

APPENDIX F

WETLAND INVASIVE SPECIES CONTROL PLAN

for the

INTERSTATE RELIABILITY PROJECT

May 2012

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ABSTRACT

The Interstate Reliability Project (Project), which is proposed by The Connecticut Light and Power Company (CL&P), and The Narragansett Electric Company d/b/a National Grid (TNEC), and New England Power Company d/b/a National Grid (NEP), both wholly-owned subsidiaries of National Grid USA (“National Grid”), (collectively referred to herein as “the Companies”), will involve the development of new 345-kilovolt (kV) overhead transmission lines along approximately 75 miles of existing transmission line rights-of-way (ROWs) in Connecticut, Rhode Island, and Massachusetts, as well as related modifications to existing substation and switching stations in all three states, including the reconstruction of an existing switching station in Rhode Island. The construction activities required to install the new transmission lines and, in certain areas, to remove or rebuild existing transmission lines on the same ROWs, will involve work in wetlands, some of which contain invasive plant species.

This *Wetland Invasive Species Control Plan* (WISCP”) addresses the procedures the Companies will implement to minimize the spread and/or introduction of invasive species in wetlands along the Project ROWs during construction. The WISCP first identifies the invasive wetland plant species that are of concern in the Project region and then reviews the wetlands along the Project ROWs where such species have been found.

Although not all of the wetlands within the transmission line ROWs will be affected as a result of Project construction activities, those that will be disturbed could be more susceptible to colonization by invasive species. In addition, movement of construction equipment and materials through wetlands that presently contain invasive plants could promote the spread of invasive species to nearby, un-infested wetlands.

The overall objective of the WISCP is to define the procedures to be used during Project construction to preserve the value and functions of wetlands along the Project ROWs that presently do not contain invasive species and to minimize the further spread of invasive plants within wetlands that already contain them.

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1. INTRODUCTION

1.1 OVERVIEW OF THE PROJECT AND WETLAND RESOURCES

The Interstate Reliability Project (Project) consists of approximately 75 miles of new 345-kilovolt (kV) overhead transmission lines and related improvements in northeastern Connecticut, northwestern Rhode Island, and south-central Massachusetts. The Project is proposed by The Connecticut Light and Power Company (CL&P), a wholly-owned subsidiary of Northeast Utilities (NU), and The Narragansett Electric Company d/b/a National Grid (TNEC) and the New England Power Company d/b/a National Grid (NEP), both wholly-owned subsidiaries of National Grid USA (“National Grid”). CL&P, TNEC, and NEP are collectively referred to herein as “the Companies”.

The new 345- kV transmission lines are proposed for alignment along the Companies’ existing rights-of-way (ROWs), parallel to existing 345-kV transmission lines (and in some areas, 69-kV and 115-kV transmission lines and 23-kV distribution lines). Most of these existing transmission lines have been in operation for over 40 years.

The Project will involve the construction, operation, and maintenance of new 345-kV overhead transmission lines within approximately 36.8 miles of ROW in 11 Connecticut towns (located within portions of New London, Tolland, and Windham counties); approximately 22.5 miles of ROW in two Rhode Island towns (located within Providence County); and approximately 15.4 miles of ROW in five Massachusetts towns (located in Worcester County). As part of the Project, National Grid also will reconstruct and reconductor 9.2 miles of an existing 345-kV line in Rhode Island (located along the same ROW as the proposed 345-kV line).

The ROWs along which the proposed new transmission lines will be located range in width from 125 feet to 700 feet and, except for 1.4 miles of 150-foot-wide ROW located in the Mansfield Hollow area of Connecticut, are sufficiently wide to accommodate the proposed 345-kV transmission lines adjacent to the existing transmission lines. New H-frame structures proposed within a narrower (i.e., 125 foot wide) ROW will be designed with a narrow base configuration and will be placed in the general area of the existing steel lattice towers that are to be removed. Mandatory federal standards require that the Companies operate and maintain the transmission lines to provide specified clearances between vegetation (trees) and the overhead transmission line conductors. Consequently, along the portions of these ROWs that are occupied by existing transmission lines, the Companies routinely manage the vegetation, including wetland vegetation, to promote low-growth (scrub-shrub or herbaceous) habitat.

As part of the Project planning process, the Companies conducted extensive field investigations (during the period 2007-2008, and 2011-2012) to delineate jurisdictional wetlands within the ROWs. As a result of these field studies, a total of 482 wetlands were identified within the Project ROWs.

Some of these wetlands are within the presently managed portions of the Companies' ROWs, whereas others are within portions of the ROWs that currently are undisturbed.

In most areas, Project construction activities will not affect the entire width of the Companies' easements. As a result, based on current construction plans, the Project will affect only 317 wetlands. Of these 317 wetlands, 164, 133, and 20 are within the ROWs affected by the Project in Connecticut, Rhode Island, and Massachusetts, respectively.

As part of the water resource delineations along the Project ROWs, wetlands in which invasive plant species are prevalent were identified. Invasive plants are species that are not native or indigenous to a region and that can thrive in areas beyond their natural dispersal range, often out-competing native plants for space, nutrients, sunlight, and water. Invasive species are highly adaptable and have few natural control agents in the environment into which they have been introduced, making them very prolific plant species. Invasive species may also be referred to as nuisance, undesirable, noxious, or exotic species.

Generally, disturbances to wetlands caused by land use development, flooding, erosion, or similar activities leave areas more susceptible to colonization by invasive plants. The construction of the new 345-kV transmission lines will involve certain activities that will affect wetlands, either temporarily or permanently, along the Companies' ROWs. Such disturbances could make the affected wetlands more prone to colonization by invasive plant species. Further, construction activities in wetlands in which invasive species are already prevalent could promote additional colonization or the spread of invasive species along the ROWs to other wetlands that are not presently infested.

The construction of the new overhead 345-kV transmission lines will involve a series of sequential activities, most of which will not disturb wetland vegetation or soils and thus will not present a risk for the spread of invasive wetland plants. However, the construction activities with the potential to influence the spread of invasive plant species in wetlands include:

- Vegetation clearing within wetlands for the construction and subsequent operation and maintenance of the transmission lines;
- Temporary or permanent improvements to existing access roads or the development of new access roads (temporary or permanent) across wetlands;
- The use of temporary access routes across wetlands to facilitate the movement of vegetation clearing equipment;
- The installation of temporary work pads in wetlands;
- Drilling or other types of excavation for transmission line structure foundations within wetlands containing invasive plant species (soil disturbance); and
- The removal of temporary fills (e.g., access roads, work pads) and the restoration of affected wetlands.

1.2 WETLAND INVASIVE SPECIES CONTROL PLAN OBJECTIVES

This *Wetland Invasive Species Control Plan* (WISCP) describes the baseline procedures that the Companies propose to apply, Project-wide, for minimizing the potential for the spread of invasive plant species in wetlands located within the Project ROWs during construction. This WISCP was developed in light of the U.S. Army Corps of Engineers (USACE's) *Invasive Species Control / Management (ISCP) Guidance*. The procedures described in this WISCP will be implemented in wetlands containing invasive species that are affected by Project development activities.

The Companies acknowledge that additional measures to control the spread of invasive species may be developed to satisfy state-specific regulatory requirements. Accordingly, supplemental state-specific plans for wetland invasive species control will be incorporated, if required, in each Company's applications for state 401 Water Quality Certifications.

Therefore, this plan necessarily presents the baseline procedures applicable to the Project as a whole. Accordingly, the specific objectives of this plan are as follows:

- List the invasive plant species known to occur in wetlands along the Project ROWs that were identified based on wetland delineations of the Project ROWs.
- Identify as a baseline the wetlands along the ROWs in which such invasive species presently exist.
- Describe the Companies' existing ROW vegetation management programs (e.g., integrated vegetative management), discuss how these existing programs contribute to minimizing the proliferation of invasive species within the ROWs, and explain the constraints to long-term invasive species management along portions of the ROWs.
- Summarize the procedures that the Companies propose to implement to minimize the potential for the spread of wetland invasive species during the construction of the Project.

Overall, the goal of the wetland invasive species control program is to protect the ecological conditions of wetlands within the Project ROWs, specifically focusing on minimizing the spread of invasive species within affected wetlands and avoiding the introduction of invasive species to those wetlands in which invasive species are not currently present.

It should be noted that certain wetlands containing invasive plants extend well beyond the Project ROWs and outside of areas in which any Project activities are proposed. Therefore, attempting to eradicate invasive species from portions of such wetlands within the proposed work areas within the ROWs is unlikely to be successful and is not considered a practical goal of this program.

2. INVASIVE SPECIES OF CONCERN IN WETLANDS

The federal government and the states of Connecticut, Rhode Island, and Massachusetts maintain information regarding invasive wetland plants. For example, the Connecticut Department of Energy and Environmental Protection (CT DEEP), the Rhode Island Department of Environmental Management (RIDEM), and the Massachusetts Invasive Plant Advisory Group (MIPAG) all maintain lists of invasive wetland species. Similarly, the U.S. Department of Agriculture, Natural Resource Conservation Service (NRCS) also maintains a list of noxious plants, by state.

Based on a review of these lists and the characteristics of the existing Project ROWs (as determined by field investigations), the most abundant invasive species located in wetlands along the ROWs are multiflora rose, reed canary grass, purple loosestrife, common reed, Japanese barberry, and tatarian honeysuckle. Where there is an ample seed stock or a system of rhizomes of these invasive species, communities of these plants will tend to be the first “pioneer” species to populate and colonize areas that have been disturbed and left exposed. Table 2-1 lists the wetland invasive plants that are generally found in the Project region.

Table 2-1: Common Invasive Species Found in Wetlands in the Project Area

Common Name	Latin Name
Purple loosestrife	<i>Lythrum salicaria L.</i>
Common reed	<i>Phragmites australis</i>
Multiflora rose	<i>Rosa multiflora</i>
Asiatic bittersweet	<i>Celastrus orbiculatus</i>
Japanese barberry	<i>Berberis thunbergii</i>
Glossy Buckthorn	<i>Frangula alnus</i>
Tatarian honeysuckle	<i>Lonicera tatarica</i>
Autumn olive	<i>Elaeagnus umbellata</i>
Reed canary grass	<i>Phalaris arundinacea L.</i>
Japanese knotweed	<i>Polygonum cuspidatum</i>
Privet	<i>Ligustrum vulgare</i>
Spurge (leafy)	<i>Euphorbia esula L.</i>

3. BASELINE CHARACTERIZATION OF PROJECT WETLANDS AND LOCATIONS OF INVASIVE SPECIES

During the Project planning process, field surveys were conducted to identify vegetative communities, including wetlands, along the transmission line ROWs. The field delineations of wetlands along the Project ROWs, which were performed in 2007-2008, 2011, and 2012, included the identification of predominant vegetation species in each wetland. Reports documenting wetland surveys, including wetland data forms and photographs, are included in the state-specific volumes of this application (i.e., Volumes 2, 3, and 4).

During the wetland delineations, invasive wetland plant species observed were recorded on the wetland delineation data forms. Invasive plants were reported based on the abundance criteria identified on the wetland data forms: that is, S = Sparse (< 5 % total cover); C = Common (6 to 25 % total cover); A = Abundant (26 to 50 % total cover); D = Dominant (> 50 % total cover). Thus, while the data compiled from the wetland delineation forms does not necessarily encompass every wetland in which small quantities of invasive plants are present, it does indicate the wetlands where invasive species constitute a large enough percentage of total wetland vegetation cover to warrant inclusion on the data forms.

Table 3-1 provides an overview of the number of wetlands along the Project ROWs in which invasive wetland plant species presently occur. As summarized in this table, the Companies' ROWs in Connecticut, Rhode Island, and Massachusetts encompass 482 wetlands, of which 205 (43%) contain some percentage of invasive species. Because the proposed Project will involve construction activities only within portions of the entire width of the ROWs, not all of these wetlands will be affected. Therefore, only 317 of the 482 wetlands will be within the anticipated limits of Project construction.

Of these 317 wetlands, 140 (44%) presently contain invasive species. Thus, in light of the nature of the Project activities within 75 miles of existing transmission line ROWs and the percentage of wetlands that currently contain invasive species, the Companies anticipate that the consistent implementation of best management practices (BMPs) during construction will minimize the potential for spreading invasive species to wetlands that presently do not contain such species.

Table 3-1: Summary of Wetlands and Wetlands with Invasive Species along Project ROWs, by State

State	Wetlands within CL&P and National Grid ROWs (Total ROW Width) (Number)		Wetlands within CL&P and National Grid ROWs Affected by Project Construction (Number)	
	Total Wetlands Delineated	Wetlands Containing Invasive Species	Wetlands within Project Construction Area	Wetlands Containing Invasive Species
Connecticut	227	128	164	99
Rhode Island	184	50	133	39
Massachusetts	71	27	20	11
Total	482	205	317	140

In addition, using the information compiled during the field delineations, the wetland characteristics and functional attributes of each wetland were assessed based on the following functions and values:

- Ecological integrity
- Wildlife habitat
- Finfish habitat
- Educational potential
- Visual/aesthetic quality
- Water-based recreation
- Flood control
- Groundwater availability
- Nutrient and sediment retention opportunity / removal efficiency

Wetland scientists assigned each wetland a rating (i.e., “high”, “medium”, or “low”) based on wetland functional quality criteria.

To provide a baseline for designing and implementing an invasive species control program for the Project, the information compiled regarding invasive plant species during the field surveys was assembled from the wetland data forms / reports and is compiled in Attachment 1 of this WISCP. Specifically, Attachments 1.1 (Connecticut), 1.2 (Rhode Island), and 1.3 (Massachusetts) summarize baseline information concerning the wetlands along the Project ROWs and the types and abundance of invasive species, if present. These attachments:

- List each of the wetlands along the Project ROWs, by state;
- Identify the predominant vegetative species in each wetland;
- Identify the wetland rating; and

- Indicate the types of invasive species (if any) present, using the list of such species contained in Table 2-1.

This baseline information provides the framework for the methods that the Companies will use to minimize the spread of invasive wetland plants as a result of Project construction activities.

As summarized in Table 3-1 and described more fully in Attachment 1.1, of the 227 wetlands delineated along the Project ROWs in Connecticut, 128 include one or more of the invasive plant species identified in Table 2-1. The invasive plants mostly commonly found in these wetlands are multiflora rose, honeysuckle, reed canary grass, and Japanese barberry. Invasive plants are most prevalent along the western portion of the ROW in the towns of Lebanon, Columbia, and Coventry (where the new 345-kV line will be aligned between CL&P's existing 115- and 345-kV transmission lines in the middle of a ROW segment that is presently managed in low-growth vegetation) and along the eastern portions of the ROW.

Along the Project ROWs in Rhode Island (refer to Attachment 1.2), 50 of the 184 wetlands contain invasive species. The most common species are multiflora rose, Phragmites, purple loosestrife, and reed canary grass. Several wetlands, located adjacent to the ROW crossing of Route 146 in the Town of North Smithfield, contain a predominance of Phragmites, which also is the dominant vegetative type in off-ROW wetlands.

In Massachusetts (refer to Attachment 1.3), invasive species were observed in only 27 of the 71 wetlands along the Project ROWs. Phragmites and purple loosestrife were the most common invasive species observed; however, none were more than 50% dominant in any wetland.

4. REVIEW OF EXISTING VEGETATION MANAGEMENT PROGRAMS AND HABITAT BENEFITS

4.1 ROW VEGETATION MANAGEMENT REQUIREMENTS

New 345-kV transmission lines will be aligned along the Companies' existing ROWs, portions of which are presently managed by each Company according to national and regional standards and regulations for electric transmission line operation, including required clearances between conductors and vegetation. These standards and regulations include but are not limited to:

- Federal Energy Regulatory Commission (FERC) Commissioner Order 603, effective date of March 16, 2007;
- North American Electric Reliability Corporation (NERC) Standard FAC-003-1 – Transmission Vegetation Management Program, effective date of April 7, 2006; and
- National Electrical Safety Code (NESC) Section 21, Part 2, Rule 218 and the American National Standards Institute (ANSI) pruning standards, A300, Part 1, Part 7 and Z-133.

Both CL&P and National Grid have established plans and procedures for applying an Integrated Vegetation Management Approach (IVM) to manage vegetation along the ROWs in accordance with these standards¹. These IVM programs focus on managing vegetation that could obstruct access along the ROWs and/or has the potential to grow tall enough to interfere with the overhead lines, or otherwise violate minimum clearance requirements, causing a disruption in service.

IVM is defined as a system of managing plant communities in which managers set objectives; identify compatible and incompatible vegetation; consider action thresholds; and evaluate, select, and implement the most appropriate control methods to achieve those objectives² (Miller, 2007). IVM provides the Companies with a proven range of techniques to manage ROW vegetation to conform to federal and regional standards for transmission line operation; accommodate the varying interests of stakeholders along the ROW; minimize environmental effects; and balance cost considerations³ (Ferrandiz, 2008).

¹ National Grid's vegetation management program is defined in its *Right-of-Way Vegetation Management Plan*, whereas CL&P's vegetation management approach is detailed in Northeast Utilities' *Specifications for Right-of-Way Vegetation Management, Section III, Technical Requirements, 2010*. In Massachusetts, National Grid's ROW management standards also are incorporated into its *Five Year Right-of-Way Vegetation Management Plan, 2009-2013* (March 30, 2009). The state has approved this plan.

² Miller, Randall H. 2007. Best Management Practices: Integrated Vegetation Management. ANSI A300, Part 7: Tree, Shrub and Other woody Plant Care Maintenance-Standard Practices.

³ Ferrandiz, Lawrence S. 2008. A Broad-Based, IVM Approach to Right-of-Way Management on Long Island, NY. In *Proceeding of the Eighth International Symposium on Environmental Concerns in Rights-of-Way Management*. (J. W. Goodrich, L. P. Abrahamson, J. L. Ballard, S. M. Tikalsky, Eds.). Electric Power Research Institute, Washington, D.C., pages 65-69.

In accordance with the primary objective of managing the ROWs to promote scrub-shrub habitats or other low-growth vegetation that will not interfere with the operation of the overhead transmission lines, various mechanisms have proven effective. For example, mechanical and chemical controls (i.e., mowing, hand cutting and herbicide application) are the direct techniques used to target vegetation that may impact the operation and safety of the transmission lines. However, ultimately the goal is to manage the upland and wetland vegetation within the ROWs using natural vegetative control. Natural control (i.e., the result of the conscientious, educated use of mechanical and chemical controls) is the process of working with the cycles of plant succession and interspecies competition to facilitate the spread and stabilization of native, early successional plant communities that discourage the establishment of taller woody vegetation⁴ (Bramble et al. 1990).

Therefore, the Companies target undesirable vegetation such as trees and limbs, tall growing shrubs, vegetation growing around substations, structures, guy wires, access roads, gates, and anywhere vegetation impedes access to the ROW. Because of this IVM approach, ROWs are one of the primary remaining early successional ecological communities in New England. These dense, low growing plant communities help discourage the establishment of undesirable vegetation, do not hinder access to the ROWs, and do not generally interfere with the operation and maintenance of the transmission lines.

Plant species that are generally encouraged on the ROWs include herbaceous and shrub species and other vegetation that has a mature height of less than approximately 12 feet. These types of vegetative communities are generally compatible with the Companies' ROW management objectives for maintaining safe clearances between conductors and vegetation. As a result of these ROW vegetation management practices, most of the wetland habitats within the managed portions of the ROWs consist of scrub-shrub or emergent marsh.

4.2 HABITAT BENEFITS OF ROW MANAGEMENT

The management and maintenance of ROW creates early successional habitats dominated by scrub-shrub vegetation and open areas with dense grasses and other herbaceous vegetation. Many animal species use the habitats provided along the ROWs as their homes, feeding and breeding grounds, migration corridors or nurseries, and many plant species adapt to the growing conditions provided within the managed portions of the ROWs. The early successional landscape maintained within the ROWs, however, is not by nature stable; it is instead the sustained result of the IVM program the Companies established in the late 1960s.

The removal of the forested areas and subsequent maintenance of the ROW to promote scrub-shrub and emergent habitats to accommodate the Project will not result in a loss of overall wetland habitat, but rather will create a change in habitat type, from forested to scrub-shrub or emergent wetland.

⁴ Bramble, W.C., W.R. Byrnes, and R.J. Hutnik. May 1990. Resistance of Plant Cover Types to Tree Seeding Invasion on an Electric Utility Transmission Right-of-Way. *Journal of Arboriculture*, 16(5); W.A. Neiring and R.H. Goodwin. 1974. Creation of Relatively Stable Shrublands with Herbicides: Arresting Succession on Rights-of-Way and Pastureland. *Ecology*, 55(4); F.E. Putz and C.D. Canham. Mechanisms of Arrested Succession in Shrublands: Root Comparison between Shrubs and Tree Seedlings. *Ecology and Forest Management* 49, April 1993.

Different types of successional communities have various benefits to flora and fauna. For example, a study in Massachusetts indicated an increase in wildlife use, notably avian species, following clearing of ROWs⁵ (Nickerson and Thibodeau, 1984). This study attributed the increase in wildlife use to the conversion of forested areas into wetland and upland shrub and emergent plant communities.

Creating and maintaining additional shrub-land habitat along the ROWs, in many instances, represents a long-term positive effect on some species, since shrub-land habitat is otherwise declining in New England. This is important because land use trends suggest that this habitat type will continue to decline and ROWs will become increasingly significant⁶. This decline is a result of various factors (e.g., development, ecological succession, absence of fire). A managed transmission ROW is considered a major source of shrub-land habitat^{7,8}, in fact in the eastern United States, utilities maintain more acreage of managed shrub-lands on ROWs than all other sources of this habitat combined⁹ (Saucier, 2003; Confer and Pascoe, 2003; Confer et al. 2004).

Other studies also have indicated that this change may be beneficial^{10,11,12} (King et.al., 2009; Yahner et. Al., 2004; Bramble et. al. 1992). Scrub-shrub habitats within the ROW can provide wildlife habitat such as nesting for birds, browse for deer, and cover for small mammals¹³ (Ballard et al., 2004). The establishment of low-growing species, i.e., grasses and forbs, is also a form of biological control that reduces the re-invasion of the ROW corridor by tree species¹³ (Money, 2008). Some plant species also have the ability to inhibit the growth or invasion of other species which is referred to as allelopathy¹⁴ (Money, 2008). Establishment of such dense shrub and herbaceous emergent plant communities that do not require continued disturbances for management activities may contribute to minimizing the spread of invasive species.

⁵ Nickerson, N.H. and F.R. Thibodeau. 1984. Wetlands and Rights-of-way. Final report submitted to the New England Power Company, 25 Research Drive, Westboro, Massachusetts.

⁶ Confer, J.L. 2003. The diversity and abundance of birds nesting under power lines of New England Electric System Companies and Eastern Utilities Associates.

⁷ Shrubland habitat information from “Wildlife Habitat in Connecticut: Shrubland”, Laura Saucier, Habitat Management Program, in Connecticut Wildlife, July/August 2003.

⁸ Confer, J.L. and S.M. Pascoe. 2003. Avian communities on utility rights-of-ways and other managed shrublands in the northeastern United States. *Forest Ecology and Management* 185:193-205.

⁹ Confer, J.L., T. Hauck, M.E. Silvia, and V. Fray. 2004. Avian shrub land management and shrub land nesting success. In *Proceeding of the Eighth International Symposium on Environmental Concerns in Rights-of-Way Management*. (J. W. Goodrich, L. P. Abrahamson, J. L. Ballard, S. M. Tikalsky, Eds.). Electric Power Research Institute, Washington, D.C., pages 407-412.

¹⁰ King, D.I., R.B. Chandler, J. Collins, W.R. Peterson, and T.E. Lautzenheiser. 2009. Effects of width edge and habitat on the abundance and nesting success of scrub-shrub birds on powerline corridors.

¹¹ Yahner, R.H., R.J. Hutnick, and R.J. Lisccinsky. 2004. Long-term trends in bird population on an electrical transmission right-of-way.

¹² Bramble, W.C., Yahner, R.H., and W.R. Byrnes. 1992. Nesting of breeding birds on an electric utility line right-of-way.

¹³ Ballard, B.D., H.L. Whittier, and C.A. Nowak. 2004. Northeastern Shrubs and Short Tree Identification, A Guide for Right-of-way Vegetation Management. State University of New York-College of Environmental Science and Forestry.

¹⁴ Money, Nelsen, R. 2008. Development of an Integrated Resource Management Strategy for Transmission Right-of-Way Corridors for Successful Implementation of Integrated Vegetation Management in California. In *Proceeding of the Eighth International Symposium on Environmental Concerns in Rights-of-Way Management*. (J. W. Goodrich, L. P. Abrahamson, J. L. Ballard, S. M. Tikalsky, Eds.). Electric Power Research Institute, Washington, D.C., pages 33-36.

In this regard, some invasive plant communities have been shown to provide some beneficial effects such as breeding bird nesting habitat, cover for animals traversing the ROWs, food sources (fruit-bearing plants), buffers to sensitive areas (such as along riparian zones) and, in some instances, serve as a deterrent to unwarranted access (e.g., all-terrain vehicle use) along the ROWs due to the dense thickets and thorn-producing shrubs that may colonize certain areas. The eradication of invasive plants could, therefore, eliminate some of the beneficial uses on the ROWs. In addition continued regular treatment of invasive plants could inadvertently result in minimizing wildlife use of the ROWs through the frequency of human contact, removal of cover (albeit invasive), and reduction of food sources.

5. INVASIVE SPECIES MANAGEMENT IN WETLANDS DURING PROJECT CONSTRUCTION

During the construction of the Project, the Companies will implement measures to control the spread of invasive plant communities during performance of construction activities and as a result of the movement of construction vehicles and equipment across wetlands along the Project ROWs. The main objectives will be to:

- Perform construction activities so as to minimize the spread of invasive plant species within wetlands or from wetland-to-wetland along the ROWs; and
- Restore wetlands affected by the Project promptly to limit the potential for invasive species to colonize disturbed soils.

5.1 PRE-CONSTRUCTION PHASE MEASURES

As part of Project planning conducted to date, the Companies have:

- Identified the invasive plant species of concern in wetlands along the ROWs.
- Determined the location of wetlands populated with invasive plant communities where specific construction BMPs should be used to target invasive species control.
- Developed Project-wide invasive species control BMPs to be implemented during construction. Such measures will typically include identifying the locations of wetlands containing invasive species on Project mapping provided to contractors, and also training construction workers in the BMPs required to avoid the spread of invasive wetland plants within the ROW. The BMPs also require cleaning of equipment after removal from wetlands with invasive species, prior to being redeployed to other wetlands.

Invasive species control requirements will be incorporated into construction contracts for the Project. Prior to construction, the Companies will provide environmental training to the contractors, inspectors, and work crews responsible for implementing this WISCP. This training will also include an overview of the WISCP, a review of the ROW mapping, a discussion and listing of the target species and the known locations, ways to identify invasive plants in the field, and presentation of the BMPs to be implemented during construction in these areas.

5.2 CONSTRUCTION PHASE MEASURES

During construction, the Companies will reinforce to all Project construction personnel the importance of adherence to the WISCP and will require contractors to attend environmental training in an effort to promote a full understanding of the WISCP requirements applicable to the construction work. Further, the Companies' Project teams will include monitors, who will perform site inspections

and will oversee the contractors' compliance with applicable federal, state, and local permit conditions, Project plans (including this WISCP), and Company policies.

Care and consideration will be taken during construction to prevent and/or reduce the introduction of, or the spread of target invasive species. Wetland invasive species control efforts will be important throughout the construction of the Project, but the focus of these efforts will be during the following construction phases, which will involve work directly in wetlands and thus will have the greatest potential for construction equipment to come into contact with invasive species:

- Clearing vegetation;
- Placing and removing swamp (timber) mats, corduroy roads, and other temporary access roads and work pads; and
- Moving equipment and vehicles through areas containing invasive species, such as for the installation, maintenance, and final removal of temporary soil erosion and sedimentation controls.

Other construction activities (e.g., foundation work, structure installation, conductor and wire stringing) typically will not require work outside of pre-established access roads and work pads. As a result, the equipment and vehicles involved in these activities will not come into contact with wetland soils or plant materials.

To control the spread of target wetland invasive plant species, the Companies will require construction contractors to implement the procedures described below, as appropriate to the phase of construction that each contract will perform:

- All construction equipment, vehicles, and materials (e.g., equipment mats) must be clean and free of excess soil, debris, and vegetation before being mobilized to the Project ROWs.
- Swamp mats or equivalent (e.g., corduroy roads) will be used in wetlands during clearing operations to minimize spread of invasive species within a wetland by the clearing equipment itself.
- To minimize the potential for spreading invasive plant species from wetland-to-wetland along the ROW, any equipment working in or traversing a wetland containing invasive plant species will be cleaned prior to relocating to another work site. Cleaning of vehicles and other equipment (including the tracks and tires) will involve removal of visible dirt, debris and vegetation through the use of brooms, shovels, and, if needed, compressed air.
- Swamp mats or equivalent will be used at wetland crossings so construction vehicles that frequently travel along on-ROW access roads, such as pickups carrying personnel or material delivery trucks, can avoid direct wetland interaction.
- Mats used in wetlands containing invasive species will be cleaned prior to relocation to other work areas or wetlands. Cleaning of matting will involve dropping mats one on top of another to shake loose any sediment and debris. The matting will then be swept to remove loose soil and any plant material.

- Construction equipment and excavated soil material will be contained within the approved limits of work areas within the ROW; these limits of work will be defined on Project plans.
- Soils excavated from wetlands or riparian areas containing a predominance of target invasive plants will be stockpiled separately (to the extent that there is sufficient work space) and contained within staked bales, silt fence or other approved soil erosion and sedimentation control device to minimize the potential of spreading these soils elsewhere onto the ROW.
- Final restoration of the ROW will be performed in accordance with National Grid's Environmental Guidance Document *EG-303 – ROW Access, Maintenance and Construction Best Management Practices* and Northeast Utilities' *Best Management Practices Manual Construction and Maintenance Environmental Requirements*.

As described previously, once construction is completed, the Companies' IVM programs may contribute to minimizing the spread of invasive species through the establishment of relatively stable, dense shrub and herbaceous plant communities. By implementing the pre-construction and construction-phase measures described above, in combination with these long-term IVM procedures, the introduction, spread, and increased risk of proliferation of invasive plant species in the Project area wetlands will be minimized.

ATTACHMENT 1

SUMMARY OF WETLANDS CONTAINING INVASIVE SPECIES

ATTACHMENT 1.1: CONNECTICUT WETLANDS

ATTACHMENT 1.2: RHODE ISLAND WETLANDS

ATTACHMENT 1.3: MASSACHUSETTS WETLANDS

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INTRODUCTION

As part of the Project planning process, the Companies commissioned field surveys to identify vegetative communities, including wetlands, along the Project transmission line ROWs in Connecticut, Rhode Island, and Massachusetts. During the jurisdictional wetland delineations conducted as part of these surveys, information regarding the presence and relative abundance of invasive species in each wetland was documented.

Specifically, invasive species identified in wetlands were listed on the standard wetland delineation data forms. These data forms and associated representative photographs of the delineated wetlands are appended to the state-specific wetland and watercourse reports included in Volumes 2, 3, and 4 of this Application.

Attachments 1.1, 1.2, and 1.3 tabulate information regarding all the wetlands along the Project transmission line ROWs in Connecticut, Rhode Island, and Massachusetts, respectively. Each attachment consists of tables that identify each wetland by Project-specific number and location (municipality), and list the wetland's classification, functions and values, principal overall vegetative species, and whether invasive plant species were identified in the wetland and, if so, the relative abundance of the invasive species found. The attachments include all wetlands delineated within the Companies' ROWs along which the proposed 345-kV transmission lines will be located. However, not all of the wetlands listed will be affected by Project construction, operation, and maintenance.

The information regarding the location and abundance of invasive plant species in wetlands along the Project ROWs provides a baseline for planning construction activities to minimize the potential for spreading invasive species along the ROWs to other, non-infested wetlands. This information also illustrates the locations of high-quality wetlands (exhibiting high functions and values) where particular attention should be paid during construction to avoid the spread of invasive species.

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Attachment I.1
Summary of Existing Wetland Characteristics, including Invasive Species: Connecticut Portion of the Interstate Reliability Project

Map Sheet No. (refer to Volume 2A)	Wetland No.	Wetland Classification Type	Wetland Functions / Values Rating	Principal Vegetative Species	Invasive Species Currently Present	Relative Abundance of Invasive Species within ROW (S/C/A/D)
Lebanon						
1 of 134	W20-1	PFO – PSS	Low	Red maple, Gray birch, Speckled alder, Multiflora rose, Japanese barberry, Silky dogwood, Sensitive fern, Cattails, Cinnamon fern, Phragmites, Skunk cabbage	Multiflora rose, Japanese barberry, Phragmites	C, C, C
1 of 134	W20-2	PFO – PSS	Low	Red maple, Speckled alder, Multiflora rose, Silky dogwood, Maleberry, Sensitive fern, Cinnamon fern, Sedges, Skunk cabbage, Soft rush	Multiflora rose	C
1 & 2 of 134	W20-3	PSS – PFO	Low	Red maple, Multiflora rose, Silky dogwood, Sensitive fern, Cinnamon fern, Skunk cabbage, Sphagnum	Multiflora rose	C
2 of 134	W20-4	PSS	Low	Speckled alder, Silky dogwood, Honeysuckle, Cattails, Sensitive fern, Cinnamon fern, Skunk cabbage	Honeysuckle	C
Lebanon / Columbia						
2 & 3 of 134	W20-5	PSS – PFO	High	Red maple, Speckled alder, Silky dogwood, Maleberry, Japanese barberry, Sensitive fern, Cinnamon fern, Sedges, Skunk cabbage, Sphagnum, Soft rush, Reed canary grass	Japanese barberry, Reed canary grass	C, C
Columbia						
3 of 134	W20-6	PFO – PSS	Low	Red maple, Gray birch, Multiflora rose, Sedges, Cinnamon fern, Sensitive fern	Multiflora rose	C
3 of 134	W20-7	PFO – PSS	Low	Speckled alder, Silky dogwood, Maleberry, Witch-hazel, Sensitive fern, Cinnamon fern, Sedges, Skunk cabbage, Reed canary grass, Woolgrass	Reed canary grass	C
4 of 134	W20-8	PSS – PFO	Low	Red maple, Speckled alder, Silky dogwood, Honeysuckle, Multiflora rose, Sensitive fern, Cinnamon fern, Sedges, Skunk cabbage, Cattails, Soft rush, Sphagnum	Multiflora rose, Honeysuckle	C, C

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4 & 5 of 134	W20-9	PSS – PFO	Low	Red maple, Speckled alder, Silky dogwood, Honeysuckle, Multiflora rose, Maleberry, Highbush blueberry, Sensitive fern, Cinnamon fern, Sedges, Skunk cabbage, Cattails, Reed canary grass, Phragmites, Tearthumb	Multiflora rose, Reed canary grass, Phragmites, Honeysuckle	C, C, C, C
5 of 134	W20-10	PFO – PSS	Low	Red maple, Yellow birch, Ironwood, Sensitive fern, Reed canary grass, Phragmites	Reed canary grass, Phragmites	C, C
5 & 6 of 134	W20-11	PSS – PFO	Low	Red maple, Speckled alder, Silky dogwood, Meadowsweet, Steeplebush, Sedges, Sphagnum, Woolgrass, Reed canary grass	Reed canary grass	C
5 & 6 of 134	W20-12	PSS	Low	Meadowsweet, Steeplebush, Sedges, Goldenrod, Sensitive fern	N	
6 of 134	W20-13	PSS – PFO	Low	Red maple, Speckled alder, Silky dogwood, Highbush blueberry, Maleberry, Willow, Sensitive fern, Cinnamon fern, Sedges, Cattails, Sphagnum, Tussock sedge, Phragmites	Phragmites	C
7 of 134	W20-14	PSS	Low	Speckled alder, Highbush blueberry, Maleberry, Multiflora rose, Steeplebush, Arrowwood, Sensitive fern, Cinnamon fern	Multiflora rose	C
7 of 134	W20-15	PSS	Low	Speckled alder, Multiflora rose, Elderberry, Sensitive fern, Cinnamon fern, Skunk cabbage	Multiflora rose	C
7 of 134	W20-16	PSS	Low	Speckled alder, Silky dogwood, Spicebush, Sensitive fern, Cinnamon fern, Cattails, Sphagnum, Skunk cabbage, Tussock sedge	N	
7 of 134	W20-17	PFO/PEM	Low	Red maple, Spicebush, Sensitive fern, Cinnamon fern, Cattails, Reed canary grass, Sphagnum, Skunk cabbage, Tussock sedge	Reed canary grass	C

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Map Sheet No. (refer to Volume 2A)	Wetland No.	Wetland Classification Type	Wetland Functions / Values Rating	Principal Vegetative Species	Invasive Species Currently Present	Relative Abundance of Invasive Species within ROW (S/C/A/D)
7 & 8 of 134	W20-18	PSS	Low	Silky dogwood, Maleberry, Multiflora rose, Steeplebush, Reed canary grass, Sedges, Sensitive fern, Skunk cabbage	Multiflora rose, Reed canary grass	C, C
7 & 8 of 134	W20-19	PSS	Low	Silky dogwood, Sensitive fern, Cinnamon fern, Steeplebush	N	
7 & 8 of 134	W20-20	PSS	Low	Elm, Silky dogwood, Speckled alder, Multiflora rose, Steeplebush, Sensitive fern, Cinnamon fern	Multiflora rose	C
8 of 134	W20-21	PFO – PSS	Low	Red maple, Highbush blueberry, Japanese barberry, Sensitive fern, Cinnamon fern, Skunk cabbage	Japanese barberry	C
8 of 134	W20-22	PSS	Low	Multiflora rose, Elderberry	Multiflora rose	C
8 of 134	W20-23	PSS – PFO	Moderate	Red maple, Speckled alder, Ironwood, Highbush blueberry, Spicebush, Tussock sedge, Sensitive fern, Sedges, Skunk cabbage, Reed canary grass	Reed canary grass	C
Columbia / Coventry						
8 & 9 of 134	W20-24	PSS/PFO	High	Red maple, Silky dogwood, Speckled alder, Maleberry, Honeysuckle, Sensitive fern, Cinnamon fern, Reed canary grass, Sphagnum, Skunk cabbage, Tussock sedge, Sedges	Reed canary grass, Honeysuckle	C, C
Coventry						
9 of 134	W20-25	PFO	Low	Greenbrier, Goldenrod, Honeysuckle spp.	Honeysuckle	C
10 of 134	W20-26	PSS – PFO	Low	Red maple, Honeysuckle, Silky dogwood, Multiflora rose, Ironwood, Sensitive fern, Sphagnum, Skunk cabbage, Tussock sedge, Christmas fern	Multiflora rose, Honeysuckle	C, C
11 of 134	W20-27	PEM/PFO	Low	Meadowsweet, Steeplebush, Reed canary grass, Woolgrass	N	

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11 of 134	W20-28	PFO – PSS	Low	Red maple, Multiflora rose, Ironwood, Japanese barberry, Gray birch, Sedges, Sensitive fern, Cinnamon fern, Reed canary grass	Multiflora rose, Japanese barberry, Winged euonymus, Reed canary grass	A, C, S, C
12 of 134	W20-29	PFO	Low	Red maple, Yellow birch, Witch-hazel, Ironwood, Sedges, Christmas fern, Reed canary grass, Soft rush	Reed canary grass	C
12 & 13 of 134	W20-30	PEM – PFO	Moderate	Multiflora rose, Sedges, Cattails, Sphagnum, Cinnamon fern, Tussock sedge	Multiflora rose	C
13 & 14 of 134	W20-31	PEM – PFO	High	Red maple, Sedges, Reed canary grass	Reed canary grass	C
Mansfield						
13 & 14 of 134	W20-32	PEM	Low	Willow, Gray birch, Sedges, Steeplebush	N	
15 of 134	W20-33	PSS/PFO	Low	Red maple, Winterberry, Speckled alder, Highbush blueberry, Skunk cabbage, Cinnamon fern, Sphagnum, Tussock sedge	N	
15 & 16 of 134	W20-34	PFO	Low	Red maple, White oak, Yellow birch, Spicebush, Winterberry, Cinnamon fern, Sphagnum	N	
16 of 134	W20-35	PSS – PFO	Moderate	Spicebush, Silky dogwood, Speckled alder, Ironwood, Meadowsweet, Jewelweed, Sphagnum	N	
16 of 134	W20-36	PFO	Moderate	Red maple, Spicebush, Winterberry, Sphagnum, Skunk cabbage	N	
16 of 134	W20-37	PFO	Low	Red maple, Highbush blueberry, Speckled alder	N	
17 of 134	W20-38	PSS – PFO	Low	Highbush blueberry, Maleberry, Meadowsweet, Dewberry, steeplebush	N	
16 & 17 of 134	W20-39	PFO – PSS	Moderate	Red maple, Green ash, Yellow birch, Spicebush, Christmas fern, Sphagnum	N	

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17 of 134	W20-39A	PSS – PFO	Low	Black birch, Spicebush, Speckled alder, Ground juniper, Grasses sp.	Autumn olive	S
17 of 134	W20-40	PFO	Low	White pine, Highbush blueberry	N	
18 of 134	W20-41	PFO – PSS	Low	Red maple, Maleberry, Highbush blueberry, Witch-hazel, Reed canary grass, Sedges, Cinnamon fern, Phragmites, Steeplebush	Reed canary grass, Phragmites	C, C
18 of 134	W20-42	PFO – PSS	Low	Red maple, Witch-hazel, Sensitive fern, Cinnamon fern, Sedges	N	
18 & 19 of 134	W20-43	PFO/PSS	Moderate	Red maple, Witch-hazel, Arrowwood, Sensitive fern, Cinnamon fern, Skunk cabbage, Cattails, Phragmites, Sedges, Sphagnum	Japanese barberry, Phragmites	S, C
19 & 20 of 134	W20-44	PFO/PSS	Moderate	Red maple, Witch-hazel, Multiflora rose, Phragmites, Sensitive fern, Cinnamon fern, Cattails, Marsh marigold	Multiflora rose, Phragmites	C, A
21 of 134	W20-45	PFO	Low	Red maple, Multiflora rose, Spicebush, Japanese barberry, Sensitive fern, Cinnamon fern, Skunk cabbage, Sedges	Multiflora rose, Japanese barberry	C, C
21 of 134	W20-45A	PSS/PFO	Low	Grasses sp., Soft rush, Skunk cabbage, Jewelweed, Multiflora rose	Multiflora rose	C
21 of 134	W20-46	PFO/PSS	Moderate	Red maple, Multiflora rose, Spicebush, Japanese barberry, Speckled alder, Cinnamon fern, Cattails, Goldenrod, Skunk cabbage, Sedges	Multiflora rose, Japanese barberry	A, C
22 of 134	W20-47	PFO/PSS – PUB	Low	Red maple, Multiflora rose, Japanese barberry, Reed canary grass, Cinnamon fern, Skunk cabbage	Multiflora rose, Japanese barberry	C, C
22 of 134	W20-48	PFO – PSS	Low	Red maple, Multiflora rose, Japanese barberry, Honeysuckle, Sensitive fern, Cinnamon fern, Skunk cabbage	Multiflora rose, Japanese barberry, Honeysuckle	C, A, C
22 of 134	W20-49	PEM	Low	Honeysuckle, Reed canary grass, Goldenrod	Reed canary grass, Honeysuckle	D, C

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22 of 134	W20-50	PFO/PSS – PEM	Low	Red maple, Silky dogwood, Sensitive fern, Cinnamon fern	N	
23 of 134	W20-51	PSS	Low	Gray birch, Steeplebush, Woolgrass, Soft rush, Sphagnum, Haircap moss	N	
23 of 134	W20-52	PFO – PSS	Low	Witch-hazel, Honeysuckle, Steeplebush, Sedges	Honeysuckle	C
23 of 134	W20-53	PFO/PSS	Low	Red maple, Yellow birch, American beech, Sedges, Cinnamon fern	N	
24 of 134	W20-54	PSS – PFO	Low	Gray birch, Sensitive fern, Sedges, Reed canary grass, Steeplebush	Reed canary grass	C
24 of 134	W20-55	PFO/PSS – PEM	Low	Red maple, Witch-hazel, Sensitive fern, Cinnamon fern, Sedges, Reed canary grass, Steeplebush	Reed canary grass	C
25 of 134	W20-56	PFO – PSS	Moderate	Red maple, Honeysuckle, Silky dogwood, Speckled alder, Spicebush, Tussock sedge, Cattails, Cinnamon fern, Marsh marigold, Phragmites, Sensitive fern, Sphagnum, Skunk cabbage, Steeplebush	Phragmites, Honeysuckle	C, C
25 of 134	W20-57	PFO	Low	Red maple, Yellow birch, American beech, Witch-hazel, Spicebush, Sphagnum, Cinnamon fern	N	
25 of 134	W20-58	PFO – PSS	Low	Red maple, Speckled alder, Highbush blueberry, Maleberry, Steeplebush, Cattails, Woolgrass, Sensitive fern, Sphagnum	N	
26 of 134	W20-59	PFO	Low	Red maple, Yellow birch, American beech, Sphagnum, Cinnamon fern	N	
27 of 134	W20-60	PSS	Low	Spicebush, Multiflora rose, Sensitive fern, Cinnamon fern, Goldenrod	Multiflora rose	C
27 & 28 of 134	W20-61	PFO – PSS	Low	Red maple, Japanese barberry, Honeysuckle, Sensitive fern, Cinnamon fern, Sphagnum	Japanese barberry, Honeysuckle	A, C
28 of 134	W20-62	PEM	Low	Sedges, Cattails, Soft rush, Steeplebush	N	
28 of 134	W20-62A	PEM	Low	Steeplebush, Sedges, Cattails, Soft rush	N	

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28 of 134	W20-62B	PEM	Low	Steeplebush, Sedges, Cattails, Soft rush	N	
29 of 134	W20-62C	PEM	Low	Steeplebush, Sedges, Cattails, Soft rush	N	
31 of 134	W20-63	PFO/PSS	Moderate	White pine, Pepperbush, Speckled alder, Meadowsweet, Woolgrass, Sphagnum, Sensitive fern, Steeplebush, Cattails, Skunk cabbage	N	
31 of 134	W20-64	PFO/PSS	Low	Red maple, Pepperbush, Woolgrass, Sedges, Sphagnum, Steeplebush, Cattails, Skunk cabbage	N	
33 of 134	W20-65*	PUB – PFO	Moderate	White pine, Red maple, Silky dogwood, Cinnamon fern	N	
34 of 134	W20-66*	PUB – PFO (Mansfield Hollow Lake)	Moderate	Pitch pine, White pine, Shagbark Hickory, Maleberry, Highbush blueberry, Speckled alder, White aster, Haircap moss,	N	
36 of 134	W20-67	PFO	Low	Red maple, Ironwood, Sedge	N	
Mansfield / Chaplin						
36 & 37 of 134	W20-68	PEM – PFO/PSS	Moderate	Red maple, Pepperbush, Speckled alder, Tussock sedge, Cinnamon fern, Sensitive fern, Skunk cabbage	N	
Chaplin						
37 of 134	W20-69	PFO/PSS	Low	Red maple, Honeysuckle, Ironwood, Highbush blueberry, Cinnamon fern, Skunk cabbage, Sedges, Sphagnum	Honeysuckle	C
38 of 134	W20-70*	PFO – PSS/PEM	Low	Red maple, Silky dogwood, Tussock sedge, Skunk cabbage	N	
38 of 134	W20-71*	PSS	Low	Red maple, Tussock sedge, Cinnamon fern, Woolgrass	N	
38 & 39 of 134	W20-72*/W20-73	PSS/PFO	High	Meadowsweet, Silky dogwood, Sensitive fern, Cinnamon fern, Red maple, Eastern hemlock, White pine, Speckled alder, Meadowsweet, Silky dogwood, Sedges, Sensitive fern	N	
39 of 134	W20-74*	PFO	Moderate	Red maple, Eastern hemlock, Highbush blueberry, Tussock sedge, Skunk cabbage, Sphagnum	N	

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39 of 134	W20-75*	PSS	Low	Red maple, red oak, winterberry, Japanese barberry, royal fern, Tussock sedge, Cinnamon fern, Phragmites	Phragmites	C
39 & 40 of 134	W20-76*	PFO/PSS	Moderate	Red maple, red oak, winterberry, Japanese barberry, royal fern, tussock sedge, cinnamon fern	Japanese barberry	S
40 of 134	W20-77	POW/PSS/PFO – PEM	Moderate	Red maple, White pine, Eastern hemlock, Speckled alder, Maleberry, Sensitive fern, Cinnamon fern, Tussock sedge, Sedges, Skunk cabbage, Sphagnum, Woolgrass	N	
40 of 134	W20-78	PFO	Low	Red maple, Highbush blueberry, Tussock sedge	N	
40 of 134	W20-79	PFO	Low	Red maple, Highbush blueberry, Tussock sedge	N	
40 of 134	W20-80	PFO – PSS	Low	Red maple, Highbush blueberry, Pepperbush, Tussock sedge, Sensitive fern, Sphagnum	N	
41 of 134	W20-81	PFO/PSS – PEM	Low	Red maple, White pine, Pepperbush, Meadowsweet, Speckled alder, Sensitive fern, Skunk cabbage, Sphagnum, Cattails, Steeplebush	N	
41 of 134	W20-82	PSS	Low	Speckled alder, Highbush blueberry, Witch-hazel, Sensitive fern, Cinnamon fern, Sphagnum, Sedges, Steeplebush	N	
42 of 134	W20-83	PSS – PFO	Low	Eastern hemlock, Yellow birch, Pepperbush, Highbush blueberry, Meadowsweet, Sensitive fern, Sedges, Steeplebush	N	
42 of 134	W20-84	PSS/PFO – PEM	Low	Red maple, Pepperbush, Highbush blueberry, Sensitive fern, Cinnamon fern, Sphagnum	N	
43 of 134	W20-85	POW/PFO/PSS	Moderate	Red maple, Pepperbush, Multiflora rose, Sensitive fern, Cinnamon fern, Sphagnum	Multiflora rose	C
44 of 134	W20-86	PUB/PEM/PFO	Moderate	Tussock sedge, Cattails, Sedges	N	
44 & 45 of 134	W20-87	PFO/PSS	Low	Red maple, Highbush blueberry, Sensitive fern, Cinnamon fern, Goldenrod, Sedges, Soft rush	N	

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46 of 134	W20-88	PFO/PSS	Low	Red maple, White pine, Ironwood, Pepperbush, Maleberry, Sphagnum, Cinnamon fern, Skunk cabbage	N	
46 & 47 of 134	W20-89	PFO – PSS/POW	Moderate	Red maple, Yellow birch, Ironwood, Pepperbush, Spicebush, Sphagnum, Skunk cabbage, Sedges	N	
47 of 134	W20-90	PFO	Low	Red oak, Highbush blueberry, Sedges, Skunk cabbage, Tussock sedge	N	
47 & 48 of 134	W20-91	POW/PSS	Moderate	Red maple, Multiflora rose, Spicebush, Sensitive fern, Cinnamon fern, Sphagnum, Tussock sedge	Multiflora rose	A
Chaplin / Hampton						
48 of 134	W20-92	PFO/PSS	Low	Red maple, Honeysuckle, Pepperbush, Spicebush, Sensitive fern, Cinnamon fern, Sphagnum, Skunk cabbage	Honeysuckle	C
Hampton						
49 of 134	W20-93	PSS	Low	Sphagnum, Skunk cabbage	N	
50 of 134	W20-94	PFO/PSS	Moderate	Red maple, Meadowsweet, Speckled alder, Pepperbush, Sensitive fern, Reed canary grass, Steeplebush	Reed canary grass	C
50 & 51 of 134	W20-95	PFO/PSS	Low	Red maple, Yellow birch, White oak, Highbush blueberry, Meadowsweet, Pepperbush, Arrowwood, Sensitive fern, Cinnamon fern, Sphagnum, New York fern	N	
50 of 134	W20-95A	PFO	Low	Yellow birch, Sweet pepperbush, Swamp azalea, Cinnamon fern, White meadowsweet	N	
51 of 134	W20-96	PSS	Low	Highbush blueberry, Meadowsweet, Pepperbush, Arrowwood, Reed canary grass	Reed canary grass	A
51 of 134	W20-97	PFO/PSS	Low	Red maple, Yellow birch, Ironwood, Sensitive fern, Cinnamon fern, Sphagnum, Skunk cabbage	N	
52 & 53 of 134	W20-98	PFO – PSS	Low	Red maple, Yellow birch, Maleberry, Speckled alder, Cinnamon fern, Sphagnum, Goldenrod, Sedges	N	

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53 of 134	W20-99	PFO/PEM – PSS	Low	Red maple, Highbush blueberry, Cinnamon fern, Sphagnum, Phragmites	Phragmites	D
53 of 134	W20-100	PFO/PSS – PEM	Moderate	Red maple, Yellow birch, Highbush blueberry, Pepperbush, Sensitive fern, Cinnamon fern, Sphagnum, Tussock sedge, Cattails	N	
54 of 134	W20-101	PFO	Moderate	Red maple, Yellow birch, Sphagnum, Tussock sedge	N	
54 & 55 of 134	W20-102	PFO/PSS - PUB	Low	Red maple, Yellow birch, Pepperbush, Spicebush, Cinnamon fern, Skunk cabbage	N	
55 of 134	W20-103	PFO/PSS	Moderate	Red maple, Pepperbush, Spicebush, Multiflora rose, Skunk cabbage, Sensitive fern, False hellebore	Multiflora rose	A
55 & 56 of 134	W20-104	PFO/PSS	Moderate	Red maple, Pepperbush, Spicebush, Multiflora rose, Japanese barberry, Sensitive fern, Christmas fern, Sphagnum, Poison ivy	Multiflora rose, Japanese barberry	A, A
56 of 134	W20-105	PEM	Low	Skunk cabbage, Goldenrod	N	
56 of 134	W20-106	PFO	Moderate	Red maple, White pine, Japanese barberry, Sphagnum, Sensitive fern, Skunk cabbage	Japanese barberry	A
56 & 57 of 134	W20-107	PEM – PFO	Low	Red maple, American elm, Sensitive fern, Soft rush	N	
56 of 134	W20-108	PSS/PFO	Moderate	Red maple, Speckled alder, Sensitive fern, Skunk cabbage, Sedges	N	
57 of 134	W20-109	PSS – PFO	Low	Speckled alder, Highbush blueberry, Sensitive fern, Reed canary grass, Tussock sedge	Reed canary grass	C
58 of 134	W20-110	PSS/PFO	High	Red maple, Meadowsweet, Sensitive fern, Skunk cabbage, Steeplebush, Cattails, False hellebore, Woolgrass	N	
58 of 134	W20-111	PSS	Low	Witch-hazel, Maleberry, Meadowsweet, Sensitive fern, Steeplebush	N	

**Attachment 1.1
Summary of Existing Wetland Characteristics, including Invasive Species: Connecticut Portion of the Interstate Reliability Project**

Map Sheet No. (refer to Volume 2A)	Wetland No.	Wetland Classification Type	Wetland Functions / Values Rating	Principal Vegetative Species	Invasive Species Currently Present	Relative Abundance of Invasive Species within ROW (S/C/A/D)
58 & 59 of 134	W20-112	PSS	Low	Maleberry, Meadowsweet, Woolgrass	N	
59 of 134	W20-112A	PFO	Low	White pine, White oak, Red oak, Winterberry, Sedges, Princess pine	N	
59 of 134	W20-113	PFO	Low	White pine, White oak, Maleberry	N	
59 of 134	W20-114	PFO	Low	White pine, Red maple, Sensitive fern, Cinnamon fern, Sedges	N	
59 of 134	W20-115	PFO/PSS	Low	White pine, Red maple, Sensitive fern, Cinnamon fern, Sedges	N	
59 & 60 of 134	W20-116	PFO/PSS	Moderate	Red maple, Highbush blueberry, Pepperbush, Spicebush, Sensitive fern, Sedges, Skunk cabbage	N	
60 & 61 of 134	W20-117	PSS/PFO – PEM	Moderate	White pine, Red maple, Highbush blueberry, Maleberry, Meadowsweet, Tussock sedge, Reed canary grass	Reed canary grass	A
61 of 134	W20-118	PFO/PSS	Moderate	Red maple, Pepperbush, Willow, Tussock sedge, Steeplebush, Reed canary grass, Purple loosestrife	Reed canary grass, Purple loosestrife	A, C
62 of 134	W20-119	PSS	Low	Gray birch, Sphagnum, Soft rush	N	
63 of 134	W20-121	PSS	Low	Red maple, Yellow birch, Eastern hemlock, winterberry, witch hazel, cinnamon fern,	Phragmites	S
Hampton / Brooklyn						
63 & 64 of 134	W20-120	PFO – PSS	Moderate	Red maple, Yellow birch, Eastern hemlock, Sphagnum, Cinnamon fern, Cattails, Phragmites	Phragmites	C
Brooklyn						
65 of 134	W20-122	PFO/PSS/PEM	Moderate	Red maple, Yellow birch, Eastern hemlock, winterberry, witch hazel, cinnamon fern, Reed canary grass	Reed canary grass	C
65 & 66 of 134	W20-123	PFO/PSS	Low	Red maple, Eastern hemlock, White pine, Cinnamon fern, Sedges, Skunk cabbage	N	
66 of 134	W20-124	PFO/PSS	Low	Sensitive fern, Sedges, Goldenrod	N	
66 of 134	W20-125	PSS/PFO – PEM	Low	Red maple, Eastern hemlock, White pine, Sensitive fern,	N	

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Map Sheet No. (refer to Volume 2A)	Wetland No.	Wetland Classification Type	Wetland Functions / Values Rating	Principal Vegetative Species	Invasive Species Currently Present	Relative Abundance of Invasive Species within ROW (S/C/A/D)
68 of 134	W20-126	PFO	Low	Cinnamon fern, Sphagnum Red maple, Yellow birch, Highbush blueberry, Ironwood, Sphagnum, Skunk cabbage, Tussock sedge	N	
68 of 134	W20-127	PSS/PFO	Low	Red maple, Yellow birch, Maleberry, Sphagnum, Cinnamon fern, Skunk cabbage,	N	
68 of 134	W20-128	PFO	Low	Red maple, Yellow birch, Maleberry, Sphagnum, Cinnamon fern, Skunk cabbage,	N	
69 of 134	W20-129	PSS – PFO	Low	Red maple, Maleberry, Mountain laurel, Sphagnum, Sedges	N	
70 of 134	W20-130	PFO/PSS	Low	Red maple, Spicebush, Cattails, Sphagnum	N	
71 of 134	W20-131	PFO – PEM	Low	Red maple, Honeysuckle, Japanese barberry, Cinnamon fern	Japanese barberry, Honeysuckle	C, C
71 of 134	W20-132	PFO	Moderate	Red maple, Spicebush, Highbush blueberry, Cinnamon fern, Skunk cabbage, Marsh marigold	N	
71 of 134	W20-133	PEM – PFO	Low	Red maple, Skunk cabbage, Soft rush, Cattails, Jewelweed, Sedges	N	
71 of 134	W20-134	PSS	Low	Sphagnum, Cinnamon fern, Sensitive fern, Skunk cabbage, Soft rush	N	
71 of 134	W20-135	PFO	Low	Red maple, Spicebush, Japanese barberry, Honeysuckle	Japanese barberry, Honeysuckle	C,C
72 of 134	W20-136	PFO	Low	Red maple, Spicebush, Japanese barberry, Sensitive fern, Skunk cabbage, Marsh marigold	Japanese barberry	C
72 of 134	W20-137	PFO/PSS	Moderate	Red maple, Spicebush, Japanese barberry, Honeysuckle, Multiflora rose, Meadowsweet, Speckled alder	Japanese barberry, Multiflora rose, Honeysuckle	C, A, C
72 & 73 of 134	W20-138	PFO – PSS	Low	Red maple, Honeysuckle, Multiflora rose, Cattails, Sphagnum, Skunk cabbage, Woolgrass, Steeplebush	Multiflora rose, Honeysuckle	A,C
73 of 134	W20-139	PFO/PSS	Low	Red maple, Eastern hemlock, Spicebush, Japanese	Japanese barberry	A

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74 of 134	W20-140	PFO/PSS	Low	barberry, Cinnamon fern, Skunk cabbage	Japanese barberry	A
74 of 134	W20-141	PFO	Low	Red maple, Spicebush, Japanese barberry, Skunk cabbage, Jewelweed, Marsh marigold	Honeysuckle	C
74 of 134	W20-142	PFO	Low	Red maple, Honeysuckle, Spicebush, Canada mayflower	Multiflora rose, Honeysuckle	C, C
74 of 134	W20-143	PSS – PFO	Low	Red maple, Eastern hemlock, White pine, Honeysuckle, Multiflora rose, Skunk cabbage, Jewelweed, Sensitive fern	Phragmites, Honeysuckle	C, C
74 of 134	W20-144	PFO – POW	Low	Honeysuckle, Willow, Cattails, Tussock sedge, Steeplebush, Phragmites, Skunk cabbage	Honeysuckle	C
75 of 134	W20-145	PFO	Low	Red maple, Honeysuckle, Sensitive fern	Honeysuckle	A
75 of 134	W20-146	PFO	Low	Red maple, Yellow birch, Shagbark hickory, Japanese barberry, Skunk cabbage, False hellebore	Japanese barberry	A
75 of 134	W20-147	PFO – POW	Moderate	Red maple, Yellow birch, Japanese barberry, Ironwood, Skunk cabbage, Jewelweed	Japanese barberry	A
75 & 76 of 134	W20-148	PUB/PEM/PFO/PSS	Moderate	Red maple, Spicebush, Japanese barberry, Skunk cabbage, Tussock sedge	Japanese barberry	A
76 of 134	W20-149	PFO/PSS	Low	Speckled alder, Silky dogwood, Reed canary grass, Cattails	Reed canary grass	A
77 of 134	W20-150	PFO/PSS	Moderate	Red maple, Spicebush, Japanese barberry, Honeysuckle, Skunk cabbage	Japanese barberry, Honeysuckle	A, C
79 & 80 of 134	W20-151	PSS – POW/PEM/PFO	Moderate	Red maple, Yellow birch, Shagbark hickory, honeysuckle, Skunk cabbage, False hellebore	Honeysuckle	C
80 of 134	W20-152	PSS – PFO/POW	Low	Red maple, American hornbeam, Highbush blueberry, Maleberry, Spicebush, Speckled alder, Multiflora rose, Tussock sedge, Skunk cabbage, Cattails	Multiflora rose	C
				Meadowsweet, Arrowwood, Sensitive fern, Soft rush, Deer tongue	N	

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80, 81 & 82 of 134	W20-153	PEM – PSS/PFO/POW	Moderate	Red maple, American hornbeam, Speckled alder, Highbush blueberry, Meadowsweet, Tussock sedge, Skunk cabbage, Cattails, Phragmites	Phragmites	A
82, 83 & 84 of 134	W20-154	PSS/PFO	Moderate	Red maple, Yellow birch, Speckled alder, Highbush blueberry, Swamp azalea, Maleberry, Spicebush, Tussock sedge, Skunk cabbage, Cattails, Phragmites, Cinnamon fern	Phragmites	S
83 & 84 of 134	W20-154A	PFO/PSS	Moderate	Red maple, Hickory, American hornbeam, Silky dogwood, Highbush blueberry, Autumn olive, Steeplebush, Cinnamon fern, Sensitive fern, Jewelweed, Tussock sedge	Autumn olive Multiflora rose	A S
84 of 134	W20-155	PEM	Low	Multiflora rose, Tussock sedge, Sensitive fern, Soft rush	Multiflora rose	C
84 of 134	W20-156	PSS	Moderate	Red elm, Multiflora rose, Skunk cabbage	Multiflora rose	C
84, 85 & 86 of 134	W20-157	PEM – PFO	Moderate	Red maple, Highbush blueberry, Tussock sedge, Skunk cabbage, Cattails	Purple loosestrife	S
86 of 134	W20-158	PSS – POW/PFO	Moderate	Red maple, Silky dogwood, Buttonbush, Speckled alder, Meadowsweet, Arrowwood, Soft rush, Purple loosestrife, Woolgrass, Boneset, Sensitive fern	Purple loosestrife	Not Assessed
86 of 134	W20-159	PFO – PSS	Low	Red maple, Red elm, White pine, Highbush blueberry, Maleberry, Tussock sedge, Skunk cabbage	Japanese barberry	S
88 of 134	W20-159A	PSS/PFO	Low	Red maple, Silky dogwood, Jewelweed, Multiflora rose, Glossy buckthorn, Reed canary grass	Multiflora rose Glossy buckthorn Reed canary grass	C A D
88A of 134	W20-160B	PFO	Moderate	Red maple, Spicebush, Poison ivy	Japanese barberry	S
89 & 89A of 134	W20-160	PSS/PFO	Moderate	Red maple, Red oak, American hornbeam, Arrowwood, Tussock sedge, Swamp cabbage	N	

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89A of 134	W20-160A	PSS – PFO	Moderate	Red maple, American hornbeam, Silky dogwood, Speckled alder, Meadowsweet, Multiflora rose, Skunk cabbage, False nettle	Multiflora rose	C
Pomifret						
94 of 134	W20-161	PFO	Low	Red maple, Pin oak, Silky dogwood	N	
93 of 134	W20-161A	PFO	Low	Red maple, Hickory, American hornbeam, Spicebush, American winterberry, Highbush blueberry, Cinnamon fern, Poison Ivy	Japanese barberry	S
95 & 96 of 134	W20-162	PSS – PEM/PFO	High	Red maple, Pin oak, Silky dogwood, Buttonbush, Arrowwood, Highbush blueberry, Tussock sedge, Skunk cabbage	Glossy buckthorn, Purple loosestrife	S, S
96 of 134	W20-163	PSS – PEM/PFO	Moderate	Red maple, Pussy willow, Speckled alder, Pepperbush, Silky dogwood, Arrowwood, Highbush blueberry, Tussock sedge, Skunk cabbage	Purple loosestrife	S
Killingly						
96 & 97 of 134	W20-164	PSS – PEM/PFO	Moderate	Red maple, Pussy willow, Speckled alder, Pepperbush, Silky dogwood, Arrowwood, Highbush blueberry, Tussock sedge, Skunk cabbage	Purple loosestrife	S
97 of 134	W20-165	PSS – PFO	Low	Red maple, Silky dogwood, Honeysuckle, Tussock sedge, Skunk cabbage	Honeysuckle	C
97 of 134	W20-166	PSS	Low	Silky dogwood, Reed canary grass	Reed canary grass, Honeysuckle	A, C
98 of 134	W20-167	PFO	Low	Red maple, Red oak, White pine, Highbush blueberry, Tussock sedge, Canada mayflower	N	
99 of 134	W20-168	PSS – PFO	Low	Red maple, Red oak, Green ash, Pepperbush, Highbush blueberry, Swamp azalea, Tussock sedge, Sensitive fern	N	

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99 & 100 of 134	W20-169	PSS	Low	Red maple, Silky dogwood, Highbush blueberry, Maleberry, Meadowsweet, Agrostis sp, Sensitive fern, Tussock sedge	Glossy buckthorn	S
100 of 134	W20-170A	PSS	Low	White pine, Silky dogwood, Arrowwood, Elderberry, Sensitive fern, goldenrod, Tussock sedge, Meadowsweet, Glossy buckthorn	Glossy buckthorn	A
101 of 134	W20-170	PEM – PSS	Low	Red maple, Gray birch, Willow, Maleberry, Multiflora rose, Highbush blueberry, Cattails, Tussock sedge, Skunk cabbage	Multiflora rose	C
101 & 102 of 134	W20-171	PSS – PFO	Low	Red maple, American hornbeam, Silky dogwood, Speckled alder, Highbush blueberry, Glossy buckthorn, Tussock sedge	Glossy buckthorn	C
101 of 134	W20-171A	PSS	Low	Maleberry, Silky dogwood, Glossy buckthorn, Steeplebush, Tussock sedge, Wool grass	Glossy buckthorn	C
Putnam						
103 of 134	W20-172	PSS – PEM/PFO	Moderate	Red maple, Yellow birch, Silky dogwood, Tussock sedge, Cattails, Reed canary grass	Reed canary grass	A
103 of 134	W20-173	PSS	Moderate	Multiflora rose, Honeysuckle, Silky dogwood, Rough-stemmed goldenrod	Multiflora rose, Honeysuckle	C, C
103 of 134	W20-174	PSS – PFO	Low	Silky dogwood, Glossy buckthorn, Arrowwood, Tussock sedge	Glossy buckthorn	C
104 of 134	W20-175	POW – PSS	Low	Highbush blueberry, Glossy buckthorn, Tussock sedge	Glossy buckthorn	A
104 of 134	W20-176	PSS – POW	Low	Highbush blueberry, Glossy buckthorn, Meadowsweet	Glossy buckthorn	A
Killingly						
105 of 134	W20-177	PSS	Moderate	Pin oak, Arrowwood, Willow, Gray birch, Speckled alder, Silky dogwood, Tussock sedge	N	

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105 & 106 of 134	W20-178	PSS – PFO	Moderate	Red maple, Pin oak, Willow, Silky dogwood, Highbush blueberry, Arrowwood, Woolgrass, Reed canary grass	Reed canary grass	C
Putnam						
110 of 134	W20-179	PSS	Low	Meadowsweet, Glossy buckthorn, Soft rush, Sedges	Glossy buckthorn	A
110 of 134	W20-180	PFO – PSS	Low	Red maple, Arrowwood, Silky dogwood, Highbush blueberry, Meadowsweet, Glossy buckthorn, Tussock sedge, Sensitive fern	Glossy buckthorn	C
110 of 134	W20-181	PSS	Low	Honeysuckle, Willow, Arrowwood, Haircap moss	Honeysuckle	C
110 of 134	W20-181B	PFO/PSS	Low	Pin oak, Swamp white oak, White pine, highbush blueberry, Winterberry	N	
111 of 134	W20-181A	PSS/PFO	Low	Glossy buckthorn, Multiflora rose, Honeysuckle, arrowleaf tearthumb, Soft rush, Tussock sedge	Glossy Buckthorn Multiflora rose, Honeysuckle	A, C, C
112 of 134	W20-182	PSS – PFO	Low	Red maple, White pine, Speckled alder, Highbush blueberry, Arrowwood, Agrostis sp, Tussock sedge	N	
112 of 134	W20-182A	PSS	Low	Maleberry, Highbush blueberry, Steeplebush, Soft rush, Sensitive fern, Skunk cabbage	N	
112 of 134	W20-183	PSS/PFO	Low	Red maple, White pine, Red oak, Speckled alder, Highbush blueberry, Multiflora rose, Skunk cabbage	Multiflora rose	C
113 of 134	W20-184	PSS – PEM/PFO	Moderate	Red maple, Speckled alder, Highbush blueberry, Glossy buckthorn, Tussock sedge, Sensitive fern, Skunk cabbage	Glossy buckthorn	C
115 of 134	W20-185	PSS	Low	Red maple, Speckled alder, Highbush blueberry, Glossy buckthorn, Arrowwood, Agrostis sp, Hayscented fern, Haircap moss	Glossy buckthorn	C

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116 of 134	W20-186	PFO – PSS	Low	Red maple, White pine, Speckled alder, Highbush blueberry, Arrowwood, Silky dogwood, Honeysuckle	Honeysuckle	C
116 & 117 of 134	W20-187	PFO	Low	Red maple, Red oak, Honeysuckle, Arrowwood, Speckled alder, Glossy buckthorn, Soft rush, Rough-stemmed goldenrod, Sensitive fern, Tussock sedge	Glossy buckthorn, Honeysuckle	C, C
117 & 118 of 134	W20-188	PFO – PSS	Low	Red maple, American hornbeam, Black cherry, Glossy buckthorn, Arrowwood, Speckled alder, Highbush blueberry, Maleberry, Tussock sedge, Cattails, Rough-stemmed goldenrod, Skunk cabbage	Glossy buckthorn	C
118 of 134	W20-189	PEM – PFO	Low	Red maple, Arrowwood, Sensitive fern, Reed canary grass	Reed canary grass	D
119 of 134	W20-190	PSS – PEM/PFO	Moderate	Red maple, Highbush blueberry, Maleberry, Silky dogwood, Swamp azalea, Tussock sedge, Cattails, Sensitive fern, Skunk cabbage	N	
119 & 120 of 134	W20-191	PFO – PSS/PEM	Moderate	Red maple, Highbush blueberry, Maleberry, Speckled alder, Glossy buckthorn, Tussock sedge, Cattails	Glossy buckthorn	A
120 of 134	W20-192	PFO – POW	Low	Red maple, Red oak, Highbush blueberry, Speckled alder, Glossy buckthorn	Glossy buckthorn	C
121 of 134	W20-193	PFO – PSS	Moderate	Red maple, White pine, Gray birch, Highbush blueberry, Speckled alder, Glossy buckthorn, Swamp azalea, Tussock sedge	Glossy buckthorn	C
122 of 134	W20-194	PFO – PEM/PSS	Low	Red maple, Maleberry, Pepperbush, Speckled alder, Swamp azalea, Highbush blueberry, Cattails, Tussock sedge	N	
122 & 123 of 134	W20-195	PFO/PSS	Moderate	Red maple, White pine, Swamp azalea, Winterberry, Highbush blueberry, Cinnamon fern	Phragmites	C
123 & 124 of 134	W20-196	PSS	Low	Highbush blueberry, Arrowwood, Raspberry, Tussock sedge, Cinnamon fern	N	

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124 & 125 of 134	W20-197	PFO/PSS/PEM	Moderate	Red maple, northern arrowwood, highbush blueberry, winterberry, cinnamon fern, Phragmites (in ROW)	Phragmites	D in ROW
126 of 134	W20-198	PFO – PEM/PSS	Moderate	Red maple, White pine, Fetterbush, Glossy buckthorn, Maleberry, Silky dogwood, Tussock sedge, Sensitive fern, Cinnamon fern	Glossy buckthorn	C
126 of 134	W20-199	PFO – PSS	Moderate	Red maple, Highbush blueberry, Arrowwood, Speckled alder, Silky dogwood, Tussock sedge	N	
126 & 127 of 134	W20-200	PFO – PEM/PSS	High	Speckled alder, Silky dogwood, Highbush blueberry, Arrowwood, Meadowsweet, Tussock sedge	N	
127 of 134	W20-201	PFO – PEM/PSS	High	Speckled alder, Silky dogwood, Highbush blueberry, Arrowwood, Meadowsweet, Tussock sedge	N	
Thompson						
127 of 134	W20-202	PSS	Low	Speckled alder, Glossy buckthorn, Arrowwood	Glossy buckthorn	C
127, 128 & 129 of 134	W20-203	PEM – PFO	High	Atlantic white cedar, Cattails, Sphagnum, Tussock sedge, Skunk cabbage, Woolgrass, Phragmites	Phragmites, Purple loosestrife	C, S
129 & 130 of 134	W20-204	PSS – PFO	Moderate	Red maple, Highbush blueberry, Winterberry, Silky dogwood, Woolgrass, Sensitive fern, Soft rush	N	
129 of 134	W20-205	PFO	Low	Highbush blueberry, Winterberry, Cinnamon fern	N	
130 of 134	W20-206	PSS/PFO	Low	Highbush blueberry, Winterberry, Sensitive fern, Reed canary grass	Reed canary grass	C
130 & 131 of 134	W20-207	PFO – PSS	Moderate	Highbush blueberry, Winterberry, Cinnamon fern, Sphagnum	N	
132 of 134	W20-208	PFO	Moderate	Red maple, Green ash, Pepperbush, Sphagnum, Cinnamon fern	N	

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Summary of Existing Wetland Characteristics, including Invasive Species: Connecticut Portion of the Interstate Reliability Project**

Map Sheet No. (refer to Volume 2A)	Wetland No.	Wetland Classification Type	Wetland Functions / Values Rating	Principal Vegetative Species	Invasive Species Currently Present	Relative Abundance of Invasive Species within ROW (S/C/A/D)
132 of 134	W20-209	PEM	Moderate	Highbush blueberry, Winterberry, Sedges, Sphagnum, Reed canary grass, Woolgrass	Reed canary grass	A
132 of 134	W20-210	PFO	Low	Red maple, Green ash, Black birch, White pine, Highbush blueberry, Winterberry, Witch-hazel, Sphagnum	N	
134 of 134	W20-211	PFO - PSS	Moderate	Red maple, Witch-hazel, Sphagnum, Cinnamon fern, Gold thread	N	

Attachment 1.1 Notes:

1. Invasive wetland species are: *Phragmites* (common reed grass), purple loosestrife, tartarian honeysuckle, Japanese barberry, Japanese knotweed, buckthorn, multiflora rose, autumn olive, reed canary grass, privet (*Ligustrum*), and spurge.
2. The principal vegetation species listed for each wetland were compiled from the results of wetland delineations (data forms) compiled by AECOM Environmental during field investigations performed in 2008 – 2011. Species listed in this table are those identified on the wetland delineation data forms as abundant – moderate density in each wetland. However, any occurrence of an invasive species is identified; invasive species are assumed to be either abundant – moderate unless otherwise noted.
3. Wetland classification is based on the Cowardin et al. (1979) system. PFO = palustrine forested, PSS = palustrine shrub/scrub, PEM = palustrine emergent, POW = palustrine open water.
4. Relative abundance : S = Sparse (< 5 % total cover); C = Common (6 to 25 % total cover); A = (26 to 50 % total cover); Abundant D = Dominant (> 50 % total cover)

* = Wetlands located on federally owned lands in Mansfield Hollow.

Attachment 1.2
Summary of Existing Wetland Characteristics, including Invasive Species: Rhode Island Portion of the Interstate Reliability Project

Map Sheet No. (refer to Volume 3A)	Wetland No.	Wetland Classification Type	Wetland Functions / Values Rating	Principal Vegetative Species	Invasive Species Currently Present	Relative Abundance of Invasive Species within ROW (S/C/A/D)
2 of 81	W03PR175	PSS/PFO	Moderate	Red maple, red oak, silky dogwood, winterberry, steeplesbush, sweet pepperbush, highbush blueberry, cinnamon fern.	N	
2 of 81	W03PR174	PSS	Moderate	Red oak, white pine, black birch, silky dogwood, sheep laurel, meadowsweet.	N	
3 of 81	W03PR173	PFO/PSS	High	Red maple, highbush blueberry, skunk cabbage	N	
3 of 81	W03PR172 300	PFO	Moderate	White pine, red oak, gray birch, cinnamon fern, skunk cabbage.	N	
3 of 81	W03PR172	PEM	High	Tussock sedge, sphagnum moss.	N	
5 of 81	W03PR171	PSS	Moderate	Meadowsweet, sheep laurel, tussock sedge, woolgrass.	N	
5 of 81	W03PR171A	PFO	High	Red maple, highbush blueberry.	N	
5 of 81	W03PR170	POW/PEM	High	Willow, meadowsweet, sweet pepperbush, goldenrods.	N	
6 of 81	W03PR169	PEM	Moderate	Highbush blueberry, sweet pepperbush, maleberry, tussock sedge, woolgrass.	N	
6 of 81	W03PR168	PFO	Moderate	Red maple, red oak, sweet pepperbush, sphagnum moss, Highbush blueberry.	N	
7 of 81	W03PR167	PFO	Moderate	Gray birch, sweet pepperbush, highbush blueberry, sheep laurel, sensitive fern, tussock sedge.	N	
7 of 81	W03PR166	PFO/PSS	Moderate	Black gum, sweet pepperbush, swamp azalea, willow, sensitive fern, skunk cabbage.	N	
8 of 81	W03PR165	PFO/PEM	Moderate	Hemlock, sweet pepperbush, sheep laurel, soft rush, sawgrass.	N	
11 of 81	W03PR164	PFO/PEM	Moderate	Gray birch, black gum, red maple, swamp azalea, sweet pepperbush, highbush blueberry, cattail, skunk cabbage.	N	
11 & 12 of 81	W03PR163	PFO/PEM	Moderate	Red maple, black gum, speckled alder, witch-hazel, sweet pepperbush, maleberry, gray birch, sensitive fern.	N	
13 of 81	W03PR162	PEM/PFO	Moderate	Red maple, gray birch, witch-hazel, highbush blueberry,	N	

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				sweet pepperbush, maleberry, stepplebush, woolgrass, tussock sedge.		
13 of 81	W03PR161	PFO	Moderate	Red maple, gray birch, witch-hazel, yellow birch, cinnamon fern, New York fern.	N	
13 of 81	W03PR160	PEM	Moderate	Red maple, stepplebush, gray birch, woolgrass, bentgrass.	N	
14 of 81	W03PR159	PFO	Moderate	Red oak, red maple, sweet pepperbush, highbush blueberry, swamp azalea.	N	
13 & 14 of 81	W03PR158	PEM/PFO	Moderate	Scarlett oak, red maple, witch-hazel, highbush blueberry, sweet pepperbush, maleberry, gray birch, goldenrod.	N	
14 of 81	W03PR157	PEM/PFO	Moderate	Witch-hazel, arrowwood, meadowsweet, goldenrod, cinnamon fern, dewberry.	N	
14 of 81	W03PR156	PFO	Moderate	Red maple, gray birch, sweet pepperbush, winterberry, highbush blueberry, dewberry, black gum.	N	
15 of 81	W03PR155	PFO	Moderate	Red maple, gray birch, sweet pepperbush, highbush blueberry.	N	
15 of 81	W03PR154	PEM	Moderate	Red maple, sweet pepperbush, stepplebush, sensitive fern, goldenrod, maleberry, witch-hazel, gray birch.	N	
15 of 81	W03PR153	PSS	Moderate	Highbush blueberry, maleberry, meadowsweet, stepplebush, witch-hazel.	N	
15 of 81	W03PR152	PEM	Moderate	Maleberry, witch-hazel, meadowsweet, stepplebush, sensitive fern, goldenrod, Joe-pye-weed, blackberry, sphagnum moss.	N	
16 of 81	W03PR151	PFO/PEM	Moderate	Sweet pepperbush, maleberry, goldenrod, cinnamon fern, dewberry.	N	
16 of 81	W03PR150	PFO/PEM	Moderate	Red oak, gray birch, witch-hazel, winterberry, sweet pepperbush, woolgrass, goldenrod, dewberry.	N	
16 of 81	W03PR149	PFO/PEM	Moderate	Yellow birch, red maple, hemlock, arrowwood, sweet	Buckthorn	C

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				pepperbush, cinnamon fern, meadowsweet, buckthorn, sensitive fern.		
16 & 17 of 81	W03PR148	PFO/PEM	Moderate	Hemlock, red maple, sweet birch, maleberry, highbush blueberry, woolgrass, meadowsweet, stepplebush, sweet pepperbush, Sphagnum, sensitive fern.	N	
17 of 81	W03PR147	PFO	Moderate	Hemlock, red maple, sweet birch, maleberry, highbush blueberry.	N	
17 of 81	W03PR146	PFO/PEM	Moderate	Hemlock, Witch-hazel, gray birch, arrowwood, goldenrod, highbush blueberry.	N	
17 of 81	W03PR145	PFO	Moderate	Red maple, red oak, hemlock, cinnamon fern, winterberry, black gum.	N	
17 of 81	W03PR144	PFO	Moderate	Red maple, red oak, witch-hazel, highbush blueberry, swamp azalea, cinnamon fern, meadowsweet, stepplebush, goldenrod, bluejoint grass, sweet pepperbush.	N	
18 of 81	W03PR143	PFO/PEM	Moderate	Red maple, red oak, sweet pepperbush, witch-hazel, cinnamon fern, black gum, stepplebush, goldenrod, sensitive fern, cattail, sphagnum moss	N	
18 of 81	W03PR142	PFO/PEM	Moderate	Red oak, green ash, sweet pepperbush, witch-hazel, meadowsweet, stepplebush, sensitive fern, Joe-pyc-weed, dewberry, greenbrier.	N	
18 of 81	W03PR141	PEM	Moderate	Red maple, sweet pepperbush, stepplebush, woolgrass, goldenrod, sphagnum moss, sheep laurel,	N	
18 of 81	W03PR140	PFO	Moderate	Red oak, green ash, red maple, black birch, winterberry, American hornbeam, Sphagnum moss.	N	
18 of 81	W03PR139	PEM	Moderate	Red maple, maleberry, sheep laurel, goldenrod, Joe-pyc-weed, dewberry, fox grape	N	
18 of 81	W03PR138	PFO	Moderate	Red maple, red oak, green ash, winterberry, arrowwood, witch-hazel, stepplebush, sedge, cinnamon fern,	N	

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19 of 81	W03PR137	PEM	High	greenbrier. Red maple, highbush blueberry, sweet pepperbush, cinnamon fern, greenbrier.	N	
19 of 81	W03PR136	PFO/PEM	Moderate	Red maple, red oak, white oak, witch-hazel, sweet pepperbush, highbush blueberry, cinnamon fern, arrowwood, sassafras, sensitive fern, cinnamon fern, Joe-pye-weed, fox grape,	N	
19 of 81	W03PR135	PFO	Moderate	Red maple, red oak, green ash, black gum, yellow birch, witch-hazel, sweet pepperbush, highbush blueberry, winterberry, spicebush, cinnamon fern	N	
20 of 81	W03PR134	PFO	Moderate	Red maple, red oak, yellow birch, highbush blueberry, withe-rod, hazelnut, winterberry, cinnamon fern, sphagnum moss, poison ivy, green ash,	N	
20 & 21 of 81	W03PR133	PFO	Moderate	Red maple, red oak, green ash, yellow birch, highbush blueberry, American hornbeam winterberry, sweet pepperbush, cinnamon fern, sphagnum moss.	N	
20 & 21 of 81	W03PR132	PFO/PEM	Moderate	Red maple, tulip tree, yellow birch, sweet pepperbush, maleberry, spicebush, witch-hazel, woolgrass, meadowsweet, steeplebush, goldenrod, cinnamon fern, dewberry.	N	
21 of 81	W03PR131	PFO/PEM	Moderate	Red maple, red oak, green ash, black gum, gray birch, sweet pepperbush, highbush blueberry, woolgrass, winterberry, spicebush, cinnamon fern, tussock sedge.	N	
21 of 81	W03PR130	PEM	Moderate	Meadowsweet, steeplebush, willow, cinnamon fern, woolgrass.	N	
21 of 81	W03PR129	PFO/PEM	Moderate	Red maple, gray birch, black birch, highbush blueberry, cinnamon fern, New York fern.	N	
21 & 22 of 81	W03PR128	PFO	Moderate	Red maple, black birch, black gum, green ash, white pine, yellow birch, speckled alder, sweet pepperbush,	N	

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21/22 of 81	W03PR127	PFO/PEM	Moderate	winterberry, spicebush, cinnamon fern. Red maple, black gum, green ash, white pine, yellow birch, red oak, tulip tree, sweet pepperbush, winterberry, steeplebush, meadowsweet, highbush blueberry, New York fern, cinnamon fern.	N	
22 of 81	W03PR126	PSS/PFO	Moderate	sweet pepperbush, steeplebush, meadowsweet, blackberry, water horehound, panic grass, bluejoint grass, fox grape, dewberry, cranberry.	N	
22 of 81	W03PR125	PFO	Moderate	Red maple, green ash, highbush blueberry, sweet pepperbush, witch-hazel, steeplebush, bog muhly, panicgrass, Canadian rush, beggartick, woolgrass, dew berry.	N	
22 of 81	W03PR124	PFO	Moderate	Red maple, blackgum, green ash, red oak, witch-hazel, sheep laurel, cinnamon fern, highbush blueberry.	N	
22 & 23 of 81	W05PR002	PSS	High	Sweet pepperbush, multiflora rose, steeplebush, woolgrass, giant goldenrod, sensitive fern,	Multiflora rose	S
23 of 81	W03PR123	PFO	Moderate	Red maple, white oak, red oak, swamp azalea, winterberry, sweet pepperbush, highbush blueberry, steeplebush, sensitive fern, dewberry, bluejoint grass, goldenrod, flat-top goldentop, marsh fern, golden rod, water horehound, cinnamon fern, greenbrier,	N	
23 of 81	W03PR122	PFO/PEM	Moderate	Red maple, swamp azalea, highbush blueberry, winterberry.	N	
23 of 81	W05PR005	PFO	Low	Red maple, white pine, red oak, highbush blueberry, maleberry, witch-hazel.	N	
23 of 81	W03PR121	PFO	Moderate	Red maple, black birch, sweet pepperbush, witch-hazel, highbush blueberry,	N	
23 of 81	W03PR120	PFO	Moderate	Red maple, yellow birch, witch-hazel, sweet pepperbush.	N	

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23 of 81	W03PR119	PSS	Moderate	Steeplebush, meadowsweet, sweet pepperbush, sheep laurel, dewberry, horehound.	N	
23 of 81	W03PR118	PSS	Moderate	Sweet pepperbush, highbush blueberry, maleberry, sheep laurel, woolgrass, dewberry,	N	
23 & 24 of 81	W03PR117	PEM	Moderate	Steeplebush, meadowsweet, sweet pepperbush, sensitive fern, dewberry, fox grape, sphagnum moss.	N	
24 of 81	W03PR116	PFO	Moderate	Red maple, gray birch, black birch, swamp azalea, sweet pepperbush.	N	
23 of 81	W03PR115	PFO	Moderate	Red maple, red oak, gray birch, highbush blueberry, winterberry, sweet pepperbush, witch-hazel.	N	
24 of 81	W03PR114	PFO/PEM	Moderate	Hemlock, red oak, red maple, highbush blueberry, sweet pepperbush, mountain laurel, sheep laurel, cinnamon fern, princess pine, goldthread.	N	
25 of 81	W03PR113	PEM	Moderate	Sheep laurel, steeplebush, dogwood, woolgrass, sedge, sensitive fern.	N	
26 of 81	W03PR112	PSS	Moderate	Red maple, white oak, gray birch, sheep laurel, winterberry, highbush blueberry, marsh fern.	N	
27 of 81	W03PR111	PFO	Moderate	Ash, white pine, highbush blueberry, arrowwood, Alder, multiflora rose, silky dogwood, sensitive fern, horehound.	multiflora rose	C
26 & 27 of 81	W03PR110	PFO/PEM	High	Hemlock, red maple, yellow birch, hornbeam, white pine, winterberry, highbush blueberry, sweet pepperbush, maleberry, steeplebush, tussock sedge, cinnamon fern, sensitive fern, cattail, woolgrass, skunk cabbage.	N	
27 of 81	W03PR109	PFO	High	Red maple, green ash, hemlock, winterberry, arrowwood, highbush blueberry, cattail, lurid sedge, soft rush, beggartick.	N	
27 of 81	W03PR108	PFO	High	Red maple, winterberry, arrowwood.	N	

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28 of 81	W03PR106	PFO	Moderate	Red maple, green ash, white pine, winterberry, sweet pepperbush, steplebush, cinnamon fern, sensitive fern, elderberry.	N	
29 of 81	W03PR107	PFO	Moderate	Red maple, black birch, winterberry, greenbrier, highbush blueberry.	N	
29 of 81	W03PR105	PSS/PEM	Moderate	Sweet pepperbush, dewberry, woolgrass, bluejoint grass.	N	
29 & 30 of 81	W03PR104	PFO/PSS	Moderate	Red maple, white pine, winterberry, dewberry, sphagnum moss.	N	
30 of 81	W03PR103	PFO	Moderate	Red maple, highbush blueberry, sphagnum moss.	N	
30 of 81	W03PR102	PFO	Moderate	Red maple, sweet pepperbush, maleberry, highbush blueberry, winterberry, cinnamon fern, goldthread.	N	
30 of 81	W03PR101	PEM	Moderate	Maleberry, highbush blueberry, willow, maleberry, steplebush.	N	
30 of 81	W03PR100	PFO/PEM	Moderate	Red maple, white pine, speckled alder, winterberry, highbush blueberry, woolgrass, steplebush, tussock sedge, goldthread, dewberry.	N	
30 & 31 of 81	W03PR099	PEM/PFO	High	Red maple, gray birch, silky dogwood, speckled alder, steplebush, leather leaf, tussock sedge, Phragmites.	Phragmites	C
31 of 81	W03PR098	PEM	High	Speckled alder, willow.	N	
32 of 81	W03PR097	PFO/PEM	High	Speckled alder, willow, elderberry, steplebush, cattail, reed canarygrass, purple loosestrife.	Reed canary grass, Purple loosestrife	C,C
32 of 81	W03PR097A	PFO/PEM	Low	Red maple, white pine, swamp white oak, sweet pepperbush, highbush blueberry, swamp azalea.	N	
32 of 81	W03PR098A	PFO	Low	Red maple, white pine, willow, witch-hazel, cinnamon fern, sensitive fern, horse tail, hayscented fern.	N	
32 of 81	W03PR099A	PFO	Low	Red maple, white pine, witch-hazel, cinnamon fern, sensitive fern, hayscented fern.	N	
31, 32 & 32A	W03PR096	PEM/PFO	High	Red maple, Phragmites, sweet pepperbush, winterberry,	Phragmites,	C,C

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of 81				white pine, willow, speckled alder, and cinnamon fern, reed canary grass.	Reed canary grass.	
32 & 32A of 81	W03PR095A	PEM	Moderate	Elderberry, Phragmites, Purple loosestrife.	Phragmites, Purple loosestrife	D, D
32, 32A & 32B of 81	W03PR095B	PEM	Moderate	Red maple, sweet pepperbush, highbush blueberry, swamp azalea, cattail, tussock sedge, Purple loosestrife, sensitive fern.	Purple loosestrife	D
32A of 81	W03PR095C	PFO	Moderate	Red maple, white pine, black gum, sweet pepperbush, witch-hazel, spicebush, highbush blueberry.	N	
33 of 81	W03PR094	PFO	Moderate	Red maple, highbush blueberry, winterberry, fetter-bush.	N	
33 & 34 of 81	W03PR093	PSS/PFO	Moderate	Red maple, highbush blueberry, willow, sweet pepperbush, elderberry, cattail, swamp azalea, soft rush, woolgrass, steeplebush, Joe-pye-weed, sensitive fern, cinnamon fern, fox grape, greenbrier.	N	
34 & 35 of 81	W03PR092	PFO	High	Red maple, yellow birch, black gum, highbush blueberry, winterberry, swamp azalea, steeplebush, witch-hazel, sweet pepperbush, maleberry, woolgrass, sensitive fern, goldenrod, cattail, purple loosestrife	Purple loosestrife	C
35 of 81	W03PR091	PFO	High	Red maple, red oak, highbush blueberry, huckleberry, witch-hazel, greenbrier.	N	
35 of 81	W03PR090	PEM	High	Gray birch, sweet pepperbush, willow, goldenrod, meadowsweet, reedtop, bentgrass, flat-top goldentop, woolgrass, tussock sedge.	N	
35, 36 & 37 of 81	W03PR089B			Red maple, white pine, yellow birch, red oak, highbush blueberry, maleberry, sweet pepperbush, swamp azalea, fetter-bush, winterberry, sheep laurel, woolgrass, steeplebush, goldenrod, sensitive fern, cinnamon fern, tussock sedge, royal fern, beaksedge, Canadian rush,	Reed canary grass	S

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37 of 81	W03PR088B			greenbrier, Reed canarygrass.		
37 & 38 of 81	W03PR087	PFO/PEM	High	Sensitive fern White pine, red maple, red oak, hornbeam, yellow birch, silky dogwood, elderberry, arrowwood, maleberry, meadowsweet, stepplebush, highbush blueberry, sensitive fern, goldthread, goldenrod, Joe-pye-weed, New York fern, sensitive fern, cinnamon fern, woolgrass.	N N	
38 of 81	W03PR088A	PEM	High	Sensitive fern	N	
38 of 81	W03PR089A	PEM/PSS	High	Arrowwood, maleberry, sheep laurel, Joe-pye-weed, sensitive fern, goldenrod, cinnamon fern.	N	
38 of 81	W03PR086	PFO	High	Red maple, white pine, gray birch, black birch, wood reed, arrowwood.	N	
38 & 39 of 81	W03PR085	PEM/PSS	High	Sensitive fern	N	
38 & 39 of 81	W03PR084	PSS/PFO	Moderate	Red maple, red oak, swamp white oak, white pine, shagbark hickory, gray birch, arrowwood, winterberry,	N	
39 of 81	W03PR083	PFO	Moderate	Red maple, green ash, spicebush, winterberry, arrowwood, highbush blueberry, cinnamon fern, goldenrod, stepplebush, cattail, speckled alder, flat-top goldentop, poison ivy, Joe-pye-weed, woolgrass, Reed canary grass.	Reed canary grass	C
39 of 81	W03PR082	PEM	Moderate	Stepplebush, red maple, silky dogwood, winterberry, maleberry, goldenrod, sensitive fern, Joe-pye-weed	Morrows honeysuckle	C
39 & 40 of 81	W03PR081	PEM/PSS/PFO	Moderate	Red maple, black gum, spicebush, winterberry, cinnamon fern.	N	
40 & 41 of 81	W03PR080	PEM/PSS/PFO	Moderate	Red maple, green ash, gray birch, American elm, black cherry, American hornbeam, witch-hazel, highbush blueberry, silky dogwood, winterberry, sweet	Reed canary grass	C

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41 & 42 of 81	W03PR078	PEM/PSS/PFO	Moderate	pepperbush, cinnamon fern, sensitive fern, fringe sedge, lurid sedge, Joe-pye-weed, skunk cabbage, stepplebush, goldenrod, poison ivy, lady fern, woodreed, Reed canary grass	N	
42 of 81	W03PR079	PEM	Moderate	Red maple, red oak, gray birch, American hornbeam, pussy willow, maleberry, meadowsweet, witch-hazel, swamp azalea, stepplebush, Canadian rush, goldenrod, cinnamon fern, New York fern, princess pine, bluejoint grass.	N	
43 of 81	W03PR077	PSS	Moderate	Red maple, highbush blueberry, sweet fern, stepplebush, woolgrass, dewberry.	N	
43 of 81	W03PR076	PEM/PFO	Moderate	Red maple, highbush blueberry, gray birch, stepplebush, cinnamon fern, Joe-pye-weed, dewberry, greenbrier.	N	
43 of 81	W03PR075	PEM	Moderate	Red maple, gray birch, sweet pepperbush, highbush blueberry, winterberry, stepplebush, tussock sedge, Reed canary grass	Reed canary grass	D
43 of 81	W03PR074	PFO	Moderate	Red maple, gray birch, sweet pepperbush, highbush blueberry, winterberry, stepplebush, tussock sedge, Reed canary grass	Reed canary grass	D
44 of 81	W03PR031A	PFO	Moderate	Red maple, gray birch, green ash, American elm, winterberry, cinnamon fern, woodreed, cattail, Joe-pye-weed, sensitive fern, arrowwood, fringe sedge, Purple loosesstrife	Purple loosesstrife	C
44 of 81	W03PR073	PFO	Moderate	Red maple, red oak, gray birch, sweet pepperbush, highbush blueberry, swamp azalea.	N	
45 of 81	W03PR072	PFO	Moderate	Sweet pepperbush, maleberry, cinnamon fern, goldenrod, Blackberry, stepplebush, goldenrod, cinnamon fern, fox grape, dewberry.	N	

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45 of 81	W03PR071	PFO	Moderate	Red maple, arrowwood, silky dogwood, winterberry, goldenrod, multiflora rose, little bluestem, sensitive fern,	Multiflora rose	C
45 of 81	W03PR070	PFO	Moderate	Gray birch, red maple, winterberry, arrowwood, American elm, multiflora rose, Japanese barberry, swamp azalea, highbush blueberry, cinnamon fern.	Multiflora rose, Japanese barberry	S,S
46 of 81	W03PR068	PEM	Moderate	Red maple, green ash, highbush blueberry, winterberry, multiflora rose, Japanese barberry, willow, meadowsweet, multiflora rose, and reed canary grass.	Rosa multiflora, Japanese Barberry, Reed canary grass	S,S,C
46 of 81	W03PR067	PEM	Moderate	Meadowsweet, highbush blueberry, maleberry, goldenrods, multiflora rose.	Multiflora rose,	S
47 of 81	W03PR066	PEM	Moderate	Giant goldenrod, roughstem goldenrod, poison ivy, woolgrass, stepplesh, soft rush, panic grass,	N	
48 of 81	W03PR069	PEM/ POW	Moderate	Speckled alder, arrowwood, false nettle, beggartick, sensitive fern, rice cutgrass, mannagrass, reed canary grass, goldenrod.	Reed canary grass	C
49 of 81	Slattersville River and Reservoir	OW	Moderate		N	
51 of 81	W03PR065	PEM/PFO	Moderate	Speckled alder, willow, sensitive fern, stepplesh, meadowsweet, woolgrass, cattail, Phragmites,	Phragmites	C
52 of 81	W03PR064	PEM/PFO	Moderate	Red maple, winterberry, swamp azalea, cinnamon fern, tussock sedge, goldenrod, Phragmites,	Phragmites	C
52 & 53 of 81	W03PR063	PEM/ POW	Moderate	White pine, gray birch, speckled alder, swamp azalea, stepplesh, pussy willow, maleberry, dewberry, sedge,	N	
53 of 81	W03PR062	PEM	Moderate	Pitch pine, gray birch, stepplesh, bayberry, sweet fern, beggartick, bog goldenrod, beaksedge, bog mulhly, cranberry.	N	

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53 of 81	W03PR061	PSS/POW	Moderate	White pine, willow, gray birch, highbush blueberry, maleberry, arrowwood, cranberry, stepplebush, rush, Joe-pye-weed, orangegrass, broomsedge, dewberry, seedbox, Beggartick, panicgrass, sedge, bog mutuly, aster, rush, reed canary grass	Reed canary grass	C
53 of 81	W03PR060	PFO/POW	Moderate	Red maple, white pine, arrowwood, highbush blueberry, elderberry, Joe-pye-weed, goldenrod, poison ivy, stepplebush, cinnamon fern, royal fern, New York fern, beggartick, sphagnum moss, sensitive fern, grass leaved goldenrod, reed canary grass.	Reed canary grass	C
53, 54 & 55 of 81	W03PR057	PFO/PEM	Moderate	Red maple, red oak, white oak, white pine, sweet pepperbush, highbush blueberry, choke cherry, with-rod, maleberry, swamp azalea, stepplebush, goldenrod, flat-top goldentop, maleberry, speckled alder, woolgrass, astern winterberry, skunk cabbage, cinnamon fern, starflower, bellwort, reed canary grass	Reed canary grass	C
54 of 81	W03PR059	PFO	Moderate	Red maple, gray birch, shagbark hickory, winterberry, spicebush, sensitive fern, cinnamon fern, poison ivy, skullcap.	N	
54 of 81	W03PR058	PFO	Moderate	Red maple, swamp azalea, winterberry, jewelweed, sensitive fern, poison ivy, lady fern.	N	
56 of 81	W03PR056	PFO	Moderate	Red maple, black gum, white pine, arrowwood, winterberry, maleberry, stepplebush, soft rush, St. Johns Wort, highbush blueberry, goldenrod, rush, Joe-pye-weed, cinnamon fern, skunk cabbage, jewelweed,	N	
56 of 81	W03PR055	PFO	Moderate	Red maple, black gum, arrowwood, spicebush, winterberry, jewelweed, sensitive fern, woolgrass, goldenrod, joe-pye-weed, flat-top goldentop, skunk	N	

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Summary of Existing Wetland Characteristics, including Invasive Species: Rhode Island Portion of the Interstate Reliability Project

Map Sheet No. (refer to Volume 3A)	Wetland No.	Wetland Classification Type	Wetland Functions / Values Rating	Principal Vegetative Species	Invasive Species Currently Present	Relative Abundance of Invasive Species within ROW (S/C/A/D)
56 of 81	W03PR054	PSS	Moderate	cabbage, Virginia creeper, tearthumb. Black gum, red maple, arrowwood, winterberry, sensitive fern, fox grape, jewelweed, sedge, skunk cabbage, mannagrass, bladder sedge, Virginia creeper, Joe-pye-weed.	N	
56 of 81	W03PR053	PEM/PSS	Moderate	Red maple, black gum, arrowwood, sensitive fern, joe-pye-weed, goldenrod, jewelweed, mannagrass, New York fern, flat-top golden-top.	N	
57 of 81	W03PR052	PFO	Moderate	Red maple, black gum, highbush blueberry, spicebush, winterberry, stepplebush, silky dogwood, skunk cabbage, sensitive fern, jewelweed, woolgrass, fringe sedge, cattail, goldenrod, tearthumb, greenbrier, fox grape, Virginia creeper.	N	
57 of 81	W03PR051	PFO	Moderate	Red maple, white oak, winterberry, arrowwood, American hazelnut, cinnamon fern, skunk cabbage, New York.	N	
57 of 81	W03PR050	PSS	Moderate	Gray birch, maleberry, swamp azalea, highbush blueberry, arrowwood, goldenrod, flat-top goldentop, tearthumb, Canadian rush, meadowsweet, Joe-pye-weed, Reed canary grass	Reed canary grass	C
58 of 81	W03PR049	PFO	Moderate	Red maple, white pine, white oak, Atlantic white cedar, sweet pepperbush, swamp azalea, cinnamon fern, princess pine, New York fern.	N	
58 of 81	W03PR048	PSS	Moderate	Red maple, sweet pepperbush, with-rod, stepplebush, flat-top, goldenrod, beggartick, meadowsweet, redtop.	N	
58 & 59 of 81	W03PR047	PEM	Moderate	Arrowwood, winterberry, American hazel-nut, stepplebush, goldenrod, beggartick, tearthumb, with-rod, flat-top, iris, panicgrass, bluejoint grass.	N	

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59 of 81	W03PR046	PFO/PEM	Moderate	Red maple, black gum, red oak, sweet pepperbush, arrowwood, swamp azalea, skunk cabbage, sensitive fern, jewelweed, cinnamon fern, with-rod, poison ivy.	N	
59 of 81	W03PR045	POW	High	Red maple, black gum, highbush blueberry, witch-hazel, woolgrass, beggartick, hazelnut, sedge.	N	
59 of 81	W03PR044	PFO	Moderate	Red maple, American elm, winterberry, highbush blueberry, spicebush, cattail, sunk cabbage, cinnamon fern, jewelweed, purple loosestrife	Purple loosestrife	D
60 of 81	W03PR043B	PFO	Moderate	Red maple, American elm, winterberry, highbush blueberry, spicebush, skunk cabbage.	N	
60 of 81	W03PR043A	PEM	Low	Red maple, gray birch, steplebush, sedge, cinnamon fern, devil's beggartick	N	
60 of 81	W03PR042	PFO	Moderate	Red maple, green ash, winterberry, beggartick, duckweed.	N	
60 & 61 of 81	W03PR041	PEM	Moderate	Red maple, Eastern hemlock, gray birch, white pine, arrowwood, highbush blueberry, speckled alder, goldenrod, purple loosestrife, meadowsweet, cattail, swamp loosestrife,	Purple loosestrife	C
62 of 81	W03PR040A	PFO	Moderate	Red maple, green ash, aspen, willow, sweet pepperbush, highbush blueberry, arrowwood, maleberry, speckled alder, swamp azalea, cattail, sensitive fern, cinnamon fern, skunk cabbage, mannagrass, woolgrass.	N	
62 of 81	W03PR040	PFO	Moderate	Red maple, green ash, aspen, willow, sweet pepperbush, highbush blueberry, arrowwood, maleberry, speckled alder, swamp azalea, cattail, sensitive fern, cinnamon fern, skunk cabbage, mannagrass, woolgrass.	N	
62 of 81	W03PR039	PEM	Moderate	Witch-haze, fringe sedge, skunk cabbage, jewelweed.	N	

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62 & 63 of 81	W03PR038	PFO/PEM	Moderate	Red maple, highbush blueberry, sweet pepperbush, swamp azalea, winterberry, arrowwood, maleberry, tussock sedge, skunk cabbage, stepplebush, cinnamon fern, Canada mayflower, royal fern, fox grape.	N	
64, 79, 80, 81 & 81A of 81	W03PR033	PEM/PSS/PFO	High	Red maple, gray birch, white pine, highbush blueberry, swamp azalea, Phragmites.	Phragmites,	C
65 of 81	W04PR001	PFO/PSS	Moderate	Red maple, highbush blueberry, multiflora rose, arrowwood, skunk cabbage, cinnamon fern.	Multiflora rose	C
65 of 81	W04PR002	PEM/PFO	High	Red maple, white pine, highbush blueberry, winterberry, swamp azalea, arrowwood, tussock sedge, cinnamon fern, skunk cabbage, sensitive fern, stepplebush, Phragmites.	Phragmites	S
65 & 66 of 81	W04PR003	PEM/PSS	High	Gray birch, highbush blueberry, northern arrowwood, swamp azalea, cattail, purple loosestrife, tussock sedge, skunk cabbage.	Purple loosestrife	C
68 of 81	W04PR004	PSS/PFO	Moderate	Red maple, speckled alder, highbush blueberry, maleberry, winterberry, swamp azalea, arrowwood, tussock sedge, cinnamon fern, skunk cabbage, sensitive fern, stepplebush.	N	
68 & 69 of 81	W04PR005	PSS/PFO	Moderate	Red maple, speckled alder, highbush blueberry, maleberry, winterberry, skunk cabbage, sensitive fern, stepplebush.	N	
68 of 81	W04PR006	PSS/PFO	Moderate	Red maple, highbush blueberry, maleberry, winterberry, cinnamon fern, skunk cabbage, sensitive fern, sphagnum moss.	N	
69 of 81	W04PR007	PEM/PSS/PFO	Moderate	Red maple, speckled alder, highbush blueberry, arrowwood, elderberry, skunk cabbage, sensitive fern, cattail.	N	

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70 of 81	W04PR008	PSS/PFO	High	Red maple, green ash, gray birch, speckled alder, highbush blueberry, silky dogwood, common buckthorn, tussock sedge, cattail, steplebush.	Buckthorn	C
71 of 81	W04PR009	PEM/PSS	High	Cottonwood, Red maple, arrowwood, silky dogwood, meadowsweet, steplebush, soft rush, Phragmites, knotweed.	Phragmites, Knotweed	C,C
71 of 81	W04PR010	PEM/PSS	Moderate	Cottonwood, Red maple, silky dogwood, speckled alder, tussock sedge, skunk cabbage, sensitive fern, jewelweed.	N	
71 of 81	W04PR011	PEM	Moderate	Red maple, red oak, buttonbush, silky dogwood, swamp azalea, arrowwood, skunk cabbage, soft rush.	N	
72 of 81	W04PR012	PEM	Moderate	Autumn olive, arrowwood, cattail, steplebush.	Autumn olive	D
71 & 72 of 81	W04PR017	PSS/PFO	Moderate	Red maple, willow, speckled alder, arrowwood, meadowsweet, sensitive fern, cinnamon fern, skunk cabbage.	N	
72 of 81	W04PR013	PEM	Moderate	Red maple, silky dogwood, arrowwood, autumn olive, multiflora rose, cattail.	Autumn olive, Multiflora rose	C,C
72 of 81	W04PR014	PEM (detention basin)	Low	Multiflora rose, reed canary grass, honeysuckle	Multiflora rose, reed canary grass, honeysuckle	S,C,S
72 of 81	W04PR015	PEM (detention basin)	Low	Multiflora rose, reed canary grass	Multiflora rose, reed canary grass	S,C
72 of 81	W04PR016	PEM (detention basin)	Low	Red maple, stinging nettle, jewelweed, cattail, reed canary grass	Reed canary grass	D
72 of 81	W04PR018	PEM (detention basin)	Low	Bedstraw, stinging nettle, cattail, reed canary grass	Reed canary grass	D

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72 of 81	W04PR019	PSS	Moderate	Silky dogwood, multiflora rose, deer tongue, cinnamon fern, meadowsweet.	Multiflora rose	C
72/ & 3 of 81	W04PR020	PEM/PSS/PFO	Moderate	Gray birch, arrowwood, silky dogwood, speckled alder, swamp azalea, sweet pepperbush, highbush blueberry, soft rush, meadowsweet, skunk cabbage, stepplebush, sensitive fern.	N	
73 of 81	W04PR021	PSS	Moderate	Arrowwood, silky dogwood, speckled alder, highbush blueberry, swamp azalea, sphagnum moss, sensitive fern, common buckthorn.	Common buckthorn	C
74 of 81	W04PR022	PFO	Low	Red maple, black cherry, speckled alder, highbush blueberry, arrowwood, royal fern, sensitive fern, tussock sedge, skunk cabbage.	N	
74 of 81	W04PR023	PEM	Moderate	Red maple, speckled alder, maleberry, highbush blueberry, tussock sedge, meadowsweet, purple loosestrife.	Purple loosestrife	C
75 & 76 of 81	W04PR024	PEM	High	Arrowwood, red osier, silky dogwood, tussock sedge, jewelweed, purple loosestrife, multiflora rose.	Purple loosestrife, Multiflora rose	C
76 of 81	W04PR025	PEM/PSS	High	Silky dogwood, arrowwood, speckled alder, skunk cabbage, sensitive fern, multiflora rose.	Multiflora rose	D
77, 78 & 79 of 81	W04PR026	PEM/PSS	High	Red maple, spicebush, dogwood, speckled alder, sweet pepperbush, elderberry, maleberry, skunk cabbage, cattail, tussock sedge, purple loosestrife, Phragmites.	Phragmites, Purple loosestrife	S,S
78 & 79 of 81	W04PR031	PEM/PSS	High	Red maple, spicebush, dogwood, speckled alder, sweet pepperbush, elderberry, maleberry, skunk cabbage, cattail, tussock sedge, purple loosestrife, Phragmites	Phragmites, Purple loosestrife	C
79, 80 & 81 of 81	W04PR034	PEM/PFO	High	Red maple, sweet pepperbush, arrowwood, silky dogwood, tussock sedge, cattail, skunk cabbage, purple	Phragmites, Purple	C,C

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81 of 81	W04PR035	PEM/PFO	Moderate	loosestrife, Phragmites. Willow, speckled alder, sumac, multiflora rose, honeysuckle, jewelweed, sensitive fern, skunk cabbage	loosestrife Multiflora rose, Honeysuckle	C,C
81 & 81A of 81	W04PR036	PEM/PFO	Low	Red maple, speckled alder, willow, arrowwood, skunk cabbage, jewelweed.	N	

Attachment 1.2 Notes:

1. Invasive wetland species are: *Phragmites* (common reed grass), purple loosestrife, tartarian honeysuckle, Japanese barberry, Japanese knotweed, buckthorn, multiflora rose, autumn olive, reed canary grass, privet (*Ligustrum*), and spurge.
2. The principal vegetation species listed for each wetland were compiled from the results of wetland delineations (data forms) compiled by AECOM Environmental during field investigations performed in 2008 – 2011. Species listed in this table are those identified on the wetland delineation data forms as abundant – moderate density in each wetland. However, any occurrence of an invasive species is identified; invasive species are assumed to be either abundant – moderate unless otherwise noted.
3. Wetland classification is based on the Cowardin et al. (1979) system. PFO = palustrine forested, PSS = palustrine shrub/scrub, PEM = palustrine emergent, POW = palustrine open water.
4. Relative abundance : S = Sparse (< 5 % total cover); C = Common (6 to 25 % total cover); A = (26 to 50 % total cover); Abundant D = Dominant (> 50 % total cover)

Attachment 1.3
Existing Wetlands with Invasive Species along the Massachusetts Portion of the Interstate Reliability Project

Map Sheet No. (refer to Volume 4A)	Wetland No.	Wetland Classification Type	Wetland Functions / Values Rating	Principal Vegetative Species	Invasive Species Currently Present	Relative Abundance of Invasive Species within ROW (S/C/D)	Wetland Being Affected by Project
1	A1	PEM/PSS	Low	Tussock sedge, sphagnum moss	Burning bush	S	Y
2	A2	PEM/PSS	Low	Tussock sedge, sphagnum moss	Purple loosestrife	SC	N
2 & 3	A3	PSS/PFO	High (PVP)	Speckled alder, silky dogwood, yellow birch, red maple, skunk cabbage	Purple loosestrife	S	Y
2	A4	PSS/PEM	Low	Speckled alder, red-osier dogwood, blackberry, sensitive fern	N		Y
6	A6	PSS/POW	Low	Winterberry, cattail	N		N
6 & 7	A9	POW	Moderate	Beggar tick, buttonbush, white birch, red oak	N		N
8	A11	PSS/PEM/PFO	Low-moderate	Cinnamon fern, tussock sedge, skunk cabbage, silky dogwood, northern arrowwood	N		Y
10	A13	PFO/PSS	Low-moderate	Red maple, white pine, cinnamon fern, arrowwood	N		N
10	A14	PSS/PFO	Low	Silky dogwood, highbush blueberry, American hazelnut, sensitive fern, white pine, red maple, cinnamon fern, raspberry, blackberry	N		N
10	A15	PSS/PEM	Low	Common elderberry, reed canary grass	N		N
12	A16	PEM/PSS	Low	Red maple, white pine, black gum, sweet pepperbush, witch hazel, cinnamon fern	Purple loosestrife	S (small patch just off ROW)	Y
13	A19	PEM/PSS	Low-moderate	White pine, grey birch, highbush blueberry, northern arrow-wood, tussock sedge, red maple, red oak	N		N
13	A20	PSS/PEM	Moderate	Red maple, tussock sedge	Phragmites	S	N
14	A21	PEM/PSS	Low	Highbush blueberry, moss	Autumn olive	S	N
14	A22	PEM/PSS	Low	Meadowsweet, mint, highbush blueberry, red chokeberry	N		N
14	A23	PEM	Low	Phragmites, bebb willow	Phragmites	S	N

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15	A24	PEM/PSS	Low	Sphagnum, northern arrowwood, yellow birch, red maple, red oak	Honeysuckle	S	Y
16	A25	PSS	High (PVP)	Sphagnum, highbush blueberry	N		N
18	A26	PEM/PSS	Low	Sphagnum, sweet pepperbush, highbush blueberry	N		Y
18	A27	PEM/PSS	Low	Sphagnum, tussock sedge, highbush blueberry, red maple	N		N
18	A28	PSS	Low-moderate	Sphagnum, soft rush, sweet pepperbush, highbush blueberry, red maple	N		N
20	A29	PSS	Low	Red maple, white pine, beech, meadowsweet, sensitive fern	Japanese barberry	S	N
20	A30	POW/PEM/PSS	Moderate	Goldenrod, meadowsweet, alder	N		Y
21	A31	PEM/PSS	Low	Sheep laurel, northern arrowwood, highbush blueberry, red maple, yellow birch, white oak	N		N
21	A32	PSS	High (PVP)	Highbush blueberry, red maple, swamp white oak	N		N
22	A33	PSS	Low-moderate	Tussock sedge, goldenrod, silky dogwood, alder	Glossy buckthorn		Y
22	A34	PEM/PSS	Low	Tussock sedge, goldenrod, steplebush, meadowsweet, grey birch, raspberry	N		N
22 & 23	A35	POW/PSS	Moderate	Cinnamon fern, highbush blueberry, bebb willow	N		N
23	A36	PSS	Low	Steplebush, cranberry, swamp azalea, sphagnum	Phragmites, purple loosestrife		N
25	A37	PEM/PSS/PFO / POW	Moderate	Pussy willow, silky dogwood, cattail, purple loosestrife, Phragmites.	Phragmites, purple loosestrife	C	N
25 & 26	A38	PEM/PSS/PFO	Moderate	Grape vines, dodder, tussock sedge,	Phragmites, purple	S	Y

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		/ POW		jewelweed, black birch, purple loosestrife	loosestrife		
26	A39	PEM/PSS	High (PVP)	Bullbrier, stepplebush, glossy buckthorn	Glossy buckthorn	C	N
26	A40	PEM/PSS	Low	Massachusetts fern, hydrophilic grasses, stepplebush, meadowsweet	Glossy buckthorn	S	N
27	A41	PEM/PSS	Low	Jewelweed, blackberry, narrow-leaf goldenrod, joe-pye weed	Tartarian Honeysuckle		N
28 & 29	A42/B3	POW/PSS/PFO	Moderate-high (Lackey Pond)	Sphagnum, swamp azalea, sweet pepperbush, black alder	N		N
30	B2	PEM/PSS	Low-moderate	Sensitive fern, joe-pye-weed, goldenrod, winterberry, bebb willow	Purple loosestrife	S	N
31	B4	PEM/PSS/PFO	Low-moderate	Sensitive fern, deer tongue grass	Tartarian honeysuckle	S	Y
32 & 33	B5 and B6	PEM/PSS	Low	Sensitive fern, northern arrowwood	Multiflora rose, Purple loosestrife	S	Y/Y
33/34	B7	PSS/PEM/PO W	High (PVP)	Brambles, winterberry, sweet pepperbush, northern arrowwood	Glossy buckthorn		Y
35	B9	PSS/PFO	Low-moderate	Brambles, goldenrod, meadowsweet, grey birch	N		N
36 & 37	B10/11	PEM/ PSS/ POW	Low-moderate	Tussock sedge, skunk cabbage, northern arrowwood, red maple, red oak, white pine	Glossy buckthorn		Y/N
37 & 38	B12	PEM/PSS	Low	Sphagnum, meadowsweet, winterberry, northern arrowwood	N		N
38	B13	PEM/PSS	Low	Brambles, fox grape, panic grass, sweet pepperbush, winterberry, black birch	N		N
40	B14	PSS	Low	Sensitive fern, joe-pye weed, goldenrod, wild raisin	Glossy buckthorn		N
40	B15	PFO/PEM/PSS / POW	High (PVP)	Cinnamon fern, highbush blueberry, spicebush, red maple	N		Y
43	B16	PSS/PEM	High (PVP)	Fox grape, tussock sedge, red maple	N		N

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43	B17	PSS	Low	Jewelweed	N		N
44	B18	PSS	Low	Fox grape, goldenrod, jewelweed	Japanese knotweed		Y
44	B19	PSS/PEM	High (PVP)	Sphagnum, purple loosestrife	Purple loosestrife	C	N
44	B20	PEM/PSS	Low	Tearthumb, hydrophilic grasses, winterberry, northern arrowwood, red maple	N		N
46	B21 B22	PEM/PSS/PO W	Moderate (Emerson Brook)	White pine, red maple, red osier dogwood, northern arrowwood, tussock sedge, skunk cabbage, red osier dogwood, red maple, white pine	N		N N
47	B23	PSS/PFO/POW	Moderate-high (Blackstone River)	Sedge, alder, red maple	Glossy buckthorn		N
48	B24 and B25	PEM/PSS/PO W	Low-moderate	Sensitive fern, goldenrod, winterberry, wild raisin, cedar, red maple	Glossy buckthorn		N Y
50 & 51	B26	POW/PEM/PS S	High (PVP)	Aster, bedstraw, northern arrowwood, winterberry	N		Y
51	B27	PSS	High (PVP)	Goldenrod, blackberry, steeplebush, meadowsweet, northern arrowwood	N		N
51	B28	POW/PSS/PE M	Moderate-high (Blackstone River)	Bedstraw, tussock sedge, alder, northern arrowwood	N		N
52	B29	PEM/PSS	Low	Meadowsweet, joe-pye weed	N		N
53	B30	PEM/PSS/PFO	High (PVP)	Brambles, sphagnum, maleberry	N		N
54	B31 B32	PSS/PEM	High (PVP and Priority Habitat)	Sensitive fern, royal fern, goldenrod, sphagnum, maleberry, silky dogwood, winterberry	Tartarian honeysuckle, glossy buckthorn		Y Y
54	B33	PFO	Low-moderate	Skunk cabbage, northern arrowwood,	N		N

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				highbush blueberry, red maple, ash, fox grape			
54	B34 B35	PFO/PSS/PEM	High (PVP)	Tussock sedge, wool grass, highbush blueberry, red maple	N		N N
56	B36	PEM/PSS	Low	Royal fern, princess pine, winterberry, alder, highbush blueberry, red maple	N		N
55	B37	PFO/PSS	Low	Red maple, green ash, arrowwood, black cherry, sensitive fern, cinnamon fern	N		Y

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