low marsh	southeast	*Polygonum persicaria*	Lady's Thumb	FACW	10	
MANOR ROAD	WAT-56	low marsh	southeast	*Leersia oryzoides*	Rice Cutgrass	OBL	5	
MANOR ROAD	WAT-56	low marsh	southeast	*Sparganium americanum*	American Bur-reed	OBL	20	
MANOR ROAD	WAT-56	low marsh	southeast	*Pontederia cordata*	Pickerel weed	OBL	5	
MANOR ROAD	WAT-56	low marsh	southeast	*Typha latifolia*	Cattail	OBL	2	
MANOR ROAD	WAT-56	low marsh	southeast	*Hypericum virginicum*	Marsh St. John's Wort	OBL	1	
MANOR ROAD	WAT-56	low marsh	southeast	*Juncus effusus*	Soft Rush	FACW+	1	

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Area	Transect No.	Plant Community	Location	Species	Common Name	Indicator Status	Percent Cover	Subtotal
MANOR ROAD	WAT-56	low marsh	southeast	*Hypericum mutilum*	Dwarf St. John's Wort	FACW	5	
MANOR ROAD	WAT-56	low marsh	southeast	*Juncus canadensis*	Canadian Rush	OBL	15	
MANOR ROAD	WAT-56	low marsh	southeast	*Eleocharis acicularis*	Needle Spikerush	OBL	2	
MANOR ROAD	WAT-56	low marsh	southeast	*Ludwigia palustris*	Water-Purslane	FACW+	32	
MANOR ROAD	WAT-56	open water	center	*Myriophyllum alterniflorum*	Alternateflower Watermilifoil	OBL	2	60
MANOR ROAD	WAT-56	open water	center	*Juncus canadensis*	Canadian Rush	OBL	1	
MANOR ROAD	WAT-56	open water	center	*Eleocharis acicularis*	Needle Spikerush	OBL	1	
MANOR ROAD	WAT-56	open water	center	*Ludwigia palustris*	Water-Purslane	FACW+	40	
MANOR ROAD	WAT-56	open water	center	*Leersia oryzoides*	Rice Cutgrass	OBL	1	
MANOR ROAD	WAT-56	open water	center	*Sparganium americanum*	American Bur-reed	OBL	7	
MANOR ROAD	WAT-56	open water	center	*Bidens connata*	Purplestem Beggarticks	FACW+	1	
MANOR ROAD	WAT-56	open water	center		unknown aquatic grass		5	
MANOR ROAD	WAT-56	open water	center	*Cicuta bulbifera*	Bulb Bearing Water Hemlock	OBL	1	
MANOR ROAD	WAT-56	open water	center	*Nymphaea odorata*	Sweet-scented water Lily	OBL	1	
MANOR ROAD	WAT-56	low marsh	northwest	*Cicuta bulbifera*	Bulb Bearing Water Hemlock	OBL	5	100
MANOR ROAD	WAT-56	low marsh	northwest	*Carex stricta*	Tussock Sedge	OBL	3	
MANOR ROAD	WAT-56	low marsh	northwest	*Juncus canadensis*	Canadian Rush	OBL	10	
MANOR ROAD	WAT-56	low marsh	northwest	*Myriophyllum alterniflorum*	Alternateflower Watermilifoil	OBL	5	
MANOR ROAD	WAT-56	low marsh	northwest	*Sparganium americanum*	American Bur-reed	OBL	50	
MANOR ROAD	WAT-56	low marsh	northwest	*Ludwigia palustris*	Water-Purslane	FACW+	20	
MANOR ROAD	WAT-56	low marsh	northwest	*Leersia oryzoides*	Rice Cutgrass	OBL	7	
MANOR ROAD	WAT-57	low marsh	east	*Carex stricta*	Tussock Sedge	OBL	66	100
MANOR ROAD	WAT-57	low marsh	east	*Leucothoe racemosa*	Fetterbush	FACW	3	
MANOR ROAD	WAT-57	low marsh	east	*Phalaris arundinacea*	Reed Canary Grass	FACW+	7	
MANOR ROAD	WAT-57	low marsh	east	*Thelypteris palustris*	Marsh Fern	FACW+	15	
MANOR ROAD	WAT-57	low marsh	east	*Toxicodendron radicans*	Poison Ivy	FAC	1	
MANOR ROAD	WAT-57	low marsh	east	*Polygonum persicaria*	Lady's Thumb	FACW	1	
MANOR ROAD	WAT-57	low marsh	east	*Impatiens capensis*	Jewelweed	FACW	5	
MANOR ROAD	WAT-57	low marsh	east	*Cicuta bulbifera*	Bulb Bearing Water Hemlock	OBL	2	
MANOR ROAD	WAT-57	open water	center	*Myriophyllum alterniflorum*	Alternateflower Watermilifoil	OBL	5	8
MANOR ROAD	WAT-57	open water	center	*Leersia oryzoides*	Rice Cutgrass	OBL	3	
MANOR ROAD	WAT-57	low marsh	west	*Acer rubrum*	Red Maple	FAC	5	100
MANOR ROAD	WAT-57	low marsh	west	*Carex stricta*	Tussock Sedge	OBL	50	
MANOR ROAD	WAT-57	low marsh	west	*Thelypteris palustris*	Marsh Fern	FACW+	10	
MANOR ROAD	WAT-57	low marsh	west	*Toxicodendron radicans*	Poison Ivy	FAC	7	
MANOR ROAD	WAT-57	low marsh	west	*Eleocharis acicularis*	Needle Spikerush	OBL	2	
MANOR ROAD	WAT-57	low marsh	west	*Hypericum virginicum*	Marsh St. John's Wort	OBL	1	
MANOR ROAD	WAT-57	low marsh	west	*Calamagrostis canadensis*	Blue Joint	FACW+	15	
MANOR ROAD	WAT-57	low marsh	west	*Cicuta bulbifera*	Bulb Bearing Water Hemlock	OBL	8	
MANOR ROAD	WAT-57	low marsh	west	*Rosa multiflora*	Multiflora Rose	FACU	2	
MANOR ROAD	WAT-58	high marsh	east	*Phalaris arundinacea*	Reed Canary Grass	FACW+	100	100
MANOR ROAD	WAT-58	low marsh	east	*Juncus canadensis*	Canadian Rush	OBL	5	100
MANOR ROAD	WAT-58	low marsh	east	*Phalaris arundinacea*	Reed Canary Grass	FACW+	34	
MANOR ROAD	WAT-58	low marsh	east	*Sparganium americanum*	American Bur-reed	OBL	20	
MANOR ROAD	WAT-58	low marsh	east	*Scirpus cyperinus*	Wool Grass	FACW+	2	
MANOR ROAD	WAT-58	low marsh	east	*Pontederia cordata*	Pickerel weed	OBL	7	
MANOR ROAD	WAT-58	low marsh	east	*Leersia oryzoides*	Rice Cutgrass	OBL	15	

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Area	Transect No.	Plant Community	Location	Species	Common Name	Indicator Status	Percent Cover	Subtotal
MANOR ROAD	WAT-58	low marsh	east	*Juncus effusus*	Soft Rush	FACW+	2	
MANOR ROAD	WAT-58	low marsh	east	*Polygonum persicaria*	Lady's Thumb	FACW	10	
MANOR ROAD	WAT-58	low marsh	east	*Ludwigia palustris*	Water-Purslane	FACW+	5	
MANOR ROAD	WAT-58	open water	center	*Myriophyllum alterniflorum*	Alternateflower Watermilifoil	OBL	5	30
MANOR ROAD	WAT-58	open water	center	*Potamogeton epihydrus*	Ribbonleaf Pondweed	OBL	5	
MANOR ROAD	WAT-58	open water	center	*Sparganium americanum*	American Bur-reed	OBL	10	
MANOR ROAD	WAT-58	open water	center	*Phalaris arundinacea*	Reed Canary Grass	FACW+	8	
MANOR ROAD	WAT-58	open water	center	*Ludwigia palustris*	Water-Purslane	FACW+	2	
MANOR ROAD	WAT-58	low marsh	west	*Leersia oryzoides*	Rice Cut-grass	OBL	17	100
MANOR ROAD	WAT-58	low marsh	west	*Phalaris arundinacea*	Reed Canary Grass	FACW+	20	
MANOR ROAD	WAT-58	low marsh	west	*Pontederia cordata*	Pickerel weed	OBL	5	
MANOR ROAD	WAT-58	low marsh	west	*Sparganium americanum*	American Bur-reed	OBL	10	
MANOR ROAD	WAT-58	low marsh	west	*Typha latifolia*	Cattail	OBL	10	
MANOR ROAD	WAT-58	low marsh	west	*Juncus effusus*	Soft Rush	FACW+	15	
MANOR ROAD	WAT-58	low marsh	west	*Carex stricta*	Tussock Sedge	OBL	5	
MANOR ROAD	WAT-58	low marsh	west	*Polygonum persicaria*	Lady's Thumb	FACW	5	
MANOR ROAD	WAT-58	low marsh	west	*Scirpus cyperinus*	Wool Grass	FACW+	2	
MANOR ROAD	WAT-58	low marsh	west	*Hypericum virginicum*	Marsh St. John's Wort	OBL	1	
MANOR ROAD	WAT-58	low marsh	west	*Carex lurida*	Lurid Sedge	OBL	3	
MANOR ROAD	WAT-58	low marsh	west	*Sagittaria latifolia*	Common Arrowhead	OBL	5	
MANOR ROAD	WAT-58	low marsh	west	*Leucothoe racemosa*	Fetterbush	FACW	1	
MANOR ROAD	WAT-58	low marsh	west	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	1	
MANOR ROAD	WAT-59	low marsh	south	*Juncus canadensis*	Canadian Rush	OBL	3	100
MANOR ROAD	WAT-59	low marsh	south	*Phalaris arundinacea*	Reed Canary Grass	FACW+	48	
MANOR ROAD	WAT-59	low marsh	south	*Eleocharis acicularis*	Needle Spikerush	OBL	2	
MANOR ROAD	WAT-59	low marsh	south	*Hypericum mutilum*	Dwarf St. John's Wort	FACW	1	
MANOR ROAD	WAT-59	low marsh	south	*Leersia oryzoides*	Rice Cutgrass	OBL	20	
MANOR ROAD	WAT-59	low marsh	south	*Sparganium americanum*	American Bur-reed	OBL	10	
MANOR ROAD	WAT-59	low marsh	south	*Polygonum persicaria*	Lady's Thumb	FACW	8	
MANOR ROAD	WAT-59	low marsh	south	*Cicuta bulbifera*	Bulb Bearing Water Hemlock	OBL	1	
MANOR ROAD	WAT-59	low marsh	south	*Rosa multiflora*	Multiflora Rose	FACU	2	
MANOR ROAD	WAT-59	low marsh	south	*Scirpus cyperinus*	Wool Grass	FACW+	5	
MANOR ROAD	WAT-59	open water	center	*Myriophyllum alterniflorum*	Alternateflower Watermilifoil	OBL	8	55
MANOR ROAD	WAT-59	open water	center	*Phalaris arundinacea*	Reed Canary Grass	FACW+	35	
MANOR ROAD	WAT-59	open water	center	*Ludwigia palustris*	Water-Purslane	FACW+	5	
MANOR ROAD	WAT-59	open water	center	*Sparganium americanum*	American Bur-reed	OBL	5	
MANOR ROAD	WAT-59	open water	center	*Polygonum persicaria*	Lady's Thumb	FACW	2	
MANOR ROAD	WAT-59	low marsh	north	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	2	100
MANOR ROAD	WAT-59	low marsh	north	*Juncus canadensis*	Canadian Rush	OBL	5	
MANOR ROAD	WAT-59	low marsh	north	*Phalaris arundinacea*	Reed Canary Grass	FACW+	30	
MANOR ROAD	WAT-59	low marsh	north	*Sparganium americanum*	American Bur-reed	OBL	3	
MANOR ROAD	WAT-59	low marsh	north	*Scirpus cyperinus*	Wool Grass	FACW+	3	
MANOR ROAD	WAT-59	low marsh	north	*Pontederia cordata*	Pickerel weed	OBL	2	
MANOR ROAD	WAT-59	low marsh	north	*Leersia oryzoides*	Rice Cutgrass	OBL	40	
MANOR ROAD	WAT-59	low marsh	north	*Juncus effusus*	Soft Rush	FACW+	8	
MANOR ROAD	WAT-59	low marsh	north	*Polygonum persicaria*	Lady's Thumb	FACW	5	
MANOR ROAD	WAT-59	low marsh	north	*Typha latifolia*	Cattail	OBL	2	

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Area	Transect No.	Plant Community	Location	Species	Common Name	Indicator Status	Percent Cover	Subtotal
MANOR ROAD	WAT-59	high marsh	north	*Impatiens capensis*	Jewelweed	FACW	1	100
MANOR ROAD	WAT-59	high marsh	north	*Acer rubrum*	Red Maple	FAC	5	
MANOR ROAD	WAT-59	high marsh	north	*Scirpus cyperinus*	Wool Grass	FACW+	2	
MANOR ROAD	WAT-59	high marsh	north	*Clethra alnifolia*	Sweet Pepperbush	FAC+	8	
MANOR ROAD	WAT-59	high marsh	north	*Sparganium americanum*	American Bur-reed	OBL	2	
MANOR ROAD	WAT-59	high marsh	north	*Phalaris arundinacea*	Reed Canary Grass	FACW+	70	
MANOR ROAD	WAT-59	high marsh	north	*Thelypteris palustris*	Marsh Fern	FACW+	5	
MANOR ROAD	WAT-59	high marsh	north	*Vaccinium corymbosum*	Highbush Blueberry	FACW-	3	
MANOR ROAD	WAT-59	high marsh	north	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	4	
MANOR ROAD	WAT-60	low marsh	south	*Carex lurida*	Lurid Sedge	OBL	10	100
MANOR ROAD	WAT-60	low marsh	south	*Juncus canadensis*	Canadian Rush	OBL	5	
MANOR ROAD	WAT-60	low marsh	south	*Phalaris arundinacea*	Reed Canary Grass	FACW+	35	
MANOR ROAD	WAT-60	low marsh	south	*Sparganium americanum*	American Bur-reed	OBL	5	
MANOR ROAD	WAT-60	low marsh	south	*Scirpus cyperinus*	Wool Grass	FACW+	5	
MANOR ROAD	WAT-60	low marsh	south	*Sagittaria latifolia*	Common Arrowhead	OBL	5	
MANOR ROAD	WAT-60	low marsh	south	*Leersia oryzoides*	Rice Cutgrass	OBL	10	
MANOR ROAD	WAT-60	low marsh	south	*Juncus effusus*	Soft Rush	FACW+	20	
MANOR ROAD	WAT-60	low marsh	south	*Typha latifolia*	Cattail	OBL	5	
MANOR ROAD	WAT-60	open water	center	*Sparganium americanum*	American Bur-reed	OBL	4	20
MANOR ROAD	WAT-60	open water	center	*Ludwigia palustris*	Water-Purslane	FACW+	4	
MANOR ROAD	WAT-60	open water	center	*Phalaris arundinacea*	Reed Canary Grass	FACW+	4	
MANOR ROAD	WAT-60	open water	center	*Peltandra virginica*	Arrow Arum	OBL	4	
MANOR ROAD	WAT-60	open water	center	*Myriophyllum alterniflorum*	Alternateflower Watermilifoil	OBL	4	
MANOR ROAD	WAT-60	low marsh	north	*Cephalanthus occidentalis*	Buttonbush	OBL	7	100
MANOR ROAD	WAT-60	low marsh	north	*Peltandra virginica*	Arrow Arum	OBL	2	
MANOR ROAD	WAT-60	low marsh	north	*Juncus canadensis*	Canadian Rush	OBL	30	
MANOR ROAD	WAT-60	low marsh	north	*Phalaris arundinacea*	Reed Canary Grass	FACW+	15	
MANOR ROAD	WAT-60	low marsh	north	*Sparganium americanum*	American Bur-reed	OBL	24	
MANOR ROAD	WAT-60	low marsh	north	*Leersia oryzoides*	Rice Cutgrass	OBL	5	
MANOR ROAD	WAT-60	low marsh	north	*Polygonum persicaria*	Lady's Thumb	FACW	5	
MANOR ROAD	WAT-60	low marsh	north	*Nymphaea odorata*	Sweet-scented water Lily	OBL	2	
MANOR ROAD	WAT-60	low marsh	north	*Eleocharis acicularis*	Needle Spikerush	OBL	1	
MANOR ROAD	WAT-60	low marsh	north	*Scirpus cyperinus*	Wool Grass	FACW+	7	
MANOR ROAD	WAT-60	low marsh	north	*Dulichium arundinaceum*	Three Way Sedge	OBL	2	
MANOR ROAD	WAT-60	high marsh	north	*Phalaris arundinacea*	Reed Canary Grass	FACW+	80	100
MANOR ROAD	WAT-60	high marsh	north	*Ilex verticillata*	Winterberry Holly	FACW+	20	
MANOR ROAD	WAT-61	high marsh	south	*Phalaris arundinacea*	Reed Canary Grass	FACW+	100	100
MANOR ROAD	WAT-61	low marsh	south	*Juncus canadensis*	Canadian Rush	OBL	15	100
MANOR ROAD	WAT-61	low marsh	south	*Leersia oryzoides*	Rice Cut-grass	OBL	25	
MANOR ROAD	WAT-61	low marsh	south	*Phalaris arundinacea*	Reed Canary Grass	FACW+	20	
MANOR ROAD	WAT-61	low marsh	south	*Juncus effusus*	Soft Rush	FACW+	5	
MANOR ROAD	WAT-61	low marsh	south	*Scirpus cyperinus*	Wool Grass	FACW+	5	
MANOR ROAD	WAT-61	low marsh	south	*Sparganium americanum*	American Bur-reed	OBL	30	
MANOR ROAD	WAT-61	open water	center	*Juncus canadensis*	Canadian Rush	OBL	2	20
MANOR ROAD	WAT-61	open water	center	*Myriophyllum alterniflorum*	Alternateflower Watermilifoil	OBL	1	
MANOR ROAD	WAT-61	open water	center	*Phalaris arundinacea*	Reed Canary Grass	FACW+	2	
MANOR ROAD	WAT-61	open water	center	*Sparganium americanum*	American Bur-reed	OBL	2	

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Area	Transect No.	Plant Community	Location	Species	Common Name	Indicator Status	Percent Cover	Subtotal
MANOR ROAD	WAT-61	open water	center	*Leersia oryzoides*	Rice Cutgrass	OBL	7	
MANOR ROAD	WAT-61	open water	center	*Ludwigia palustris*	Water-Purslane	FACW+	6	
MANOR ROAD	WAT-61	low marsh	north	*Scirpus cyperinus*	Wool Grass	FACW+	5	100
MANOR ROAD	WAT-61	low marsh	north	*Juncus canadensis*	Canadian Rush	OBL	10	
MANOR ROAD	WAT-61	low marsh	north	*Phalaris arundinacea*	Reed Canary Grass	FACW+	20	
MANOR ROAD	WAT-61	low marsh	north	*Sparganium americanum*	American Bur-reed	OBL	15	
MANOR ROAD	WAT-61	low marsh	north	*Leersia oryzoides*	Rice Cut-grass	OBL	35	
MANOR ROAD	WAT-61	low marsh	north	*Juncus effusus*	Soft Rush	FACW+	15	
MANOR ROAD	WAT-62	high marsh	south	*Cicuta bulbifera*	Bulb Bearing Water Hemlock	OBL	5	100
MANOR ROAD	WAT-62	high marsh	south	*Ilex verticillata*	Winterberry Holly	FACW+	15	
MANOR ROAD	WAT-62	high marsh	south	*Phalaris arundinacea*	Reed Canary Grass	FACW+	80	
MANOR ROAD	WAT-62	low marsh	south	*Leersia oryzoides*	Rice Cut-grass	OBL	50	100
MANOR ROAD	WAT-62	low marsh	south	*Phalaris arundinacea*	Reed Canary Grass	FACW+	15	
MANOR ROAD	WAT-62	low marsh	south	*Sparganium americanum*	American Bur-reed	OBL	7	
MANOR ROAD	WAT-62	low marsh	south	*Juncus effusus*	Soft Rush	FACW+	10	
MANOR ROAD	WAT-62	low marsh	south	*Scirpus cyperinus*	Wool Grass	FACW+	10	
MANOR ROAD	WAT-62	low marsh	south	*Juncus canadensis*	Canadian Rush	OBL	5	
MANOR ROAD	WAT-62	low marsh	south	*Hypericum mutilum*	Dwarf St. John's Wort	FACW	1	
MANOR ROAD	WAT-62	low marsh	south	*Ludwigia palustris*	Water-Purslane	FACW+	2	
MANOR ROAD	WAT-62	open water	center	*Myriophyllum alterniflorum*	Alternateflower Watermilifoil	OBL	2	50
MANOR ROAD	WAT-62	open water	center	*Phalaris arundinacea*	Reed Canary Grass	FACW+	10	
MANOR ROAD	WAT-62	open water	center	*Ludwigia palustris*	Water-Purslane	FACW+	25	
MANOR ROAD	WAT-62	open water	center	*Leersia oryzoides*	Rice Cut-grass	OBL	10	
MANOR ROAD	WAT-62	open water	center	*Sparganium americanum*	American Bur-reed	OBL	3	
MANOR ROAD	WAT-62	low marsh	north	*Juncus canadensis*	Canadian Rush	OBL	5	100
MANOR ROAD	WAT-62	low marsh	north	*Phalaris arundinacea*	Reed Canary Grass	FACW+	20	
MANOR ROAD	WAT-62	low marsh	north	*Sparganium americanum*	American Bur-reed	OBL	40	
MANOR ROAD	WAT-62	low marsh	north	*Scirpus cyperinus*	Wool Grass	FACW+	10	
MANOR ROAD	WAT-62	low marsh	north	*Peltandra virginica*	Arrow Arum	OBL	2	
MANOR ROAD	WAT-62	low marsh	north	*Leersia oryzoides*	Rice Cutgrass	OBL	18	
MANOR ROAD	WAT-62	low marsh	north	*Juncus effusus*	Soft Rush	FACW+	5	
MANOR ROAD	WAT-62	high marsh	north	*Phalaris arundinacea*	Reed Canary Grass	FACW+	95	100
MANOR ROAD	WAT-62	high marsh	north	*Sparganium americanum*	American Bur-reed	OBL	5	
MANOR ROAD	WAT-63	high marsh	southwest	*Carex stricta*	Tussock Sedge	OBL	8	100
MANOR ROAD	WAT-63	high marsh	southwest	*Clethra alnifolia*	Sweet Pepperbush	FAC+	5	
MANOR ROAD	WAT-63	high marsh	southwest	*Phalaris arundinacea*	Reed Canary Grass	FACW+	77	
MANOR ROAD	WAT-63	high marsh	southwest	*Hypericum virginicum*	Marsh St. John's Wort	OBL	5	
MANOR ROAD	WAT-63	high marsh	southwest	*Ilex verticillata*	Winterberry Holly	FACW+	5	
MANOR ROAD	WAT-63	low marsh	southwest	*Lycopus uniflorus*	Northern Bugleweed	OBL	2	100
MANOR ROAD	WAT-63	low marsh	southwest	*Juncus canadensis*	Canadian Rush	OBL	25	
MANOR ROAD	WAT-63	low marsh	southwest	*Sparganium americanum*	American Bur-reed	OBL	25	
MANOR ROAD	WAT-63	low marsh	southwest	*Ludwigia palustris*	Water-Purslane	FACW+	8	
MANOR ROAD	WAT-63	low marsh	southwest	*Scirpus cyperinus*	Wool Grass	FACW+	5	
MANOR ROAD	WAT-63	low marsh	southwest	*Peltandra virginica*	Arrow Arum	OBL	5	
MANOR ROAD	WAT-63	low marsh	southwest	*Leersia oryzoides*	Rice Cutgrass	OBL	15	
MANOR ROAD	WAT-63	low marsh	southwest	*Juncus effusus*	Soft Rush	FACW+	5	
MANOR ROAD	WAT-63	low marsh	southwest	*Phalaris arundinacea*	Reed Canary Grass	FACW+	10	

Table 1. Results of the 2006 Peconic River Wetland Monitoring Field Survey

Area	Transect No.	Plant Community	Location	Species	Common Name	Indicator Status	Percent Cover	Subtotal
MANOR ROAD	WAT-63	open water	center	*Myriophyllum alterniflorum*	Alternateflower Watermilifoil	OBL	2	20
MANOR ROAD	WAT-63	open water	center	*Phalaris arundinacea*	Reed Canary Grass	FACW+	1	
MANOR ROAD	WAT-63	open water	center	*Ludwigia palustris*	Water-Purslane	FACW+	9	
MANOR ROAD	WAT-63	open water	center	*Leersia oryzoides*	Rice Cutgrass	OBL	4	
MANOR ROAD	WAT-63	open water	center	*Bidens frondosa*	Devil's Beggartick	FACW	1	
MANOR ROAD	WAT-63	open water	center	*Toxicodendron radicans*	Poison Ivy	FAC	1	
MANOR ROAD	WAT-63	open water	center		unknown aquatic grass		2	
MANOR ROAD	WAT-63	low marsh	northeast	*Leersia oryzoides*	Rice Cut-grass	OBL	45	100
MANOR ROAD	WAT-63	low marsh	northeast	*Phalaris arundinacea*	Reed Canary Grass	FACW+	3	
MANOR ROAD	WAT-63	low marsh	northeast	*Sparganium americanum*	American Bur-reed	OBL	45	
MANOR ROAD	WAT-63	low marsh	northeast	*Polygonum persicaria*	Lady's Thumb	FACW	2	
MANOR ROAD	WAT-63	low marsh	northeast	*Juncus effusus*	Soft Rush	FACW+	5	
MANOR ROAD	WAT-64	open water	center	*Clethra alnifolia*	Sweet Pepperbush	FAC+	10	10

OBL - obligate
FACW - facultative wetland
FAC - facultative
Bold- Low Marsh vegetation under 65 % cover

Table 2. Summary the 2006 Monitoring Survey Dominant Herbaceous Species Percent Cover (excluding *Lemna minor*)

AREA A	Scientific Name	Common Name	Indicator Status	Percent Cover
Low Marsh	*Carex stricta*	Tussock Sedge	OBL	20
	Leersia oryzoides	Rice Cut-grass	OBL	5
	Juncus effusus	Soft Rush	FACW+	25
	Lycopus uniflorus	Northern Bugleweed	OBL	10
	Thelypteris palustris	Marsh Fern	FACW+	7
	Miscellaneous species each contributing less than 5% cover			33
		Total Percent Cover		**100**
Open Water	*Sparganium americanum*	American Bur-reed	OBL	20
	Miscellaneous species each contributing less than 5% cover			10
		Total Percent Cover		**30**

OBL - obligate
FACW - facultative wetland
FAC - facultative

Table 2. Summary the 2006 Monitoring Survey Dominant Herbaceous Species Percent Cover (excluding *Lemna minor*)

AREA B	Scientific Name	Common Name	Indicator Status	Percent Cover
Low Marsh	*Carex stricta*	Tussock Sedge	OBL	28
	Juncus canadensis	Canadian Rush	OBL	7
	Juncus effusus	Soft Rush	FACW+	15
	Leersia oryzoides	Rice Cut-grass	OBL	14
	Polygonum hydropiperoides	Mild Water-pepper	OBL	6
	Thelypteris palustris	Marsh Fern	FACW+	15
	Miscellaneous species each contributing less than 5% cover			15
		Total Percent Cover		**100**
Open Water	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	20
	Sparganium americanum	American Bur-reed	OBL	36
	Leersia oryzoides	Rice Cut-grass	OBL	8
	Miscellaneous species each contributing less than 5% cover			8
		Total Percent Cover		**72**
High Marsh	*Carex stricta*	Tussock Sedge	OBL	50
	Clethra alnifolia	Sweet Pepperbush	FAC+	35
	Bidens frondosa	Devil's Beggartick	FACW	5
	Smilax rotundifolia	Greenbrier	FAC	5
	Miscellaneous species each contributing less than 5% cover			5
		Total Percent Cover		**100**

OBL - obligate
FACW - facultative wetland
FAC - facultative

Table 2. Summary the 2006 Monitoring Survey Dominant Herbaceous Species Percent Cover (excluding *Lemna minor*)

AREA C	Scientific Name	Common Name	Indicator Status	Percent Cover
Low Marsh	*Carex stricta*	Tussock Sedge	OBL	18
	Juncus effusus	Soft Rush	FACW+	6
	Leersia oryzoides	Rice Cut-grass	OBL	10
	Polygonum hydropiperoides	Mild Water-pepper	OBL	11
	Scirpus cyperinus	Wool Grass	FACW+	17
	Miscellaneous species each contributing less than 5% cover			18
		Total Percent Cover		**80**
Open Water	Miscellaneous species each contributing less than 5% cover			4
		Total Percent Cover		**4**

OBL - obligate
FACW - facultative wetland
FAC - facultative

Table 2. Summary the 2006 Monitoring Survey Dominant Herbaceous Species Percent Cover (excluding *Lemna minor*)

AREA D On BNL Property	Scientific Name	Common Name	Indicator Status	Percent Cover
Low Marsh	*Carex stricta*	Tussock Sedge	OBL	26
	Juncus effusus	Soft Rush	FACW+	12
	Polygonum hydropiperoides	Mild Water-pepper	OBL	7
	Pontederia cordata	Pickerel weed	OBL	10
	Scirpus cyperinus	Wool Grass	FACW+	5
	Sparganium americanum	American Bur-reed	OBL	5
	Miscellaneous species each contributing less than 5% cover			14
		Total Percent Cover		**79**
Open Water	Miscellaneous species each contributing less than 5% cover			19
		Total Percent Cover		**19**

OBL - obligate
FACW - facultative wetland
FAC - facultative

Table 2. Summary the 2006 Monitoring Survey Dominant Herbaceous Species Percent Cover (excluding *Lemna minor*)

AREA D Outside BNL Property	Scientific Name	Common Name	Indicator Status	Percent Cover
Low Marsh	*Polygonum hydropiperoides*	Mild Water-pepper	OBL	5
	Leersia oryzoides	Rice Cutgrass	OBL	7
	Phalaris arundinacea	Reed Canary Grass	FACW+	12
	Sparganium americanum	American Bur-reed	OBL	50
		unknown aquatic herb		5
	Miscellaneous species each contributing less than 5% cover			10
		Total Percent Cover		**89**
Open Water	*Nymphaea odorata*	Sweet-scented water Lily	OBL	10
	Sparganium americanum	American Bur-reed	OBL	21
		unknown aquatic herb	OBL	9
	Miscellaneous species each contributing less than 5% cover			8
		Total Percent Cover		**48**

OBL - obligate
FACW - facultative wetland
FAC - facultative

Table 2. Summary the 2006 Monitoring Survey Dominant Herbaceous Species Percent Cover (excluding *Lemna minor*)

AREA E	Scientific Name	Common Name	Indicator Status	Percent Cover
Low Marsh	*Calamagrostis canadensis*	Blue Joint	FACW+	8
	Juncus canadensis	Canadian Rush	OBL	15
	Juncus effusus	Soft Rush	FACW+	7
	Leersia oryzoides	Rice Cutgrass	OBL	15
	Scirpus cyperinus	Wool Grass	FACW+	11
	Sparganium americanum	American Bur-reed	OBL	9
	Typha latifolia	Cattail	OBL	8
	Miscellaneous species each contributing less than 5% cover			19
		Total Percent Cover		**92**
Open Water	*Sparganium americanum*	American Bur-reed	OBL	50
	Miscellaneous species each contributing less than 5% cover			12
		Total Percent Cover		**62**
High Marsh	*Calamagrostis canadensis*	Blue Joint	FACW+	38
	Carex stricta	Tussock Sedge	OBL	9
	Decodon verticillatus	Swamp loosestrife	OBL	12
	Leersia oryzoides	Rice Cutgrass	OBL	5
	Phragmites australis	Common Reed	FACW	12
	Miscellaneous species each contributing less than 5% cover			20
		Total Percent Cover		**96**

OBL - obligate
FACW - facultative wetland
FAC - facultative

Table 2. Summary the 2006 Monitoring Survey Dominant Herbaceous Species Percent Cover (excluding *Lemna minor*)

AREA P	Scientific Name	Common Name	Indicator Status	Percent Cover
Low Marsh	*Carex stricta*	Tussock Sedge	OBL	25
	Leersia oryzoides	Rice Cutgrass	OBL	11
	Pontederia cordata	Pickerel weed	OBL	9
	Sparganium americanum	American Bur-reed	OBL	30
	Miscellaneous species each contributing less than 5% cover			23
		Total Percent Cover		**98**
Open Water	*Leersia oryzoides*	Rice Cutgrass	OBL	5
	Polygonum persicaria	Lady's Thumb	FACW	11
	Potamogeton epihydrus	Ribbonleaf Pondweed	OBL	13
	Sparganium americanum	American Bur-reed	OBL	25
	Miscellaneous species each contributing less than 5% cover			16
		Total Percent Cover		**70**
High Marsh	*Carex stricta*	Tussock Sedge	OBL	42
	Phalaris arundinacea	Reed Canary Grass	FACW+	22
	Scirpus cyperinus	Wool Grass	FACW+	11
	Sparganium americanum	American Bur-reed	OBL	7
	Miscellaneous species each contributing less than 5% cover			18
		Total Percent Cover		**100**

OBL - obligate
FACW - facultative wetland
FAC - facultative

Table 2. Summary the 2006 Monitoring Survey Dominant Herbaceous Species Percent Cover (excluding *Lemna minor*)

MANOR ROAD	Scientific Name	Common Name	Indicator Status	Percent Cover
Low Marsh	*Carex stricta*	Tussock Sedge	OBL	6
	Juncus canadensis	Canadian Rush	OBL	9
	Juncus effusus	Soft Rush	FACW+	5
	Leersia oryzoides	Rice Cutgrass	OBL	17
	Ludwigia palustris	Water-Purslane	FACW+	9
	Phalaris arundinacea	Reed Canary Grass	FACW+	11
	Sparganium americanum	American Bur-reed	OBL	23
	Miscellaneous species each contributing less than 5% cover			20
		Total Percent Cover		**100**
Open Water	*Ludwigia palustris*	Water-Purslane	FACW+	13
	Phalaris arundinacea	Reed Canary Grass	FACW+	6
	Miscellaneous species each contributing less than 5% cover			13
		Total Percent Cover		**32**
High Marsh	*Carex stricta*	Tussock Sedge	OBL	19
	Ilex verticillata	Winterberry Holly	FACW+	5
	Phalaris arundinacea	Reed Canary Grass	FACW+	61
	Miscellaneous species each contributing less than 5% cover			15
		Total Percent Cover		**100**

OBL - obligate
FACW - facultative wetland
FAC - facultative

Table 3. Summary of Surface Water Depths by Area (2005 and 2006 Monitoring Surveys)

On-Site Restored Area	2005 open water depth (inches)	2006 open water depth (inches)	2005 low marsh depth (inches)	2006 low marsh depth (inches)
Area A	20.1	27.8	6.7	5.8
Area B	6.0	19.7	2.9	6.2
Area C	21.8	45.4	0.8	10.9
Area D On BNL Property	14.6	52.6	1.2	18.0
Average On BNL Property	**17.9**	**39.3**	**2.6**	**11.2**

Off-Site Restored Area	2005 open water depth (inches)	2006 open water depth (inches)	2005 low marsh depth (inches)	2006 low marsh depth (inches)
Area D Outside BNL Property	2.0	29.8	0.2	9.0
Area E	12.7	34.5	1.5	11.4
Area P	10.8	29.0	1.7	14.9
Manor Road	24.0	42.3	3.4	20.9
Average Outside BNL Property	**13.9**	**34.5**	**1.9**	**14.7**

Overall Percent Cover for Peconic River Restoration	**15.9**	**36.9**	**2.2**	**13.1**

Table 4. Summary of the 2006 Monitoring Survey Low Marsh Vegetation Percent Cover by Area

On-Site Restored Area	Low Marsh Percent Cover	NYSDEC Permit Equivalency
Area A	100	65
Area B	100	65
Area C	80	65
Area D On BNL Property	79	65
Average On BNL Property	**90**	

Off-Site Restored Area	Low Marsh Percent Cover	NYSDEC Permit Equivalency
Area D Outside BNL Property	89	65
Area E	92	65
Area P	98	65
Manor Road	100	65
Average Outside BNL Property	**95**	

Overall Percent Cover for Peconic River Restoration	**92**

Table 5. Summary of the 2006 Monitoring Survey Invasive Species Percent Cover

Area	Transect No.	Plant Community	Location	Species	Common Name	Indicator Status	Percent Cover
A	WAT-7	low marsh	north	*Smilax rotundifolia*	Greenbrier	FAC	1
A	WAT-8	low marsh	west	*Smilax rotundifolia*	Greenbrier	FAC	1
A	WAT-9	low marsh	north	*Smilax rotundifolia*	Greenbrier	FAC	5
A	WAT-10	low marsh	east	*Smilax rotundifolia*	Greenbrier	FAC	2
B	WAT-12	high marsh	east	*Smilax rotundifolia*	Greenbrier	FAC	5
B	WAT-12	high marsh	east	*Toxicodendron radicans*	Poison Ivy	FAC	3
B	WAT-12	low marsh	west	*Smilax rotundifolia*	Greenbrier	FAC	3
B	WAT-12	low marsh	east	*Smilax rotundifolia*	Greenbrier	FAC	2
C	WAT-16	low marsh	northeast	*Phragmites australis*	Common Reed	FACW	7
C	WAT-20	low marsh	east	*Smilax rotundifolia*	Greenbrier	FAC	1
C	WAT-21	low marsh	east	*Smilax rotundifolia*	Greenbrier	FAC	3
C	WAT-21	open water	center	*Phragmites australis*	Common Reed	FACW	1
C	WAT-22	low marsh	west	*Smilax rotundifolia*	Greenbrier	FAC	1
C	WAT-22	low marsh	east	*Smilax rotundifolia*	Greenbrier	FAC	5
D - On BNL	WAT-24	low marsh	west	*Smilax rotundifolia*	Greenbrier	FAC	1
D - On BNL	WAT-24	low marsh	east	*Smilax rotundifolia*	Greenbrier	FAC	1
D - On BNL	WAT-26	low marsh	west	*Smilax rotundifolia*	Greenbrier	FAC	5
D - On BNL	WAT-27	low marsh	southwest	*Smilax rotundifolia*	Greenbrier	FAC	15
D - Outside BNL	WAT-31	low marsh	west	*Phalaris arundinacea*	Reed Canary Grass	FACW+	15
D - Outside BNL	WAT-31	low marsh	west	*Smilax rotundifolia*	Greenbrier	FAC	1
D - Outside BNL	WAT-32	low marsh	south	*Phalaris arundinacea*	Reed Canary Grass	FACW+	40
D - Outside BNL	WAT-33	low marsh	northwest	*Phalaris arundinacea*	Reed Canary Grass	FACW+	2
D - Outside BNL	WAT-33	low marsh	southeast	*Phalaris arundinacea*	Reed Canary Grass	FACW+	25
D - Outside BNL	WAT-33	low marsh	southeast	*Smilax rotundifolia*	Greenbrier	FAC	1
D - Outside BNL	WAT-34	low marsh	east	*Phalaris arundinacea*	Reed Canary Grass	FACW+	10
D - Outside BNL	WAT-34	low marsh	west	*Phalaris arundinacea*	Reed Canary Grass	FACW+	7
D - Outside BNL	WAT-34	low marsh	east	*Smilax rotundifolia*	Greenbrier	FAC	2
E	WAT-39	low marsh	northwest	*Phragmites australis*	Common Reed	FACW	1
E	WAT-40	low marsh	north	*Phragmites australis*	Common Reed	FACW	1
P	WAT-50	low marsh	northeast	*Phragmites australis*	Common Reed	FACW	3
MANOR ROAD	WAT-57	low marsh	west	*Rosa multiflora*	Multiflora Rose	FACU	2
MANOR ROAD	WAT-57	low marsh	west	*Toxicodendron radicans*	Poison Ivy	FAC	7
MANOR ROAD	WAT-58	low marsh	west	*Phalaris arundinacea*	Reed Canary Grass	FACW+	20
MANOR ROAD	WAT-58	open water	center	*Phalaris arundinacea*	Reed Canary Grass	FACW+	8
MANOR ROAD	WAT-59	low marsh	north	*Phalaris arundinacea*	Reed Canary Grass	FACW+	30
MANOR ROAD	WAT-59	open water	center	*Phalaris arundinacea*	Reed Canary Grass	FACW+	35
MANOR ROAD	WAT-60	low marsh	north	*Phalaris arundinacea*	Reed Canary Grass	FACW+	15
MANOR ROAD	WAT-60	open water	center	*Phalaris arundinacea*	Reed Canary Grass	FACW+	4
MANOR ROAD	WAT-61	open water	center	*Phalaris arundinacea*	Reed Canary Grass	FACW+	2
MANOR ROAD	WAT-61	low marsh	north	*Phalaris arundinacea*	Reed Canary Grass	FACW+	20
MANOR ROAD	WAT-62	low marsh	north	*Phalaris arundinacea*	Reed Canary Grass	FACW+	20
MANOR ROAD	WAT-62	open water	center	*Phalaris arundinacea*	Reed Canary Grass	FACW+	10
MANOR ROAD	WAT-63	low marsh	northeast	*Phalaris arundinacea*	Reed Canary Grass	FACW+	3
MANOR ROAD	WAT-63	open water	center	*Phalaris arundinacea*	Reed Canary Grass	FACW+	1
MANOR ROAD	WAT-63	open water	center	*Toxicodendron radicans*	Poison Ivy	FAC	1

Table 6. Summary of Wetland Invasive Species Percent Cover within Open Water and Low Marsh Restoration Areas

Restored Area On BNL Property	2006 Open Water percent cover	2006 Low Marsh Percent Cover	Combined Percent Cover for *P. australis* and *L. salicaria* in open water and low marsh	NYSDEC required percent cover
Area A				
Common Reed (Phragmites australis)	0	0	0	< 10%
Purple loosestrife (Lythrum salicaria)	0	0		
Area B				
Common Reed (Phragmites australis)	0	0	0	< 10%
Purple loosestrife (Lythrum salicaria)	0	0		
Area C				
Common Reed (Phragmites australis)	< 1	< 1	< 1	< 10%
Purple loosestrife (Lythrum salicaria)	0	0		
Area D On BNL Property				
Common Reed (Phragmites australis)	0	0	0	< 10%
Purple loosestrife (Lythrum salicaria)	0	0		
Average On BNL Property	< 1	< 1	< 1	

Restored Area Outside BNL Property	2006 Open Water percent cover	2006 Low Marsh Percent Cover	Combined Percent Cover for *P. australis* and *L. salicaria* in open water and low marsh	NYSDEC required percent cover
Area D Outside BNL Property				
Common Reed (Phragmites australis)	0	0	0	< 10%
Purple loosestrife (Lythrum salicaria)	0	0		
Area E				
Common Reed (Phragmites australis)	0	< 1	< 1	< 10%
Purple loosestrife (Lythrum salicaria)	0	0		
Area P				
Common Reed (Phragmites australis)	0	< 1	< 1	< 10%
Purple loosestrife (Lythrum salicaria)	0	0		
Manor Road				
Common Reed (Phragmites australis)	0	0	0	< 10%
Purple loosestrife (Lythrum salicaria)	0	0		
Average Outside BNL Property	0	< 1	< 1	
Overall Percent Cover for Peconic River Restoration Areas	< 1	< 1	< 1	

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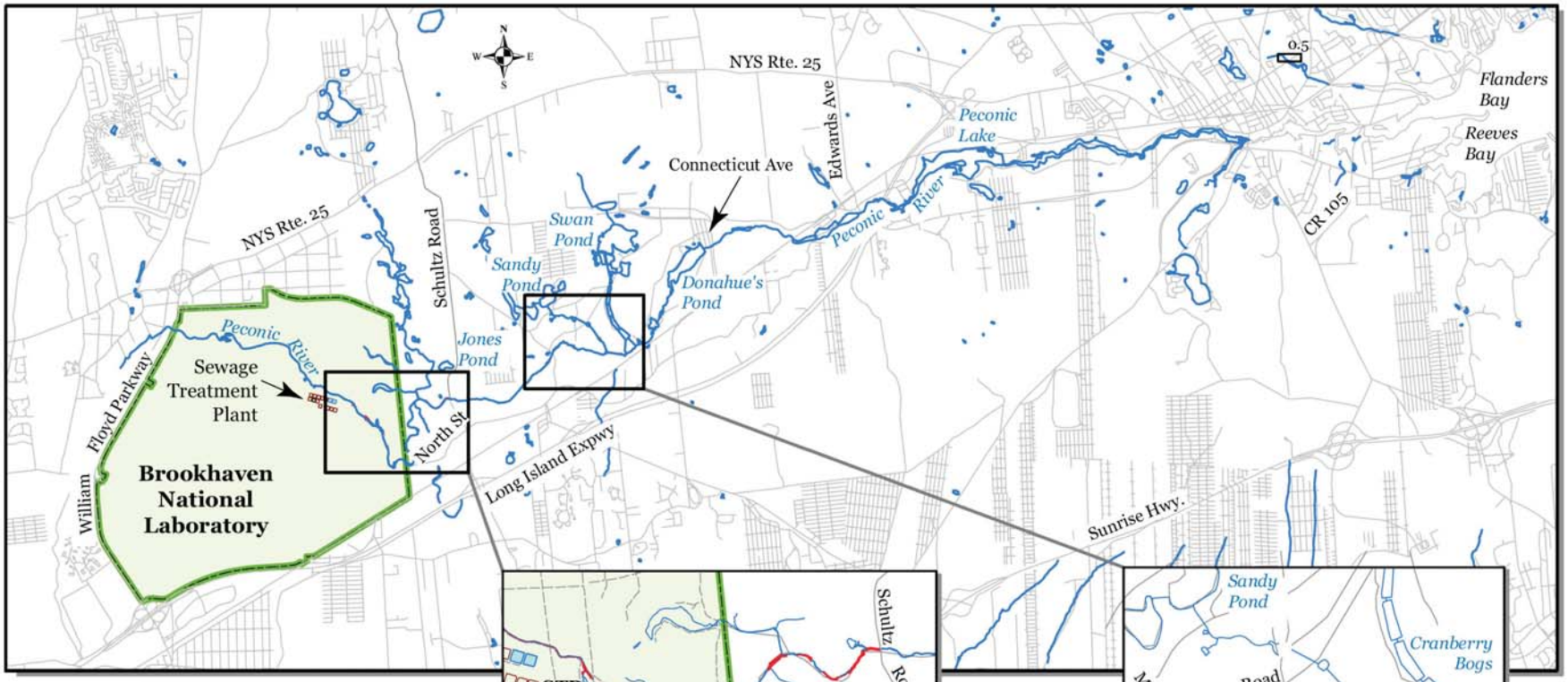
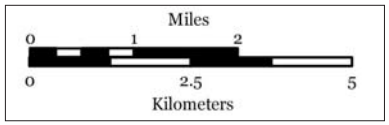
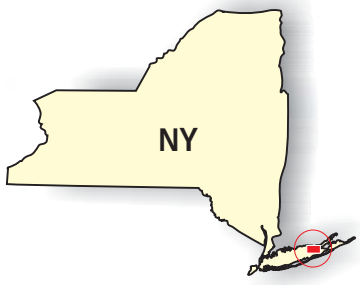




REFERENCE SCALE FOR MAIN MAP ONLY

Legend

- Paved Roads
- Unpaved Roads/Firebreaks
- Surface Water
- Remediation Areas
- Boundary



MAP SOURCE:
BROOKHAVEN NATIONAL LABORATORY

Title:

SITE LOCATION MAP

Prepared for:
BROOKHAVEN NATIONAL LABORATORY
UPTON, NEW YORK

ROUX ASSOCIATES, INC.
Environmental Consulting & Management

Compiled by: K.H.S	Date: 03NOV06	FIGURE
Prepared by: B.H.C.	Scale: AS SHOWN	1
Project Mgr.: K.H.S	Office: NY	
File No.: BRO0112502.CDR	Project No.: 74401Y05	

APPENDIX A

Area A Transect Photographs

WAT-1: South facing North

WAT-2: South facing North

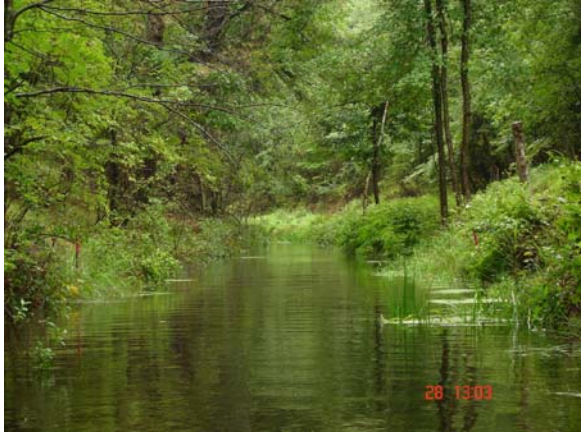
WAT-2: Facing upstream (West) toward WAT-1

WAT-2: Facing downstream (East) toward WAT-3

WAT-3: Facing downstream (East) toward WAT-4

WAT-3: South facing North

WAT-3: North facing South



WAT-4: Facing downstream (East) toward WAT-5

WAT-4: South facing North

WAT-4: North facing South

WAT-5: North facing South

WAT-6: North facing South

WAT-7: North facing South

WAT-8: West facing East

WAT-8: East facing West

WAT-9: South facing North

WAT-9: North facing South

WAT-10: West facing East

WAT-10: East facing West

WAT-11: West facing East toward shrub-forested island

WAT-11: West facing East from shrub-forested island toward open water and low marsh East

WAT-11: East facing West toward shrub-forested island

APPENDIX B

Area B Transect Photographs

WAT-12: West facing East

WAT-12: East facing West

WAT-13: Southeast facing Northwest

WAT-14: West facing East

WAT-14: East facing West

APPENDIX C

Area C Transect Photographs

WAT-15: West facing East

WAT-15: East facing West

WAT-16: Southwest facing Northeast

WAT-16: Northeast facing Southwest

WAT-17: South facing North toward shrub-forested island

WAT-17: Shrub forested island North facing South toward low marsh

WAT-17: West (backwater) facing East toward shrub forested island

WAT-17: East shrub forested island facing West toward backwater

WAT-18: Southwest facing Northeast toward low marsh island

WAT-18: Low Marsh Island facing Southwest toward low marsh

WAT-18: Low Marsh Island facing Northeast

WAT-18: Low marsh island facing toward open water and low marsh Northeast

WAT-18: Northeast facing toward low marsh island

WAT-18: Low marsh island

WAT-19: West facing East

WAT-19: East facing West

WAT-20: Low marsh West facing shrub-forested island East

WAT-20: Backwater East facing shrub-forested island West

WAT-21: West facing East

WAT-21: East facing West

WAT-22: West facing East

WAT-22: East facing West

APPENDIX D

Area D on BNL Property
Transect Photographs

WAT-31: West facing East

WAT-31: East facing West

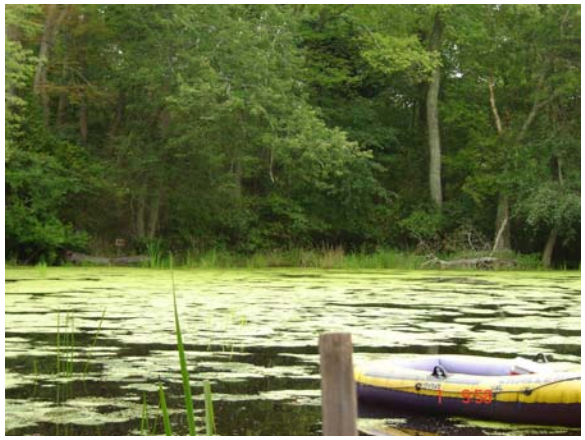
WAT-32: South facing North

WAT-32: North facing South

WAT-33: Southeast facing Northwest

WAT-33: Northwest facing Southeast

WAT-34: East facing West



WAT-34: West facing East

WAT-35: Northeast facing Southwest

WAT-35: Southwest facing Northeast

APPENDIX E

Area D Outside BNL Property
Transect Photographs

WAT-23: Low marsh West facing shrub forested open water low marsh island East

WAT-23: Shrub forested open water low marsh island

WAT-23: Low Marsh East facing shrub forested open water low marsh island West

WAT-24: West facing East

WAT-24: East facing West

WAT-25: West facing East

WAT-25: East facing West

WAT-26: West facing East

WAT-26: East facing West

WAT-27: Southwest facing Northeast

WAT-27: Northeast facing Southwest

WAT-28: South facing North

WAT-28: North facing South

WAT-29: Northwest facing Southeast

WAT-29: Southeast facing Northwest

WAT-30: Northwest facing Southeast

WAT-30: Southeast facing Northwest

APPENDIX F

Area E Transect Photographs

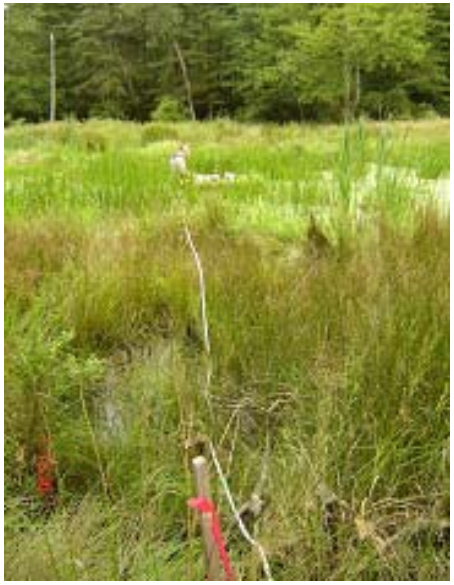
WAT-36: East facing West

WAT-36: West facing East

WAT-36: West facing downstream

WAT-36: West facing upstream

WAT-37: East facing West



WAT-37: West facing East

WAT-38: Southeast facing Northwest

WAT-38: Northwest facing Southeast

WAT-39: Northwest facing Southeast

WAT-40: High marsh North facing South

WAT-40: Low marsh North facing South

WAT-41: Southeast facing Northwest

WAT-41: High marsh Northwest facing Southeast

WAT-41: Low marsh Northwest facing Southeast

WAT-42: High marsh North facing South

WAT-42: Low marsh North facing South

WAT-42: South facing North

WAT-43: North facing South

WAT-43: South facing North

WAT-44: Northeast facing Southwest

WAT-44: Southwest facing Northeast

APPENDIX G

Area P Transect Photographs

WAT-45: East facing West

WAT-45: West facing East

WAT-46: South facing North

WAT-46: North facing South

WAT-47: South facing North

WAT-47: North facing South

WAT-48: Southwest facing Northeast

WAT-48: Northeast facing Southwest

WAT-49: South facing North

WAT-49: North facing South

WAT-50: Southwest facing Northeast

WAT-50: Northeast facing Southwest

WAT-51: South facing North

WAT-51: North facing South

WAT-52: Southeast facing Northwest

WAT-52: Northwest facing Southeast

WAT-53: East facing West

WAT-53: West facing East

WAT-54: South facing North

WAT-54: North facing South

APPENDIX H

Manor Road Transect Photographs

WAT-55: Southeast facing Northwest

WAT-55: Northwest facing Southeast

WAT-56: Southeast facing Northwest

WAT-56: Northwest facing Southeast

WAT-57: East facing West

WAT-57: West facing East

WAT-58: East facing West

WAT-58: West facing East

WAT-59: South facing North

WAT-59: North facing South

WAT-60: South facing North

WAT-60: North facing South

WAT-61: South facing North

WAT-61: North facing South

WAT-62: South facing North

WAT-62: North facing South

WAT-63: Southwest facing Northeast

WAT-63: Northeast facing Southwest

WAT-64: Southwest facing Northeast

WAT-64: Northeast facing Southwest

APPENDIX I

NYSDEC Permit Equivalency Modification

-----Original Message-----
From: Chek Ng [mailto:cbng@gw.dec.state.ny.us]
Sent: Monday, April 03, 2006 10:55 AM
To: Siva Kumar <kumar@bnl.gov
Cc: John Swartwout
Subject: Fwd: Equivalency Permit for Peconic River Remediation

Siva,

I am forwarding the email from Rob Marsh, our DEC Regional Manager from the Bureau of Habitat. FYI, I spoke with Rob regarding the control of phragmites and he recommended hand-pulling for the time being. If the Phragmites growth begins to get out of control and hand-pulling is no longer effective we can then assess whether herbicide treatments are necessary.

Regards,

Chek Beng Ng
Environmental Engineer
NYS Department of Environmental Remediation Bureau A, Section C
625 Broadway
Albany NY 12233-7015
Phone: (518) 402-9620
Fax: (518) 402-9627

>>> Rob Marsh 03/29/06 11:47 AM >>>
Jim,

I have reviewed the 2005 Wetland Monitoring Report provided by Roux Associates. Overall the wetland restoration seems to be coming along well. The only issue seems to be control of the invasive species reed canary grass. I spoke with Chart Guthrie, the Region 1 Fisheries Manager, and we agreed that we could drop the requirement for control of this species. It was well established in the Peconic River before the remediation project took place and its control would require extensive use of herbicides or excavation both of which pose potential negative impacts. I would recommend the continued control of Phragmites but drop the requirement for control of reed canary grass. Thanks.

Robert F. Marsh
Regional Manager
Bureau of Habitat
Phone-(631) 444-0275 Fax-(631) 444-0272
E-mail rfmarsh@gw.dec.state.ny.us