FUSS & O'NEILL

TECHNICAL MEMORANDUM

TO: Project Steering Committee
Wood-Pawcatuck Watershed Flood Resiliency Management Plan

FROM: David Askew, Senior Project Manager
Erik Mas, P.E., Vice President

DATE: October 12, 2016

RE: Watershed-Scale Wetlands Assessment
Wood-Pawcatuck Watershed Flood Resiliency Management Plan

---

1. Introduction

Wetlands comprise approximately 34, 000 acres or 17.6% of the Wood-Pawcatuck watershed. The watershed supports several large and notable wetlands, including Chapman Swamp in Westerly, RI, Great Swamp in South Kingstown, RI, and Indian Cedar Swamp in Charlestown, RI. Combined with upland floodplains adjacent to rivers and streams, wetlands play an important role in flood de-synchronization and flood storage, in addition to many other ecological functions. However, the role that wetlands play in flood control, flood attenuation, and flood resiliency is complex and can be affected by many conditions, including antecedent water storage prior to flood events and the location of the wetland within the watershed. In addition, wetlands associated with artificial impoundments may provide benefits relative to downstream flooding by reducing peak flows (desynchronization), but may increase flooding to upstream land by creating backwater.

Fuss & O'Neill performed an assessment of wetlands within the watershed to identify and prioritize wetland conservation and restoration opportunities that may enhance flood resiliency in the Wood-Pawcatuck watershed. Other wetland functions, such as nutrient and sediment retention (water quality support), and wildlife habitat, which are often associated with flood attenuation functions, were also assessed.

Other technical assessments conducted as part of the Wood-Pawcatuck watershed flood resiliency planning effort, particularly the *Fluvial Geomorphic Assessment and River Corridor Planning of the Pawcatuck Watershed* (Geomorphic Assessment), *River Corridor Plan for the Wood-Pawcatuck Watershed, RI and CT* (River Corridor Plan), and *Dams, Bridges, and Culverts Assessment Technical* Memorandum, provide detailed recommendations for riparian and floodplain restoration and enhancement opportunities to improve flow conditions, flood resiliency, reduce erosion, and improve habitat.

2. Assessment Methods

The wetlands assessment consisted of a desktop evaluation and field evaluation. The desktop evaluation incorporated data collected during previous phases of the watershed assessment, mapping from state and federal sources, including Rhode Island Department of Environmental Management (RIDEM) and Connecticut Department of Energy and Environmental Protection (CTDEEP) GIS layers, U.S. Fish and Wildlife Service National Wetlands Inventory (USFS, NWI) maps, and U.S Department of Agriculture Natural Resources Conservation Service (USDA, NRCS) soil mapping. The desktop assessment resulted in the selection of wetlands with high values associated with flood reduction, water quality improvement, and wildlife habitat. A subset of these wetlands – those having the greatest potential for restoration or enhancement of these functions – was selected for further field evaluation.

Desktop Evaluation

Prioritization and selection of wetlands for additional field evaluation used methods consistent with *Development of a Statewide Freshwater Wetland Restoration Strategy, Site Identification and Prioritization Methods* (Miller and Golet, 2001), which was developed by the University of Rhode Island for RIDEM and USEPA and subsequently applied in the Woonasquatucket River watershed, and the New Hampshire Department of Environmental Services (NHDES) Wetland Restoration Assessment Model (WRAM) Flood Protection, similar to the prioritization model used for the Merrimack River Watershed Wetland Restoration Strategy (Vanasse Hangen Brustlin, Inc., 2009). However, the USFW National Wetland Inventory Plus program, unavailable for the prior studies, was an important component of this assessment. In the last several years, USFW has added hydrogeomorphic properties to the existing NWI datasets, creating an expanded database referred to as "NWIPlus or NWI+". The improved functionality of the NWI can be used to predict wetland functions for watersheds (Tiner et al., 2014). For the assessment of wetlands in the Wood-Pawcatuck watershed, the addition of hydrogeomorphic properties allowed the evaluation and prioritization of several flooding-related functions, in addition to habitat functions. The selection process incorporated custom models for sorting and ranking wetlands, as described in detail below.

Field Evaluation

Twenty-six wetlands were selected for field evaluation to confirm characteristics identified during the desktop evaluation. The investigations were conducted from July 12-20, 2016 and included functional wetland assessments using methods described in The Highway Methodology Workbook supplement, by the U.S. Army Corps of Engineers. Soil type, dominant vegetation, and hydrology were verified. In addition, existing land use and observable indications of historic wetland modification were evaluated to determine the feasibility of restoring, enhancing, or preserving the selected wetlands. Wetland descriptions are provided in Table 3. Functional Assessment forms are in Attachment 1.

Evaluation of Restoration and Enhancement Potential

Wetlands selected for field evaluation all had NWI special modifiers indicating some form of prior human disturbance. These wetlands were prioritized because they have the greatest potential for improving existing conditions and restoring flood or habitat functions. NWI coded modifiers include the following:

- d - drained
- f - farmed
- h - diked or impounded
- x - excavated

Evaluation of restoration and enhancement potential requires field evaluation of on-the-ground conditions related to modification of pre-existing grades (fill or excavation), modifications to hydrology, and alteration of vegetation. In general, opportunities for wetland enhancement and restoration include the following:

- Enhancement: Enhancement potential is a sub-set of restoration, but typically does not include modification of the existing hydrology. Buffer plantings and limited invasive plant control (in contrast to whole-wetland invasive plant control) are typical enhancement techniques. Minor changes in existing drainage may be involved, including culvert outlet improvement/replacement, and removal of flow obstructions.

- Invasive Plant Control: Removal of invasive plants is a common restoration technique, as many wetlands support monoculture growths of invasive species, particularly Phragmites australis and purple loosestrife. However, large scale invasive plant control was not a significant consideration with this assessment, as only two small stands of Phragmites were observed within the assessed wetlands.

- Restoration: Wetland restoration typically involves restoring the "natural" or historical hydrology to the wetland. Restoration may involve filling or blocking existing ditches or restoring streamflow, diverted flow, or floodplain connectivity. Removing historic fill from wetlands is also a common restoration technique.

  No filled wetlands were encountered in this evaluation that did not involve dams or berms, many of which were evaluated as part of the assessment of dams in *Dams, Bridges, and Culverts Assessment Technical Memorandum* (Fuss & O'Neill, 2016). Most of the wetlands selected for field assessment are associated with impoundments (NWI modifier "h") because they provide the greatest flood detention and storage, and were selected through the NWI+ screening process for those values. Wetlands associated with priority dams identified for potential removal were also assessed for ecological wetland functions in the *Dams, Bridges, and Culverts Assessment Technical Memorandum* (Fuss & O'Neill, 2016). Table 1 lists wetlands that are discussed in both reports.

  A number of wetlands created by smaller dams and impoundments were also assessed. Most of the impoundments support or maintain the associated wetland, and their removal would reduce or eliminate wetland functions. However, dam removal has the potential to improve flood resiliency by restoring floodplain that is currently inundated. Since most dams in the watershed were reviewed, analyzed, and prioritized for repair, maintenance, or removal in the dam assessment, dam removal was not explicitly considered as a wetland restoration option in this wetlands assessment. Wetlands created by impoundments, although characterized in the

NWI+ as modified because of the presence of a dike, dam, or berm, are characterized as "undisturbed" in Table 3 if the wetland that results from the impoundment is undisturbed.

Table 1. Assessment wetlands cross-referenced to wetlands assessed for potential dam removal in the Dams, Bridges, and Culverts Assessment Technical Memorandum

Dam Name	Wetlands Assessment #	Figure (WA-#)
Hazard Pond Dam	W#3	1
Green Falls Reservoir Dam	W#4	2
Hallville Pond/Dolly Pond Dams	W#15	8
Kasella Farm Pond Dam	W#17	10
Great Swamp Goose Marsh Dam	W#18	11
Yorker Mill Pond Dam	W#20	13
Slocum Woods Dam	W#21	14
Harris Pond Dam	W#24 & 25	17
Dolly Pond	W#15	8

Abandoned agricultural land typically presents one of best opportunities for wetland restoration, as wetland drainage has historically been a common technique to create arable land. However, abandoned farmed wetlands are not represented in this assessment because NWI excludes several categories of farmed wetlands in their mapping (USFWS, 2004) and farmed wetlands in New England are unlikely to have primary functions related to flood attenuation (in contrast to other wetland systems in the continental U.S., like bottomland wetlands in the south.)

- Evaluation of Conservation Potential: As noted in the *Fluvial Geomorphic Assessment and River Corridor Planning of The Pawcatuck Watershed* and *River Corridor Plan for the Wood-Pawcatuck Watershed, RI and CT,* preservation of existing wetlands is a critical component for maintaining existing conditions and to minimize future flooding events. Existing conservation and open space land is shown on each figure in Attachment 2.

  All of the wetlands assessed are high-value priority wetlands based on the NWI+ selection of wetland functions, and are therefore important priorities for protection. For consideration of conservation potential, it is important to note that wetlands are regulated by the U.S. Army Corps of Engineers, RIDEM, and CTDEEP. Because wetlands in the watershed are already subject to regulatory protection, the existing adjacent land uses are the most important feature to consider for the evaluation of conservation potential. Therefore, the assessment of conservation potential considers both the associated wetland complex and adjacent upland. Wetlands are rated high for conservation potential if they are associated with either a large wetland complex, or a large area of un-fragmented adjacent forest. An undisturbed buffer width of 500 feet adjacent to the wetland boundary was considered a minimal buffer for a high-priority designation. The presence of existing conserved land was also considered.

A detailed evaluation of existing property ownership was beyond the scope of this assessment. Property observed to be actively utilized for commercial, residential, or agricultural uses are given low-moderate ratings in Table 3.

The assessment of both restoration and conservation potential is considered a screening level assessment and is limited to an evaluation of existing wetland functions and values, available mapping, and limited ground assessment of wetland characteristics. The assessment of adjacent uplands and the suitability of the land for conservation is based on visual assessment of aerial photographs and the presence of visible existing land uses.

3. Results of Desktop Evaluation and Selection

Wetland Selection

As described above, NWI+ data was used for evaluation and selection of all NWI mapped wetlands in the watershed. The attributes added to the NWI data in NWI+ are identified as LLWW (landscape, landform, water flow and waterbody) descriptors. Based on the additional LLWW descriptors, wetlands are rated in the expanded dataset for the potential to support 11 wetland functions. A detailed definition of each of these LLWW descriptors and the 11 wetland functions is provided by Tiner et.al. (2014). Below are the 11 wetland functions (and their acronyms) for which each wetland is characterized in the NWI+ dataset:

- Surface Water Detention (SWD)
- Coastal Storm Surge Detention (CSS)
- Streamflow Maintenance (SM)
- Nutrient Transformation (NT)
- Sediment and Other Particulate Retention (SR)
- Carbon Sequestration (CAR)
- Bank and Shoreline Stabilization (BSS)
- Fish/Aquatic Invertebrate Habitat (FAIH)
- Waterfowl and Waterbird Habitat (WBIRD)
- Other Wildlife Habitat (OWH)
- Unique, Uncommon or Highly Diverse Wetland Plant Communities (UWPC)

NWI+ wetlands were further designated as having high or moderate potential for supporting each of the 11 wetland functions. Wetlands not designated were assumed to have little to no potential for supporting that wetland function. Finally, three wetland functions had additional or unique categories, other than high or moderate potential:

1. The potential for a wetland to provide suitable wood duck habitat was identified in the Waterfowl and Waterbird Habitat function
2. Stream shading as a supporting characteristic was assigned to Fish/Aquatic Invertebrate Habitat
3. Unique, Uncommon or Highly Diverse Wetland Plant Communities were evaluated for a regional or local significance.

Wetland Ranking

To facilitate an assessment of the relative significance of each wetland functions, Fuss & O'Neill applied a numerical ranking (weight) to each wetland unit such that:

- High Potential = 1.0
- Moderate Potential = 0.5

Wetland functions that had additional or alternate function categories were ranked as follows:

- WBIRD: Wood Duck = 0.25
- FAIH: Stream Shading = 0.25
- UWPC: Regionally Significant = 1.0
- UWPC: Locally Significant = 0.5

For the evaluation of Flood Protection potential, four functions were considered: SWD, CSS, SR and NT. These four functions typically are associated with wetlands that have the capacity to detain water and/or provide flood flow desynchronization. The four ranked classes were combined and averaged to obtain a Flood Protection Ranking assigned to each NWI+ wetland.

$$Flood\ Protection\ Ranking\ (FLDPRT\_RANK) = \frac{SWD\_RANK + CSS\_RANK + SR\_RANK + NT\_RANK}{4}$$

To evaluate the relative magnitude of Flood Protection potential provided by the wetlands, the Flood Protection Ranking was multiplied by the Total Area of each NWI+ wetland. The resulting output was defined as Weighted Flood Protection Acreage.

$$Weighted\ Flood\ Protection\ Acreage\ (FLDPRT\_Weight) = NWI + \ Wetland\ Area * FLDPRT\_RANK$$

It is important to point out that many NWI+ wetlands are mapped within a larger system or complex of wetlands and deep water habitats. For example, Figure 1 depicts Dawley Pond, Hawville Pond and Sodom Brook in Exeter, RI. The named ponds, as wells as several other smaller, unnamed ponds are identified as independent wetland units (polygons). In addition, there are extensive wetland areas along Sodom Brook and the perimeter of the ponds. Each of the individual wetland units has a different Weighted Flood Protection Acreage. However, the interconnected nature of the wetlands makes it important that the overall function of the system be considered over the function of an individual wetland unit. Therefore, when developing a list of wetlands to inspect and evaluate in the field, individual NWI+ wetlands were aggregated as NWI+ wetland complexes (Figure 1).

Geospatial analysis was performed to select wetlands for field assessment by iteratively querying and selecting NWI+ wetlands that meet certain characteristics. The objective was to identify those NWI+ wetlands that have potential to reduce flood flows and have been affected by anthropogenic modification. To evaluate the potential for a wetland to affect flood flows, the Flood Conservation Ranking and/or Weighted Flood Protection Acreage were selected. The NWI special modifiers described in Section 1 were selected to evaluate whether a wetland had been affected by anthropogenic modification.

Figure 2 depicts the extent of NWI+ wetlands throughout the watershed. The wetland units are grouped based on the Weighted Flood Protection Acreage. Values in parentheses indicate the number of NWI+ wetland units in each group.

Initially, NWI+ wetlands were queried such that those selected had a Flood Protection Ranking of 0.75 or greater and were classified with one of the anthropogenic modifiers (Figure 3). From this query, 139 NWI+ units were identified. The majority of these wetland units (80%) were less than five acres in size. When the aggregated NWI+ Complexes were selected, as associated with the individually queried NWI+ wetland units, 80 wetland complexes were identified.

To ensure that the selected wetland complexes provide substantial flood storage, the query was modified to more strongly favor Stormwater Detention (SWD). To this end, NWI+ wetlands were queried such that those selected had a Flood Protection Ranking of 0.5 or greater, a Stormwater Detention Rank of 0.5 or greater, were classified with one of the anthropogenic modifiers, and had a Weighted Flood Conservation Acreage of 5 acres or greater. From this query, 32 NWI+ units were identified. All of these wetland units were between 5 and 25 acres. When the aggregated NWI+ wetland complexes were selected as associated with the individually queried NWI+ wetland units, 24 wetland complexes were identified (Figure 4). These 24 NWI+ wetland complexes provide substantial flood storage and attenuation and have restoration and/or conservation potential, and were therefore selected for field evaluation. Attachment 2 contains more detailed mapping of the selected NWI+ wetland complexes.

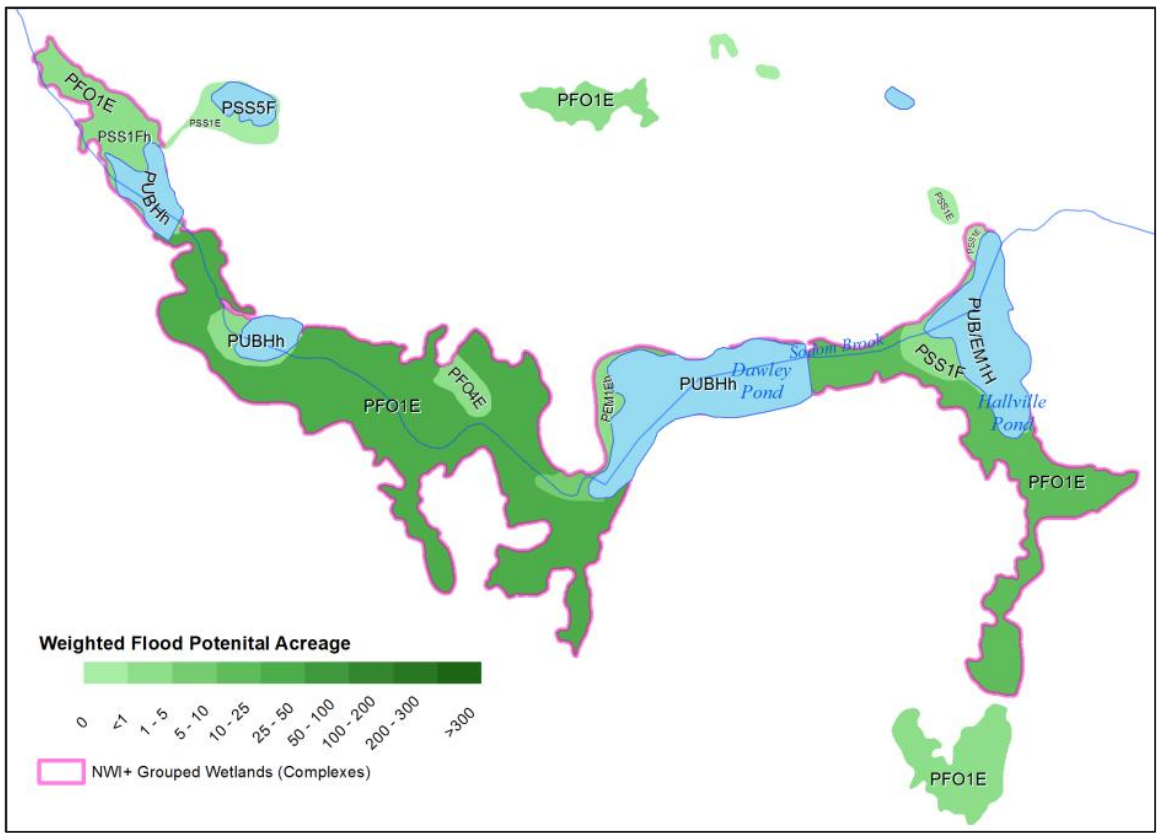


Figure 1. Typical relationship between wetland complex and wetland units selected for assessment.

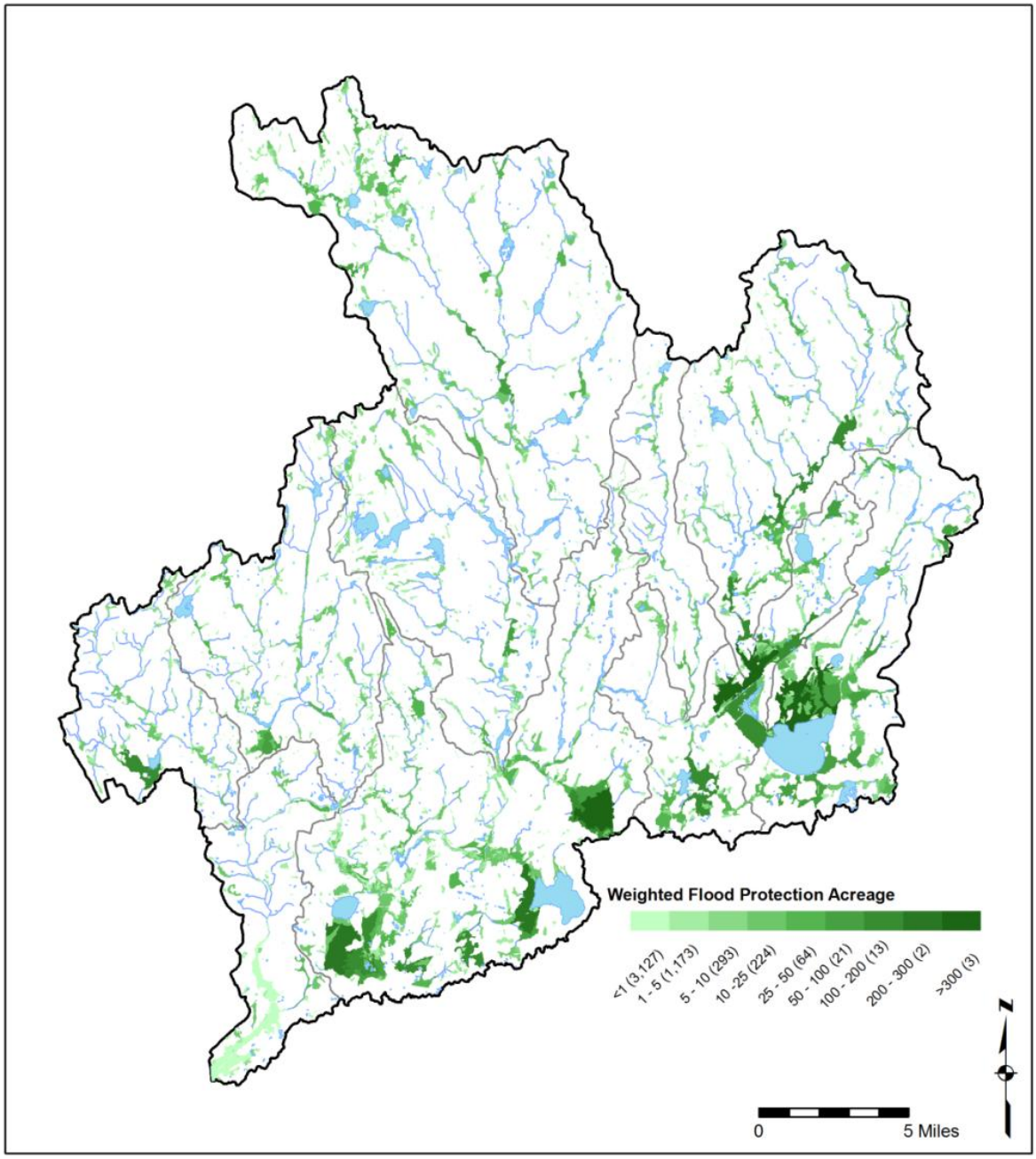


Figure 2. NWI+ wetlands in the watershed grouped by Flood Protection Acreage.

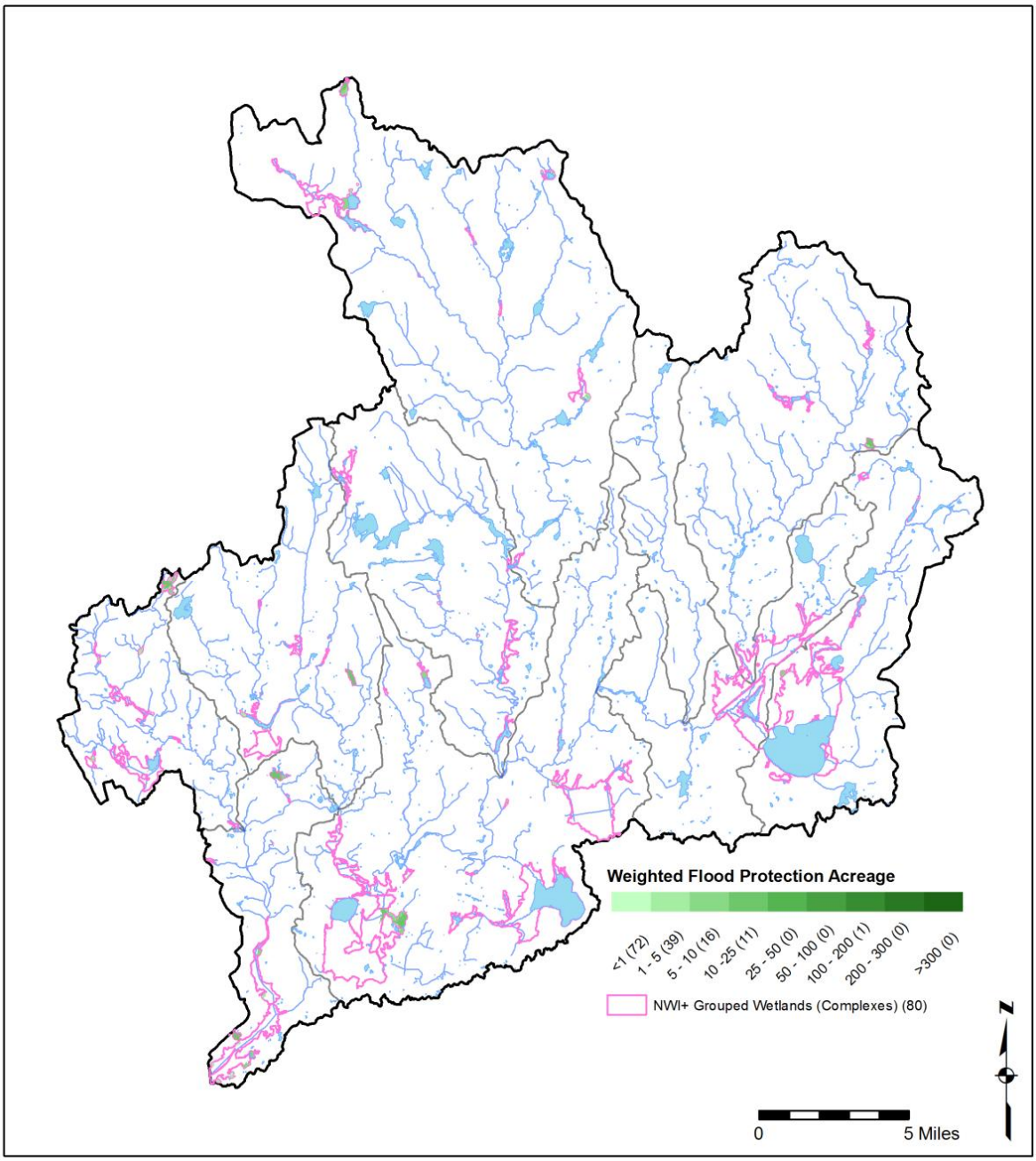


Figure 3. NWI+ wetland units and aggregated wetland complexes.

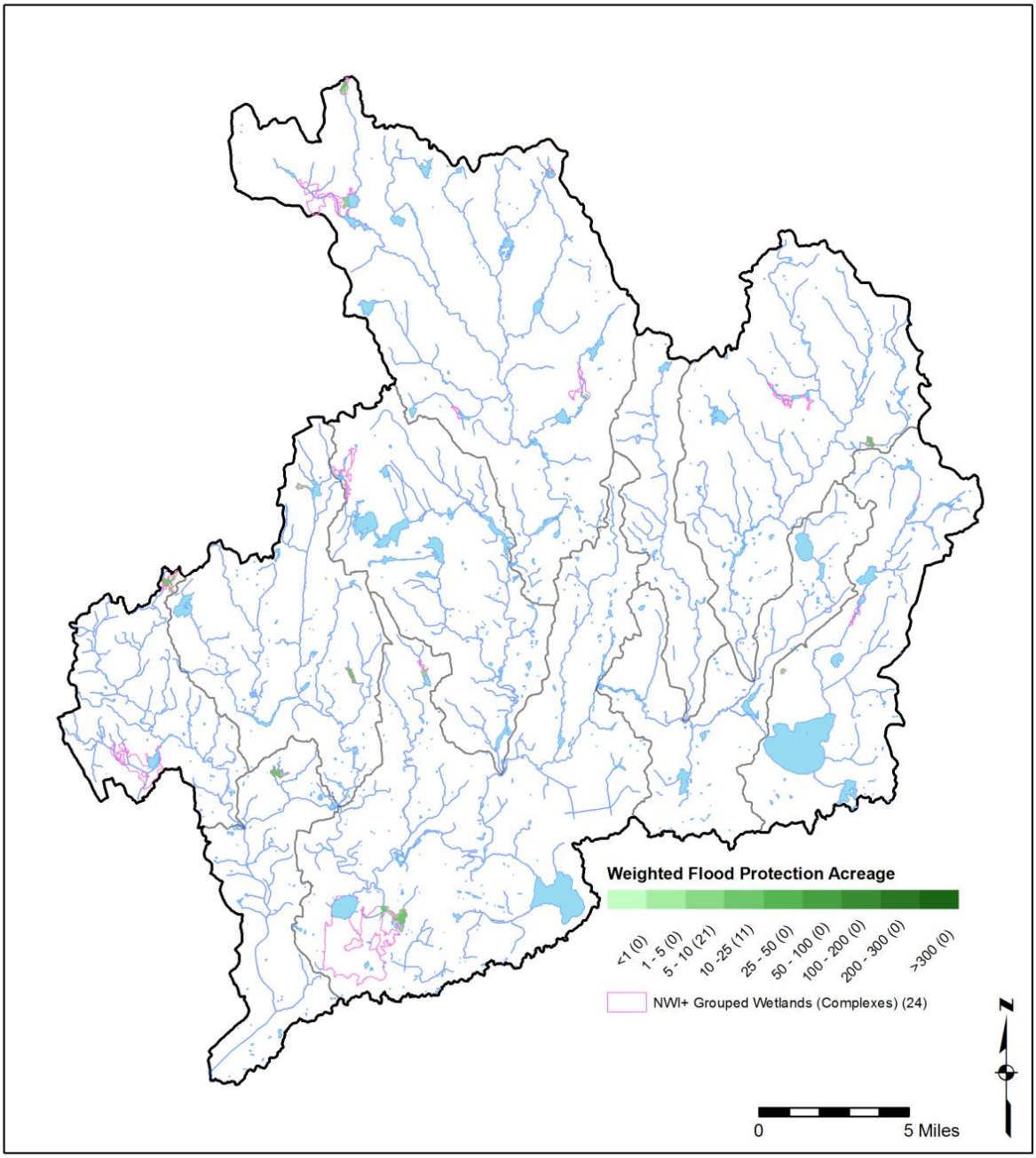


Figure 4. Wetland complexes selected for Flood Protection.

As stated previously, this assessment is a preliminary screening-level evaluation of wetlands with multiple functions that also provide significant stormwater detention and flood flow alteration. As such, there are certain limitations to the analysis:

- Spatial Accuracy: Mapping of natural resource areas, (i.e., the NWI+ and other mapped wetlands data) was created based on remotely-sensed data. The actual location and extent of wetlands and waterbodies may be substantially different than what is depicted by the available geospatial data.

- Ecological Function Characterization: State-mapped wetlands were not wholly coincidental with NWI+ wetlands. Therefore, the ecological functions from the NWI+ data set were used as a proxy for the state-mapped wetlands. Similarly, the calculation of Flood Protection Ranking and Weighted Flood Protection Acreage were based on the NWI+ data only. It was assumed that the ecological functions identified in the NWI+ data extend to the state-mapped wetlands and that the Flood Protection Ranking is a reasonable approximation for state-mapped wetlands.

- Categorical Inclusion: The analysis does not differentiate between NWI+ wetland types (e.g., lacustrine, riverine, palustrine, etc.). Rather, the analysis considers all wetland types the same. Furthermore, the analysis relies on the characterization of a given wetland unit with a specific function (e.g., high or moderate stormwater detention) as an accurate assessment of actual field conditions.

Further site-specific evaluation is necessary to adequately assess the feasibility of any site-specific assessment recommendations. Such evaluations are required to support future planning, design, permitting, and funding requests for implementation of specific projects.

4. Results of Field Assessments

Assessed wetlands are shown on Figures 1-17 in Attachment 2. Table 2 lists the figures and the corresponding wetlands. Assessed wetlands are located within 7 of the 11 major subwatersheds that comprise the Wood-Pawcatuck watershed, including the following: Ashaway River, Chipuxet River, Lower Pawcatuck River, Middle Pawcatuck River, Queen-Usquepaug River, Shunock River, and Upper Wood River. No field assessments were conducted in the following subwatersheds: Wayassup Brook, Upper Pawcatuck River, Lower Wood River, Beaver River, and Chickasheen Brook.

Table 2. List of Attachment 2 figures and associated wetlands.

Figure Number	Assessment Wetlands
Figure 1	Wetland 1, 2, 3
Figure 2	Wetland 4, 5
Figure 3	Wetland 6, 7
Figure 4	Wetland 8, 9, 10
Figure 5	Wetland 11
Figure 6	Wetland 12, 13
Figure 7	Wetland 14
Figure 8	Wetland 15
Figure 9	Wetland 16
Figure 10	Wetland 17
Figure 11	Wetland 18
Figure 12	Wetland 19
Figure 13	Wetland 20, 21
Figure 14	Wetland 22
Figure 15	Wetland 23
Figure 16	Wetland 24
Figure 17	Wetland 25

The wetlands are coded using the NWI nomenclature, which is based on the Cowardin Classification System. The classification consists of Class, Subclass, Water Regime modifier and Impact modifier. The complete Cowardin Classification System for Littoral and Palustrine wetlands is provided in Attachment 3.

Table 3 provides detailed descriptions of the 26 wetlands that were evaluated in the field. Column 1 identifies the wetland by number and the subwatershed and municipality where the wetland is located. Column 2 describes the hydrology, dominant vegetation, primary functions of the wetland and unique or notable characteristics. The Cowardin classification is provided in generic form – Attachment 3 lists the complete Cowardin description for each wetland. Colum 3 discusses the potential for restoration and or conservation of the listed wetland. Conservation potential considers the condition of the surrounding upland, as described in Section 2.

Table 3. Individual Wetland Descriptions and Restoration/Conservation Potential

Wetland Description	Characteristics and Functional Assessment	Restoration and Conservation Potential
Wetland 1 • Upper Wood River Sterling, CT • Mapped 100-year floodplain • Contiguous to Wetland 2	• NWI identifies as a palustrine scrub-shrub wetland located along the west side of Bailey Pond, and extends to Bailey Road, which is the westerly limit of the wetland. Although it supports a substantial understory of predominantly sweet pepperbush, the wetland is dominated by a white cedar-dominant forested community, similar to the wetland unit to the south (wetland 2). The current NWI status is not an accurate descriptor of existing vegetative characteristics • Bailey Pond is an impoundment of Carson Brook. Carson Brook flows south from the pond and confluences with the West River less than ½ miles to the south. • NWI modifier indicates that the wetland is formed, in part, by the impoundment that forms Bailey Pond. Bailey Road is the boundary between this wetland and the wetlands associated with the Wood River, on the west side of the road. The road also forms the boundary of the respective subwatersheds. No culverts under the road were observed, so the wetlands do not appear to be contiguous. • Principal functions of the wetland include production export and wildlife habitat. The wetland is mapped within the 100-yr floodplain. However, a stable vegetative community consisting of shrubs and trees is indicative of relatively shallow, stable water levels. Flood alteration function may be limited to significant, infrequent flood events.	• *Restoration Potential*: None. Wetland is undisturbed. • *Conservation Potential*: None. Conserved within Pachaug State Forest.
Wetland 2 • Upper Wood River Sterling, CT • Mapped 100-year floodplain • Contiguous to Wetland 1	• Mapped as a palustrine forested wetland with both deciduous and needle-leaved dominant trees. The classification is representative of observed characteristics. Dominant vegetation includes northern white cedar. • Contiguous to Wetland 1 on the west side of Bailey Pond. Portions of the wetland also extend to Bailey Road to the west. • Wetland hydrology is maintained by the impoundment that supports Bailey Pond. Principal wetland functions include floodflow alteration, water quality support, and wildlife habitat. Similar conditions as Wetland 1, with an apparently stable water	• *Restoration Potential*: None. Wetland is undisturbed. • *Conservation Potential*: None. Conserved within Pachaug State Forest.

Table 3. Individual Wetland Descriptions and Restoration/Conservation Potential

Wetland Description	Characteristics and Functional Assessment	Restoration and Conservation Potential
	level. Flooding is likely infrequent. The wetland is also within Pachaug State Forest.	
Wetland 3 • Upper Wood River Sterling, CT • Mapped 100-year floodplain • Hazard Dam is a low priority for removal	• Mapped as a palustrine emergent wetland. Dominant vegetation includes pickerelweed, pond lilies, common arrowhead, and broad-leaved cattail. The NWI map accurately characterizes existing conditions. • The wetland is associated with Hazard Pond. It is fed by Carson Brook flowing from Bailey Pond, Wood River to the northwest, and an un-named tributary to the south. In areas that transition to uplands along the southeasterly limit of the wetland, there are narrow bands of shrubs and red-maple. • Emergent wetlands north and west of Hazard Pond appear to have moderately variable water levels, and appear to provide some flood storage. Flow from both Carson Brook and Wood River flow through emergent wetlands, increasing the potential for water quality improvement and production export.	• *Restoration Potential*: The wetland is undisturbed. There are minor encroachments into the wooded corridor surrounding Hazard Pond and the associated wetlands. Upland buffers are generally undisturbed. • *Conservation Potential*: High. Although there are residential uses to the north and west, there is undisturbed forest north of the pond and associated wetlands. A large undisturbed forested block extends to a portion of the Pachaug State Forest.
Wetland 4 • Ashaway River, Voluntown, CT • Adjacent to Green Falls Pond, which is maintained by a dam. No action recommended.	• Mapped as a palustrine forested wetland with a vegetative community dominant in yellow birch and red maple. The wetland is fed by a small braided stream within the wetland, which discharges water from the surrounding slopes. It is surrounded by forested land within the Pachaug State Forest. The wetland outlet flows into Green Fall Pond, which has three inlets to the north. The east-most inlet to Green Fall Pond is Green Fall River, which continues flowing south through Pachaug State Forest. • Although the wetland is contiguous to Green Fall Pond, it was determined to have minor potential for floodflow alteration, since hydrology is supported primarily by drainage from the surrounding upland, and there is no indication that it stores water during high water conditions in the adjacent waterbody. Although the wetland was ranked for flood alteration in the desktop assessment, the functional assessment does not support the ranking and it is not a principal function of the wetland.	• *Restoration Potential.* None. Wetland is undisturbed. • *Conservation Potential*: None. Conserved within Pachaug State Forest.

Table 3. Individual Wetland Descriptions and Restoration/Conservation Potential

Wetland Description	Characteristics and Functional Assessment	Restoration and Conservation Potential
Wetland 5 • Ashaway River, Voluntown, CT	• Wetland 5 is a palustrine aquatic bed wetland with a vegetative community dominant in soft rush. The NWI classification indicates wetter conditions than were observed in the field, as the soft rush dominated wetland indicates a seasonally saturated or flooded condition. The current hydrology is listed as permanently flooded. There were no indications of aquatic bed vegetation, which would be typical of a permanently flooded condition. A review of aerial photographs indicates seasonally flooded conditions, although flood storage is limited due to topography and a relatively small watershed. • The wetland is surrounded by forest. Due to the lack of precipitation during the 2016 summer, standing water was observed only in a small portion of the wetland. The wetland is fed by a larger wetland system to the north and has two outlets; Peg Mill Brook which flows southwest and an unnamed stream which flows south. • The functional assessment of the wetland indicates that flood flow alteration is a secondary function. This conclusion is based primarily on the small size of the wetland within the context of its sub-watershed, and the presence of the larger wetland complex to the south.	• *Restoration Potential*: None. Wetland is undisturbed. • *Conservation Potential*. None. Conserved within Pachaug State Forest.
Wetland 6 • Upper Wood River, Voluntown, CT • Contiguous to Wetland 7	• Wetland 6 (and 7) forms the headwaters of Carson Brook. It is classified as a palustrine emergent, seasonally flooded, saturated wetland with a vegetative community dominant in broad-leaved cattail, highbush blueberry, and sweet pepperbush. Although the NWI classification indicates dominant emergent vegetation, the center of the wetland is dominated by shrubs. • Wetland hydrology is controlled by a small downstream dam, which forms a small, un-named impoundment. Floodflow alteration is indicated as a primary wetland function, as the wetland appears to have moderate available storage.	• *Restoration Potential:* None. Wetland is undisturbed. • *Conservation Potential:* None. Conserved within Pachaug State Forest

Table 3. Individual Wetland Descriptions and Restoration/Conservation Potential

Wetland Description	Characteristics and Functional Assessment	Restoration and Conservation Potential
Wetland 7 • Upper Wood River, Voluntown, CT • Contiguous to Wetland 6	• Wetland 7 is contiguous to wetland 6 and the two wetlands form the headwater to Carson Brook. It is a semi-permanently flooded palustrine emergent wetland with a vegetative community dominant in broad-leaved cattail and soft rush. Wetland hydrology is controlled by the downstream dam. • Wetland functions include floodflow alteration, fish and wildlife habitat.	• *Restoration Potential:* None. Wetland is undisturbed. • *Conservation Potential:* None. Conserved within Pachaug State Forest.
Wetland 8 • Shunock River, North Stonington, CT • Contiguous to Wetland 9	• Palustrine emergent, seasonally flooded, saturated wetland. Field observations indicate that the wetland has some areas of semi-permanently flooded wetland. These areas support aquatic bed species, including pond lilies. Emergent vegetation includes soft rush, broad-leaved cattail, and swamp loosestrife in wetter areas, with some areas in the center of the wetland that support shrubs, such as sweet pepperbush. • The wetland is contiguous with wetland 9 and 10 and the complex forms a portion of the headwaters of an un-named tributary of Yawbucs Brook. The wetland complex is maintained by earthen dams that form the impoundments. • Primary functions of the wetland include wildlife habitat. The predominant habitat is open water, with some bordering wetland. Although static storage in the impoundment is significant, water levels appear relatively stable, so additional flood storage, above the static water level, may be minimal. This condition is consistent for wetland 9 and 10. The complex is completely within the boundaries of the Pachaug Forest and the waterbody is used for public recreation.	• *Restoration Potential*: None. Wetland is undisturbed. • *Conservation Potential*: None. Conserved within Pachaug State Forest.
Wetland 9 • Shunock River, North Stonington, CT	• Wetland 9 is classified as a palustrine aquatic bed wetland with a semi-permanently flooded hydrologic regime. Dominant vegetation includes pond lilies, swamp loosestrife, soft rush, and broad leaved cattail. It is hydrologically connected to wetland 10 by a culvert under an existing access road/earthen dam that separates the two wetlands.	• *Restoration Potential*: None. - Wetland is undisturbed. • *Conservation Potential*: None. Conserved within Pachaug State Forest.

Table 3. Individual Wetland Descriptions and Restoration/Conservation Potential

Wetland Description	Characteristics and Functional Assessment	Restoration and Conservation Potential
• Contiguous to Wetland 9	• Primary functions of the wetland include wildlife habitat.	
Wetland 10 • Shunock River, North Stonington, CT	• Wetland 10 is classified as a palustrine aquatic bed wetland with a semi-permanently flooded hydrologic regime. The wetland supports pond lilies, soft rush, broad-leaved cattail, and swamp loosestrife. • The wetland is in Pachaug Forest. Primary functions include wildlife and waterfowl habitat. The wetland is used for public recreation as part of Pachaug Forest.	• *Restoration Potential*: None. Wetland is undisturbed. • *Conservation Potential:* None. Conserved within Pachaug State Forest.
Wetland 11 • Shunock River, North Stonington, CT • Mapped 100-year floodplain	• Wetland 11 is classified as a palustrine aquatic bed, permanently flooded wetland. Field observations of deep standing water, as well as dominant emergent plant species, including broad-leaved cattail, pond lilies, and swamp loosestrife, verify the NWI classification. • The wetland is part of a large wetland complex that includes Assekonk Swamp, which is a CT DEEP Wildlife Management Area. Flow through the wetland is northerly and is controlled by a dam at the north end of an impoundment. The associated stream is Assekonk Brook, which discharges into Shunock River north of the impoundment. • The assessment wetland is part of the impoundment. To the east and west, the wetland is bordered by forest and residential properties, to the north by Route 2 and North Stonington Elementary School. • Primary functions of the wetland include floodflow alteration water quality support, and wildlife habitat. The wetland is likely to have significant flood storage capacity within the adjacent Assekonk Swamp and the pond water level appears to seasonally variable, based on a review of aerial photographs over several years. The wetland and upstream area is within the 100-year floodplain. • Most of the wetland is already conserved as part of the Assekonk Wildlife	• *Restoration Potential*: Low. Although some improvement of the buffer may be possible along the school property to the west. Adjacent land uses north and west of the wetland include residential development. • *Conservation Potential:* Low. The wetland unit is conserved as part of Assekonk Wildlife Management. Conservation of upland to the east would help protect the remaining buffer.

Table 3. Individual Wetland Descriptions and Restoration/Conservation Potential

Wetland Description	Characteristics and Functional Assessment	Restoration and Conservation Potential
	Management Area. However, there may have been prior impact (filling) of the wetland associated with the adjacent school, and the west –northerly section of the wetland is part of the school property. Restoration potential of the wetland is low, and any modification to the dam and impoundment would alter existing flood storage functions.	
Wetland 12 • Lower Pawcatuck River, Stonington, CT • Mapped 100-year floodplain • Adjacent to Wetland 13, but separated by a berm	• Wetland 12 is a seasonally flooded/saturated palustrine forested wetland with a vegetative community dominant in red maple, cherry, sweet pepperbush, and highbush blueberry. Historical aerial photographs indicate several phases of agriculture use and subsequent abandonment. Soil borings are indicative of use as a commercial cranberry bog, with 8-12 inches of sand overlying deep organic muck. The NWI modifier indicating drainage was confirmed by field investigation, as several straight, interconnected surface drains are evident. The wetland abuts Route 95, which may contribute to high groundwater conditions. • Primary wetland functions include floodflow alteration, water quality support, uniqueness and heritage due to historical agricultural uses. The wetland is in the headwaters of an un-named tributary of the Pawcatuck River, located in the lower part of Wood-Pawcatuck watershed. The wetland apparently drains under I-95 through a culvert, but the culvert was not observed. • Wetland 12 and 13 are the most significantly altered wetlands assessed. Both wetlands may present unique potential for enhancement and restoration.	• *Restoration Potential*: Intermediate: Although the wetland has been altered in the past, existing conditions support a diverse vegetative community. Some original function could be restored by modifying the ditch network, but a more intensive review of existing uses and ownership are required. Proximity to I-95 may limit the value of restoration. • *Conservation Potential:* Intermediate: Although isolated by I-95, the wetland supports a diverse vegetative community and is not currently conserved.
Wetland 13 • Lower Pawcatuck River, Stonington, CT • Adjacent to Wetland 12, but	• Wetland 13 is just east of wetland 12 and appears to be hydrologically separated by an earthen berm. It is characterized as a semi-permanently flooded wetland, with a vegetative community dominant in alder, meadowsweet, red maple, and soft rush. The NWI classification accurately characterizes portions of the wetland. However, due to the variation is topography from prior excavation, the vegetation community is variable, depending on the depth of inundation and hydro-period. • The wetland includes several emergent wetland pools, ponds, and ditches. A review of historical aerial photographs indicates quarrying activity in the area. The	• *Restoration Potential*: Intermediate. Portions of the wetland may be created, as borings indicate stripped topsoil, with resulting sub-stratum on surface. • *Conservation Potential:* Moderate. Land use in the area is rural residential. Some encroachment

Table 3. Individual Wetland Descriptions and Restoration/Conservation Potential

Wetland Description	Characteristics and Functional Assessment	Restoration and Conservation Potential
separated by a berm	wetland appears to drain south, through an assumed (not observed) culvert under I-95. • Primary functions of the wetland are limited to wildlife habitat (enhanced by man-made pools) and production export. There are no indications of floodflow alteration, as standing water appears to result from prior excavations. Unlike Wetland 12, the wetland is not mapped within the 100-year floodplain. • The wetland appears to be partially created by prior excavation. Additional review of historic soil mapping and aerial photographs would be necessary to determine if the area was previously wetland. There are no indications of a watercourse associated with the wetland. Because the wetland is diverse, with a high degree of interspersion of wetland types, primary wildlife habitat functions are possible.	within the wetland observed from nearby residential land uses.
Wetland 14 • Middle Pawtucket River, Westerly • Mapped 100-year floodplain	• Wetland 14 is part of a large wetland complex, with several wetland classes, associated with Newton Swamp, RI. Wetlands in the system are contiguous to wetlands associated with several oxbows in the lower-part of the Pawcatuck River watershed. Rt. 91 and the railroad bed separate the area form the Pawtucket system. Flow is northerly, through culverts under Rt. 91 and the rail bed. The wetland is also contiguous to the large wetland system associated with Chapman Pond to west. The assessment wetland includes deep water, emergent wetland dominated by broad-leaved cattail, buttonbush and pond lilies, and a narrow band of shrub wetland transitioning to upland. • The wetland is a palustrine unconsolidated bottom and emergent system. Vegetation includes pond lilies in deeper areas, transitioning to arrow-arum, and buttonbush. There is a narrow band of shrub and red maple in the transition to upland. • The wetland is bordered by residential neighborhoods to the south and north, and by forested and/or wetland systems to the east, north, and west. McGowan Brook flows into the wetland from the north beneath Westerly Bradford Road, flows west through the wetland, then flows north again beneath Westerly Bradford Road to the adjacent Newton Swamp Management Area. Functions of the wetland	• *Restoration Potential*: Low. Other than impacts associated with the road and rail crossing, the assessment wetland and larger complex forms a large contiguous wetland system. There is an active campground south of the wetland, and there is very little buffer between the wetland and active use. The buffer could be improved. • *Conservation Potential:* High. A portion of the assessment wetland is conserved with the Newton Swamp Management Area. There are also conservation lands owned by the Nature Conservancy and Westerly Land Trust within the large wetland complex. However, not all of the complex is conserved.

Table 3. Individual Wetland Descriptions and Restoration/Conservation Potential

Wetland Description	Characteristics and Functional Assessment	Restoration and Conservation Potential
	include floodflow alteration, water quality support, wildlife habitat, and uniqueness/heritage, due to its size and connection to the larger wetland system.	
Wetland 15 • Queen Usquepaug River, Exeter • Dolly Pond is a low priority for removal	• Wetland 15 consists of palustrine unconsolidated bottom, permanently flooded conditions. The NWI classification was verified in the field by the presence of deep standing water, and emergent vegetation, including pond lilies. The wetland is associated with Dawley (or Dolly) Pond, which is an impoundment associated with Sodom Brook. • The dam was assessed as part of the *Dams, Bridges, and Culverts Assessment Technical Memorandum.* Based on that assessment, the impoundment does not provide significant flood storage. However, some seasonal variation in water levels is observable on aerial photographs. The dam is a low priority for removal. • The wetland is bordered by residential properties to the north and south, and by forested wetlands to the west and east. Sodom Brook flows into the wetland from the west and leads out of the wetland through a culvert beneath Hallville Road to Hallville Pond and its associated wetlands.	• *Restoration Potential:* Low: The dam is recommended for removal, with a low priority. Existing uses are primarily rural residential, and the buffer around the pond and associated wetlands is forested. There are a few minor encroachments within the corridor and wetland observed from nearby residential land uses • *Conservation Potential:* Intermediate. Land use in the area is rural residential. Conservation of the upland corridor around the pond would likely involve multiple owners. To the west, there is a large, relatively un-fragmented forest block that extends westerly to other conserved land.
Wetland 16 • Queen Usquepaug River, Exeter • Mapped as 100-year floodplain	• Wetland 16 consists of palustrine forested, seasonally flooded/saturated wetland. The forested community was dominated by stunted red maple and red maple snags. Dominant emergent vegetation present in the areas of standing water consists of broad-leaved cattail. Common reed is also present in the center of the wetland, which presents a potential opportunity for invasive species management/mitigation. • The wetland is bordered to the east by agricultural fields, to the south by Veterans' Memorial Cemetery, and to the west and north by commercial properties. Queens Fort Brook flows west through the southern portion of the wetland and heads	• *Restoration Potential:* Intermediate. Existing development and agriculture uses may limit restoration opportunities, but also present the potential for improving vegetated buffers around the wetland. In addition, the presence of Phragmites presents an opportunity for invasive plant control.

Table 3. Individual Wetland Descriptions and Restoration/Conservation Potential

Wetland Description	Characteristics and Functional Assessment	Restoration and Conservation Potential
	west through forested land. The wetland is also bound by several roads. Downstream is a recommended high priority culvert upgrade/replacement. • Primary wetland functions are limited to water quality support and production export. NWI modifiers indicate ditching in the wetland and agricultural ditches are visible on aerial photographs. The outlet of the wetland is constricted, which may contribute to the detention of flood flows.	• *Conservation Potential*: Low. The wetland is bound by roads, active agriculture, and development, so conservation of the wetland unit would provide minimal benefit, without associated protection of the upland.
Wetland 17 • Upper Wood River, West Greenwich • Associated with Kasella Farm Pond Dam – a low priority for removal	• Wetland 17 consists of a palustrine unconsolidated bottom, permanently flooded wetland. Field observations of the wetland included deep standing water and the presence of emergent vegetation, including pond lilies. Beaver activity was observed in and around the wetland. • The wetland is bordered by residential properties to the south and east, forested land to the north, and by wetlands to the west. Breakheart Brook flows into the wetland from the north. A culvert beneath a dirt access road on the west side of the wetland directs water from the wetland west into the adjacent vegetated wetland before continuing south as Breakheart Brook. Beaver activity was observed in and around the wetland. • Wetland functions include flood alteration, water quality support, and wildlife habitat. The impoundment likely serves to store and detain water for flood desynchronization. Land use in the area is rural residential.	• *Restoration Potential:* Low. There are no significant land uses in the area and the wetland is relatively undisturbed. The dam is a low priority for removal and the impoundment may serve a flood storage function. • *Conservation Potential:*. The land area to the Intermediate north is relatively undisturbed and supports the two headwater streams that flow into Kasella Farm Pond. The surrounding forested block is bound by roads and rural development but the area may have some local conservation value.
Wetland 18 • Chipuxet River, South Kingston, RI • Mapped 100-year	• Wetland 18 consists of a palustrine emergent, seasonally flooded/saturated wetland. Field observations included the presence of swamp loosestrife, sphagnum moss, and tussock sedge. The sphagnum moss is so abundant over the standing water that the ground is soft to walk on, which is indicative of a quaking bog. • The wetland is located within the Great Swamp Management Area and is surrounded by wetlands and forest. No inlets or outlet were observed.	• *Restoration Potential:* None. Rural roads, an apparent transmission line, and a railroad are present. However, there are no obvious restoration activities that would improve flood resiliency or habitat.

Table 3. Individual Wetland Descriptions and Restoration/Conservation Potential

Wetland Description	Characteristics and Functional Assessment	Restoration and Conservation Potential
floodplain	• Compared to other wetlands selected with the methods described, Wetland 18 appears to be somewhat of an anomaly, in that it is not associated with any watercourses, and it is encircled by a large, similarly vegetated wetland. Although there is an existing berm that supports an intermittent impoundment, flood storage is minimal in the context of the surrounding large wetland complex.	• *Conservation Potential*: None. Conserved as part of the Great Swamp Management area.
Wetland 19 • Upper Wood River, Exeter, RI	• Wetland 19 consists of palustrine unconsolidated bottom, permanently flooded wetland due to diking/impounding. This classification was verified with field observations of open water with the presence of emergent vegetation, including pond lilies and bur-reed. • The wetland is part of the Mt. Tom Club Wildlife Marsh. It is surrounded by forested and residential properties. Woody Hill Brook flows into the wetland from the west and a small unnamed stream flows into the wetland from the south. The wetland is formed by a dam. • The impoundment and associated wetlands have a diverse vegetative community with primary functions including flood alteration, wildlife habitat, water quality support and production export.	• *Restoration Potential:* None. Land use in the area is forested and sparse rural residential development. The impoundment and associated wetlands are not significantly altered. • *Conservation Potential*: High. The north and east side of the wetland area is conserved as part of the Mt. Tom Club Wildlife Marsh. However, there is a large block of unfragmented forest to the west.
Wetland 20 • Chipuxet River, North Kingstown, RI • No action is recommended for the associated Yorker Mill Pond Dam.	• Wetland 20 is a primarily open-water system locally referred to as Yawgoo Mill Pond, or Yorker Mill Pond. It is a permanently flooded palustrine unconsolidated bottom wetland with minimal vegetation. The northern portion of the wetland has a vegetative community dominant in pond lilies, broad-leaved cattail, swamp loosestrife, buttonbush, and sweet pepperbush. • The Chipuxet River flows into the pond from the north and flows south from the southern end of the impoundment through residential and agricultural properties. The wetland is bordered to the north, west, and south by residential properties, and to the east by agricultural fields.	• *Restoration Potential:* Low. Land use in the area is rural residential with a number of houses on the west side of the impoundment. The impoundment is partially bisected by a railroad track on the east side and there is a road within 100-200 feet of the west side. Wetland functions are low compared to other wetlands in the assessment.

Table 3. Individual Wetland Descriptions and Restoration/Conservation Potential

Wetland Description	Characteristics and Functional Assessment	Restoration and Conservation Potential
	• There are few primary functions compared to the other wetlands assessed. It is primarily open water, except for sparse emergent wetlands along its banks and a small area of emergent vegetation at the inlet. The only primary values recorded are for water quality support and production export. Flood storage volume appears negligible and water levels appear stable throughout the year. The dam is not high priority for removal in the dam assessment.	• *Conservation Potential*: Low. The west side is primarily residential and the east side is bordered by the rail road track.
Wetland 21 • Chipuxet River, North Kingstown, RI • No action is recommended for the associated Slocum Woods Dam.	• Wetland 21 consists of palustrine unconsolidated bottom, permanently flooded wetland due to diking/impounding. This classification was verified with field observations of open water, with the presence of emergent vegetation, including pond lilies and bur-reed along the edge of the open water. • The system is primarily open water maintained by an impoundment. There is little emergent vegetation, except for a small area at the inlet. Land use on the north side of the pond is agricultural, including apparent row crops or turf, with little buffer to the edge of the impoundment. The agriculture extends upstream and downstream of the impoundment. There are several residences along the south side of the impoundment. Wetland function are low for the system, as vegetative diversity is low. The impoundment appears to have little flood storage capacity and water levels appear relatively stable throughout the year.	• *Restoration Potential:* Intermediate: Land use in the area is active agriculture and residential. Vegetated buffers between the agriculture and impoundment would improve water quality. • *Conservation Potential*: Low. Land use is active agriculture and residential.
Wetland 22 • Upper Wood River, West Greenwich • Mapped as 100-year floodplain	• Wetland 22 consists of palustrine emergent/persistent scrub-shrub and broad-leaved deciduous, semi-permanently flooded wetland modified by diking/impounding. Field observations were consistent with the NWI classification. The wetland consists of open water with emergent vegetation, including cattail and fringed sedge, and shrubs including steeplebush and sweet pepperbush. A stand of Phragmites australis was observed in the center of the wetland. • The wetland is surrounded by forested land and wetlands. Roaring Brook flows into the wetland from the north and continues south to Browning Mill Pond. Primary wetland functions include flood alteration, wildlife habitation and water quality support. The wetland has seasonably variable water levels, indicating some	• *Restoration Potential:* Low. There is a small stand of Phragmites in the middle of the wetland that should be monitored for possible future action. Land use in the area is forested. • *Conservation Potential:* None. The area is conserved.

Table 3. Individual Wetland Descriptions and Restoration/Conservation Potential

Wetland Description	Characteristics and Functional Assessment	Restoration and Conservation Potential
	flood storage capacity.	
Wetland 23 • Chipuxet River, North Kingston • Mapped as 100-year floodplain	• Wetland 23 consists of palustrine unconsolidated bottom, permanently flooded wetland with modifiers indicating diking/impounding. The wetland consists of open water with the presence of emergent vegetation, including pond lilies, swamp loosestrife, and other unidentified rooted aquatic plants. • The wetland is part of Thirty Acre Pond and is bordered to the north by an Amtrak railway, to the west by agricultural fields, and to the east and south by University of Rhode Island Turf Research Center agricultural fields. The Chipuxet River flows from Hundred Acre Pond into Thirty Acre Pond, and continues flowing south towards Great Swamp. • Flood storage function appears low-moderate based on the variability of surface water elevations. Inflow is also restricted by the presence of the railroad track, just south of Thirty Acre Pond. There is not a significant area of emergent wetland and the majority of area is open water. Water quality and habitat functions are primary functions.	• *Restoration Potential:* Low. The pond and associated wetlands are bordered by a contiguous band of mature trees of variable width. Portions of the corridor/buffer between wetlands and open water are less than 100' wide. Agriculture is the primary land use within 500 feet of the pond and there are two apparent residences in the 500 corridor. Some of the agricultural land is publicly owned (University of Rhode Island), so there may be some potential for improving buffers. • *Conservation Potential*: Low. Although there is a contiguous buffer around the pond and associated wetland, current land uses are active.
Wetland 24 • Contiguous to Wetland 25 • Middle Pawcatuck, Hopkinton, RI • Associated with Harris Pond Dam, a high priority for	• Wetland 24 is a seasonally flooded/saturated palustrine forested/scrub-shrub wetland with a vegetative community dominant in pond lilies, swamp loosestrife, red maple and white pine snags. Land use in the area is forested. • The wetland is contiguous to Harris Pond, but appears to be maintained by an earthen berm that partially separates the two wetlands/impoundments. • The wetland has significantly variable water levels during the year, based on aerial photographs, suggesting flood storage capacity. In addition, flood storage extends north from the mapped wetland unit several hundred feet. The wetland is also heavily vegetated, so it is likely to support water quality functions (nutrient	• *Restoration Potential:* None. Wetland is undisturbed, except for the earthen berms that maintains it • *Conservation Potential*: High. Except for a residence on the south-west side of the pond, land use is forested and the undeveloped corridor extends from Woodland Road to Rt. 95, forming an un-fragmented forest block around the wetlands. The wetland complex

Table 3. Individual Wetland Descriptions and Restoration/Conservation Potential

Wetland Description	Characteristics and Functional Assessment	Restoration and Conservation Potential
dam repair.	retention etc.). Wetland 24 is separated from Wetland 25 by an earthen berm. For the purposes of evaluating restoration and conservation potential, the two are rated below as a single system.	extends northerly, upstream from Wetland 24.
Wetland 25 • Middle Pawcatuck, Hopkinton, RI • Contiguous to Wetland 24 • Associated with Harris Pond Dam, a high priority for dam repair.	• Wetland 25 consists of palustrine unconsolidated bottom, permanently flooded wetland. The wetland is an impoundment associated with a tributary of Tomaquag Brook and Harris Pond Dam. • Dominant vegetation includes pond lilies and swamp loosestrife. Variable water levels, and a diverse vegetative community indicate flood storage, wildlife habitat, and water quality functions.	• *Restoration Potential:* Low for wetland impacts and surrounding land use, which is primarily forested. The dam is a high priority for repair. • *Conservation Potential*: High. Except for a residence on the south-west side of the pond, land use is forested and the undeveloped corridor extends from Woodland Road to Rt. 95, forming an un-fragmented forest block around the wetlands. The wetland complex extends northerly, upstream from Wetland 24.
Wetland 26 • Upper Wood River, West Greenwich, RI	• Wetland 26 is classified on the NWI mapping as a palustrine unconsolidated bottom, permanently flooded wetland, with modifiers for diking/impounding. The wetland includes aquatic bed and emergent plants, including bur-reed, and pond lilies. The wetland is part of Eisenhower Lake and is most likely connected to the main part of the lake by a culvert under Wheatley Road, although the culvert was not visible from the road surface. • The area is mapped as conserved land associated with the Alton Jones Campus Nature Preserve owned by University of Rhode Island. There is a conference center located on the south west side of the Eisenhower Lake. • The wetland discharges into Factory Brook. Wetland functions include flood alteration and wildlife habitat. Based on a review of aerial photographs over	• *Restoration Potential:* Low. Surrounding land use is primarily forested. The culvert is a low priority for upgrade/replacement. • *Conservation Potential*: None. Currently Conserved

Table 3. Individual Wetland Descriptions and Restoration/Conservation Potential

Wetland Description	Characteristics and Functional Assessment	Restoration and Conservation Potential
	several years, it appears the wetland has substantially variable water levels, suggesting some flood storage. However, the watershed is very small and the wetland is a headwater to a small tributary, so the effect on downstream is likely to be minimal.	

5. Conclusions and Recommendations

Use of Geographical Information Systems (GIS) and NWI+ allows for the rapid selection and evaluation of functional wetland characteristics at a watershed-scale. To preferentially select wetlands that may have enhancement or restoration potential, NWI modifiers were applied to select for wetlands that were previously modified or otherwise altered. Selection of additional features, including flood detention and flood protection functions, were then applied. In addition, wetlands over 5 acres were preferentially selected to screen for wetlands that have watershed-scale importance for the chosen functions.

Weighted flood protection and stormwater detention queries resulted in the selection of wetlands associated with impoundments. This result is not unexpected, as impoundments within watercourses may function much like engineered flood control systems by temporarily storing water during floods, and releasing water slowly through a constricted outlet. Impoundments were also preferentially selected by including the NWI modifier "h". A second query was run with the same weighted flood protection and storm detention weighting, but without the "h" modifier and only wetlands 12 and 16 were selected. These two wetlands represent all other modified or altered (as selected with NWI special modifiers d, f and x) wetlands in the watershed that provide the same magnitude of flood protection and storm water detention function as the impounded wetlands.

Using NWI modifiers indicating human-induced alteration preferentially selected wetlands for enhancement and restoration opportunities. This group of wetlands was also evaluated for conservation opportunities. Therefore, there is an undetermined number of undisturbed wetlands that may be good candidates for conservation in the watershed. Additional queries could be run for undisturbed wetlands that have primary functions for flood protection and stormwater detention. A test query for only those wetlands in the watershed that have a storm detention function was run and resulted in a selection of 192 wetlands. However, the majority of these were less than 5 acres in size.

Nine of the wetlands evaluated were also assessed in the *Dams, Bridges, and Culverts Assessment Technical Memorandum* (Fuss & O'Neill, 2016). The following is a summary of the findings of the Watershed-Scale Wetland Assessment as it relates to recommendations from the dams assessment:

- Hazard Pond: Hazard Pond Dam was identified as a low priority for dam removal. A review of aerial photographs indicates variable water levels and seasonal flood storage within the wetland unit and the wetland complex upstream. The upstream complex appears to have significant backwater storage during flood events. Furthermore, the assessment wetland and upstream wetlands are mapped within the 100 year floodplain. The wetland assessment indicates that the wetlands associated with the Hazard Pond Dam impoundment are likely to have primary functions for flood protection and flood storage. Associated primary functions for nutrient and sediment retention are also present. The ecological assessment of the wetland performed as part of the dams assessment also indicates high values for ecological functions.

  Recommendation: The results of this wetlands assessment suggest that the impoundment and associated wetland complex provide significant flood protection, water quality and ecological functions. The benefits provided by the existing impoundment and associated wetlands must be considered relative to the potential flood protection and ecological benefits of restoring the

impoundment to a free-flowing riverine system. A more detailed feasibility study is recommended for the removal of Hazard Pond Dam to adequately assess various management alternatives, potential flood resiliency and ecological benefits, and potential impacts. Such a feasibility study would be required to support future planning, design, permitting, and funding requests for implementation of any dam management recommendations. The feasibility study should include the following considerations related to potential impacts to wetlands:

- Hydraulic modeling to evaluate post-removal flooding impacts.
- Determination of post-removal water surface elevations and the resulting net loss of wetland area.
- Determination of expected changes in wetland vegetation.
- Qualitative loss assessment of all wetland functions, including habitat.

- Dolly Pond: Dolly Pond Dam was identified as a low priority for dam removal. Although the wetland supported by the dam is not within the mapped 100-year floodplain, there are moderate seasonal variations in observed water levels and moderate backwater storage in the upstream wetland complex. Similar to Hazard Pond, the ecological benefits provided by this impoundment and associated wetlands may be significant

  Recommendation: A more detailed feasibility study is recommended for the removal of Dolly Pond Dam, including consideration of wetland functions, as outlined above for Hazard Pond Dam.

- Kasella Farm Pond: Kasella Farm Pond receives inflow from Breakheart Brook and an unnamed tributary. The findings of the dam assessment indicate that the dam provides some flood storage and that finding is supported by significant seasonal variation in water levels within the impoundment and associated wetlands. The impoundment is in the upper part of the Breakheart Brook watershed, so the flood protection function in relation to downstream flooding may be minimal.

  Recommendations: A more detailed feasibility study is recommended for the removal of Kasella Farm Pond Dam, including consideration of wetland functions, as outlined above for Hazard Pond Dam.

- Harris Pond: Harris Pond Dam was identified as a high priority dam for repair. Wetlands associated with the dam (Wetlands 24 and 25) have variable seasonal water elevations and appear to provide significant flood storage volume adjacent to the existing impoundments and within the upstream complex. However, the area is not mapped within the 100-year floodplain.

  Recommendation: Dam repair may provide the opportunity to adjust water elevations within the associated impoundment and wetland, and possibly improve wetland functions, including storm water detention. Additional detention may be desired in this wetland, given its position in the watershed (relatively low in the Wood-Pawcatuck watershed) and the extent of proximate downstream flooding. General feasibility issues, such as potential impacts to the adjacent landowner, would have to be determined through further investigation. If any variation to the

existing function of the dam is contemplated, a feasibility study and assessment of wetland functions would be required.

Wetland Restoration Opportunities

Wetlands screened for field evaluation were all subject to some form of human-induced modification. All but two were selected based on the "diked or bermed" NWI modifier. The preferential selection of impoundments and the associated recommendations related to the dam assessment are discussed above. Wetlands 12 and 16 were selected based on impacts associated with ditching and recommended restoration options are discussed below. Both are rated as "Intermediate" priorities. There were no other Intermediate or High priority ratings for restoration for the following reasons:

- Although selected as altered or modified wetlands, all but two of the other wetlands are impoundments. Most of the wetlands that are supported by those impoundments are not modified or altered in any other way and support several primary wetland functions. In addition, most of the wetlands have sufficient forested buffers and many are conserved.

- Wetland 11, 13, 14, 20, 22, and 25 are rated "Low" for restoration due to the minimal nature of the observed alteration (small stands of Phragmites and minor encroachments into the upland buffer), or because active uses preclude substantial benefits associated with restoration. Proposed restoration measures for restoration priorities rated "Low" are briefly discussed in Table 3.

Intermediate priorities for restoration (and possibly enhancement) are summarized below and considerations for further investigation are discussed. The assessment did not include determination of property ownership, which is likely to have a significant influence on the feasibility of implementing restoration actions. Feasibility for wetland restoration involving private property will typically follow a progressive feasibility process starting with a review of existing ownership and interest in potential restoration activities, progressing to an evaluation of restoration alternatives, and physical/hydrological feasibility assessment.

- Wetland 12: As described in Table 3, Wetland 12 may have been historically used as a cranberry bog. The body of the wetland has several abandoned and interconnected ditches, which appear to drain to a single outlet ditch. Aerial photographs were reviewed extending back to the 1930's and the wetland appears to have been altered and abandoned in successive periods of clearing and regrowth. Additional information would have to be reviewed to determine the pre-disturbance condition of the wetland. Currently the wetland is vegetated with a thick growth of sweet pepperbush and red maple. As such, it is currently stable and provides low to moderate ecological value. Additional feasibility assessment is necessary to determine if the pre-existing condition would provide higher functionality and is a desired outcome. The functionality of the current ditched outlet, which appears to drain under I-95, has not been determined and would need to be evaluated for any restoration effort. The wetland is mapped in the 100-year floodplain and appears to provide stormwater detention during flood events.

- Wetland 13: Wetland 13 is adjacent to Wetland 12 and the two are separated by a high berm. It is a hydrologically complex wetland with variable, intermixed areas of saturation and

inundation. Although the special modifier indicates diked or bermed conditions, most of the wetland appears to be the result of past quarrying activity, some of which appears to have occurred in the last 25 years and are visible on the 1992 aerial view. Several small ponds, resulting from both excavation and diking, are interspersed throughout the otherwise wooded wetland. Trees in the wetland are approximately 20-30 years old. Access to portions of the wetland, including the outlet, was limited due to inundation. Because the wetland results from relatively recent human activity and has not reverted to a forested state, it may present an unusual opportunity to enhance or restore prior hydrology and improve flood storage in conjunction with Wetland 13.

- Wetland 16: Wetland 16 is surrounded by existing development and may have limited restoration/enhancement potential. However, it was rated intermediate due to the proximity of existing agricultural activity and the likelihood that even minor improvements in the upland buffer around the wetland could improve water quality. In addition, downstream culverts are identified as low and high priorities for upgrade and improvement. Finally, Phragmites was observed in the wetland and should be evaluated for treatment. The lower sections of the adjacent farm field may be converted wetland. Existing active use of the farmland may limit potential restoration or enhancement opportunities.

- Wetland 21: Wetland 21 is also rated intermediate due to the close proximity of active farm use (turf) adjacent to the existing wetland/impoundment. Active turf farming occurs along the entire northerly boundary of the wetland/impoundment and outlet stream, and there is virtually no vegetated buffer in place. Any improvement in the buffer would likely result in water quality improvements.

6. References

Golet, F.C, Myshrall, D.H.A., Miller, N.A., & Bradley, M.P. (2003). *Wetland Restoration Plan for the Woonasquatucket River Watershed, Rhode Island.* Department of Natural Resources Science, University of Rhode Island.

Miller, N.A., & Golet, F.C. (2001a). *Development of a Statewide Freshwater Wetland Restoration Strategy: Site Identification and Prioritization Methods.* Department of Natural Resources Science, University of Rhode Island.

Miller, N.A., & Golet, F.C. (2001b). *Development of a Statewide Freshwater Wetland Restoration Strategy: Site Identification and Prioritization Methods – Response to Comments*. Department of Natural Resources Science, University of Rhode Island.

Tiner, R.W., McGuckin, K., & Herman, J. (2014). *Rhode Island Wetlands: Updated Inventory, Characterization, and Landscape-level Functional Assessment.* Hadley, MA: United States Fish and Wildlife Service, Northeast Region.

USFWS. (2010). *NWIPlus: Geospatial Database for Watershed-level functional Assessment.* United States Fish and Wildlife Service.

Attachments: Attachment 1: Functional Assessment Forms
Attachment 2: Detailed Mapping of Assessed Wetlands

Attachment 3: Cowardin Classification System for Littoral and Palustrine Wetlands

Attachment 1

Functional Assessment Forms

FUSS & O'NEILL

WETLAND FUNCTION & VALUE ASSESSMENT FIELD FORM

This form has been developed to streamline the function and value assessment process of wetlands and watercourses in the field. The form has largely been developed using the procedure outlined in the U.S. Army Corps of Engineers "Highway Methodology Work Book: Supplement. Wetland Functions and Values: A Descriptive Approach" (1995, NAEEP-360-1-30a). This methodology is a descriptive approach and does not rely upon semi-quantitative numerical models to identify principal functions and values of wetlands and watercourse.

Many of the criteria used as "considerations and qualifiers" are drawn directly from the U.S. Army Corps of Engineers methodology. However, other assessment methods were considered (e.g. Wisc. DNR, 1992, "Rapid Assessment Methodology for Evaluating Wetland functions and Values." and Ammann, et al., 1996,"Method for the Evaluation of Inland Wetlands in Connecticut.") as well professional experience. Each criteria listed is an indicator of that function or value . An affirmative response, therefore, supports the assumptions of a given function or value. Generally, a majority of affirmative responses will indicate that the given function or value is a "principal" function or value. However, the criteria are not weighted and thus it is incumbent upon the inspector to use his or her best professional judgment when identify "principal" functions or values.

Groundwater Recharge & Discharge
The capacity or potential for a wetland to interact with groundwater such that water moves from surface water to ground water (Recharge) or from ground water to surface water (Discharge)

Floodflow Alteration
The storage of inflowing water from storm or flooding events, resulting in detention and retention of water on the wetland surface

Finfish Habitat (Ponds & Lakes)
Considers the quality of the aquatic habitat of a pond or lake, and its capacity to support finfish.

Finfish Habitat (Streams & Rivers)
Considers the quality of the aquatic habitat of a perennial watercourse, and its capacity to support finfish.

Sediment, Pollutant & Nutrient Removal
The capacity of a wetland to remove dissolved, suspended and floatable material from storm water runoff and prevents degradation of water quality.

Production Export
The capacity of a wetland to produce wildlife food sources, or to export biomass that sustains downstream ecosystems and local wildlife populations.

Wildlife Habitat
The capacity of a wetland to support a diverse and abundant wildlife community typically associated with wetland and wetland edges.

Educational, Scientific & Recreation Value
The suitability of a wetland for classroom field trips or scientific research, or to support various recreation activities (e.g., hiking, canoeing, boating, fishing, hunting, bird watching).

Uniqueness & Heritage
The degree to which a wetland is considered a locally or regionally unique natural resource.

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10

Wetland Assessment Area: Wetland # 1

Date: 7/18/2016 Weather: Sunny, 90°F Photographs Taken? Yes / No

GROUNDWATER RECHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is underlain by stratified drift, gravel or sandy soils.		X
Wetland is *not* underlain by hardpan, impervious soils (e.g., clays and silts) or bedrock	X	
Wetland is associated with a perennial or intermittent watercourse	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%)	X	
Wetland is associated with a watercourse but lacks a defined outlet or contains a constricted outlet	X	
Other evidence of groundwater recharge is present (i.e., local water supplies piezometer data, etc.)		

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

GROUNDWATER DISCHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is *not* underlain by stratified drift, gravel or sandy soils.	X	
Wetland is underlain by hardpan; impervious, tight grained soils (high clay and/or silt content); or bedrock		X
Wetland formed as a result of seeps or springs		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)	X	
Wetland is associated with a watercourse and contains only an outlet, no defined inlet		X
Other evidence of groundwater discharge are present (i.e., water temperature, piezometer data, etc.)		

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10

Wetland Assessment Area: Wetland # 1

Date: 7/18/2016 Weather: Sunny, 90°F Photographs Taken? Yes / No

FLOODFLOW ALTERATION

Considerations/Qualifiers	**Yes**	**No**
Area of this wetland is large relative to its watershed		X
Wetland occurs in the upper portions of its watershed and the effective flood storage is small or non-existent upslope of or above the wetland	X	
Wetland watershed contains a high percent of impervious surfaces		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography) or ponding (e.g. sediment deposits or lines)		X
Wetland formed on relatively gentle slopes (e.g., less than 3%).	X	
Wetland located in a floodplain of an adjacent watercourse (impoundment)	X	
Wetland has a constricted outlet.		X
Wetland contains hydric soils which are able to absorb and detain water.	X	
Watershed has a history of economic loss due to flooding.		X
Associated watercourse, if present, is sinuous or diffuse.		X
Other evidence of floodflow alteration (Explain below)		

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

SEDIMENT, POLLUTANT & NUTRIENT REMOVAL

Considerations/Qualifiers	**Yes**	**No**
Wetland saturated for most of the season.	X	
Ponded water (including deep water or open water habitat) is present in the wetland.	X	
Wetland edge is broad and intermittently aerobic.		X
Deep organic/sediment deposits are present	X	
Slowly drained fine grained mineral or organic soils are present.	X	
Alluvial soils present in or immediately adjacent to wetland.	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%).	X	
Water retention/detention time in this wetland is increased by constricted outlet.	X	
Water retention/detention time in this wetland is increased by thick vegetation.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)	X	
Other evidence of sediment, pollutant and nutrient removal (Explain below)		

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10

Wetland Assessment Area: Wetland # 1

Date: 7/18/2016 Weather: Sunny, 90°F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (PONDS & LAKES)NA

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to pond or lake dominated by forest, shrub and/or meadow community		
Shallow littoral zone with emergent vegetation present		
Pond or lake is ate least 10 feet deep		
Pond or lake is covered by more than 15 but less than 40 percent submerged or emergent vegetation		
Direct stormwater discharge(s) are few to none and , if present, originate from smaller culverts/outfalls		
Sand bars or evidence of stormwater runoff at inlet is absent		
Water transparency is high		
Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent		
Pond or lake is greater than 0.5 acre		
Dense algal blooms, nuisance aquatic vegetation or duckweed are not or have not historically been observed		
Other evidence of finfish habitat (Explain below)		

☐ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS)NA

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to stream or river dominated by forest, shrub and/or meadow community		
Channel is shaded by riparian trees or shrubs		
Bank is predominantly vegetated with high cover (e.g. trees and shrubs)		
Barriers to anadromous fish (i.e. dams, including beaver dams, waterfalls, road crossings, etc.) are absent from the stream reach associated with this wetland.		
Dominant bottom substrate is gravel and/or cobbles		
Bottom substrate is embedded with minimal sand and silt		
Diversity of instream habitat (e.g. riffles, runs, shallow pools and deep pools) is high		
Channel alteration (i.e. channelization, islands, point bars, etc.) are few to absent		
Bank is stabilized; Little to no evidence of scour or erosion is present		
Stream or river contains common to many cover objects (i.e, fallen logs, boulders, undercut banks)		

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10

Wetland Assessment Area: Wetland # 1

Date: 7/18/2016 Weather: Sunny, 90°F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS) (cont'd)

Stream or river is predominantly buffered from other land uses by a vegetated zone greater than 20 feet in width

Direct stormwater discharge(s) are few to none, and, if present, originate from smaller culverts/outfalls

Sand bars or evidence of stormwater runoff at inlet is absent

Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent

Quality of the watercourse associated with this wetland is able to support healthy fish/shellfish

Other evidence of finfish habitat (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

PRODUCTION EXPORT

Considerations/Qualifiers	**Yes**	**No**
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland exhibits high degree of plant community structure/species diversity	X	
Evidence of wildlife use found within this wetland.	X	
Fish or shellfish develop or occur in this wetland.	X	
Nutrients exported or "flushed" from wetlands to watercourses (permanent outlet present).		X

Other evidence of production export (Explain below)

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

WILDLIFE HABITAT

Considerations/Qualifiers	**Yes**	**No**
Wetland is not degraded or fragmented by human activity.	X	
Wildlife overland access to other wetlands is present and relatively unfragmented or unimpeded.	X	
More than 40% of this wetland edge is bordered by upland wildlife habitat (e.g., shrub thicket, woodland, farmland, or idle land) at least 500 feet in width.	X	
Wetland is contiguous with other wetland systems connected by a watercourse or lake.	X	
Water quality of the watercourse, pond, or lake associated with this wetland meets or exceeds Class A or B standards.		

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland # 1
Date: 7/18/2016 Weather: Sunny, 90°F Photographs Taken? Yes / No

WILDLIFE HABITAT (cont'd)

Dominant wetland class includes deep or shallow marsh or wooded swamp.	X	
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Wetland exhibits a high degree of interspersion of vegetation classes (e.g. forest, shrub, emergent marsh, wet meadow, open water).	X	
Two or more islands or inclusions of upland within the wetland are present.		X
Wetland exhibits a high degree of diversity in plant community structure (e.g., tree/shrub/vine/grasses/mosses).	X	
Wetland or watercourse contains numerous and diverse habitat features (e.g., snags, downed woody debris, rocks, seeps/springs, well drained sandy soils).	X	
Evidence of obligate or facultative vernal pool species have been observed in or near the wetland.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography).	X	
Dominant vegetation cover type is not composed of invasive or noxious species.	X	

Other evidence wildlife habitat (Explain below).

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

EDUCATIONAL, SCIENTIFIC & RECREATION VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.	X	
Wildlife habitat is a principal function of the wetland	X	
Direct access is available to a perennial watercourse (e.g., stream pond or lake)	X	
Wetland is part of a recreation area, park, forest, or refuge.	X	
Hunting and/or fishing is available within or from the wetland.	X	
Hiking occurs or has the potential to occur in the wetland	X	
Off-road public parking available at or near the wetland or watercourse.		X
Wetland is within a short drive or safe walk from highly populated public and private areas.		X
Wetland currently used for educational or scientific purposes.		X
Access to water is available at this potential recreation site for boating, canoeing, or fishing.	X	

No known safety hazards exist (If not, explain below).

Other evidence educational, scientific or recreation value (Explain below).

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland # 1
Date: 7/18/2016 Weather: Sunny, 90°F Photographs Taken? Yes / No
Wetland is located within NDDB area and Pachaug State Forest.

UNIQUENESS & HERITAGE VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.	X	
Wetland identified as a whole or in part as an exemplary natural community (Explain below)		X
Wetland considered a locally and/or regionally significant (Explain below)		X

Other evidence of uniqueness or heritage values (Explain below)

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:
Wetland is located within NDDB area and Pachaug State Forest.

SUMMARY OF FUNCTIONS & VALUES

Function/Value	**Principal Function**	**Secondary Function**
Groundwater Recharge & Discharge	X	
Floodflow Alteration	X	
Sediment, Pollutant & Nutrient Removal	X	
Finfish Habitat (Ponds & Lakes)	N/A	N/A
Finfish Habitat (Streams & Rivers)	N/A	N/A
Production Export	X	
Wildlife Habitat	X	
Educational, Scientific & Recreation Value		X
Uniqueness & Heritage	X	

MISCELLANEOUS NOTES & COMMENTS:
Cedar swamp habitat. Potential mitigation areas to northeast. Divided from Sheet 1_central by access road, functions and values similar.

Inspector:_____

WETLAND FUNCTION & VALUE ASSESSMENT FIELD FORM

This form has been developed to streamline the function and value assessment process of wetlands and watercourses in the field. The form has largely been developed using the procedure outlined in the U.S. Army Corps of Engineers "Highway Methodology Work Book: Supplement. Wetland Functions and Values: A Descriptive Approach" (1995, NAEEP-360-1-30a). This methodology is a descriptive approach and does not rely upon semi-quantitative numerical models to identify principal functions and values of wetlands and watercourse.

Many of the criteria used as "considerations and qualifiers" are drawn directly from the U.S. Army Corps of Engineers methodology. However, other assessment methods were considered (e.g. Wisc. DNR, 1992, "Rapid Assessment Methodology for Evaluating Wetland functions and Values." and Ammann, et al., 1996,"Method for the Evaluation of Inland Wetlands in Connecticut.") as well professional experience. Each criteria listed is an indicator of that function or value . An affirmative response, therefore, supports the assumptions of a given function or value. Generally, a majority of affirmative responses will indicate that the given function or value is a "principal" function or value. However, the criteria are not weighted and thus it is incumbent upon the inspector to use his or her best professional judgment when identify "principal" functions or values.

Groundwater Recharge & Discharge
The capacity or potential for a wetland to interact with groundwater such that water moves from surface water to ground water (Recharge) or from ground water to surface water (Discharge)

Floodflow Alteration
The storage of inflowing water from storm or flooding events, resulting in detention and retention of water on the wetland surface

Finfish Habitat (Ponds & Lakes)
Considers the quality of the aquatic habitat of a pond or lake, and its capacity to support finfish.

Finfish Habitat (Streams & Rivers)
Considers the quality of the aquatic habitat of a perennial watercourse, and its capacity to support finfish.

Sediment, Pollutant & Nutrient Removal
The capacity of a wetland to remove dissolved, suspended and floatable material from storm water runoff and prevents degradation of water quality.

Production Export
The capacity of a wetland to produce wildlife food sources, or to export biomass that sustains downstream ecosystems and local wildlife populations.

Wildlife Habitat
The capacity of a wetland to support a diverse and abundant wildlife community typically associated with wetland and wetland edges.

Educational, Scientific & Recreation Value
The suitability of a wetland for classroom field trips or scientific research, or to support various recreation activities (e.g., hiking, canoeing, boating, fishing, hunting, bird watching).

Uniqueness & Heritage
The degree to which a wetland is considered a locally or regionally unique natural resource.

Project Name: Wood-Pawcatuck Watershed Assessment Project #: 20111470.B10

Wetland Assessment Area: Wetland #2

Date: 07/18/16 Weather: Sunny, 90s°F Photographs Taken? Yes / No

GROUNDWATER RECHARGE

Considerations/Qualifiers	Yes	No
Wetland is underlain by stratified drift, gravel or sandy soils.		X
Wetland is *not* underlain by hardpan, impervious soils (e.g., clays and silts) or bedrock	X	
Wetland is associated with a perennial or intermittent watercourse	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%)	X	
Wetland is associated with a watercourse but lacks a defined outlet or contains a constricted outlet	X	
Other evidence of groundwater recharge is present (i.e., local water supplies piezometer data, etc.)		X

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

GROUNDWATER DISCHARGE

Considerations/Qualifiers	Yes	No
Wetland is *not* underlain by stratified drift, gravel or sandy soils.	X	
Wetland is underlain by hardpan; impervious, tight grained soils (high clay and/or silt content); or bedrock		X
Wetland formed as a result of seeps or springs		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)	X	
Wetland is associated with a watercourse and contains only an outlet, no defined inlet		X
Other evidence of groundwater discharge are present (i.e., water temperature, piezometer data, etc.)		X

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

Project Name: Wood-Pawcatuck Watershed Assessment Project #: 20111470.B10

Wetland Assessment Area: Wetland #2

Date: 07/18/16 Weather: Sunny, 90s°F Photographs Taken? Yes / No

FLOODFLOW ALTERATION

Considerations/Qualifiers	**Yes**	**No**
Area of this wetland is large relative to its watershed		X
Wetland occurs in the upper portions of its watershed and the effective flood storage is small or non-existent upslope of or above the wetland	X	
Wetland watershed contains a high percent of impervious surfaces		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography) or ponding (e.g. sediment deposits or lines)		X
Wetland formed on relatively gentle slopes (e.g., less than 3%).	X	
Wetland located in a floodplain of an adjacent watercourse.	X	
Wetland has a constricted outlet.		X
Wetland contains hydric soils which are able to absorb and detain water.	X	
Watershed has a history of economic loss due to flooding.		X
Associated watercourse, if present, is sinuous or diffuse.		X

Other evidence of floodflow alteration (Explain below)

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

SEDIMENT, POLLUTANT & NUTRIENT REMOVAL

Considerations/Qualifiers	**Yes**	**No**
Wetland saturated for most of the season.	X	
Ponded water (including deep water or open water habitat) is present in the wetland.	X	
Wetland edge is broad and intermittently aerobic.		X
Deep organic/sediment deposits are present	X	
Slowly drained fine grained mineral or organic soils are present.	X	
Alluvial soils present in or immediately adjacent to wetland.	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%).	X	
Water retention/detention time in this wetland is increased by constricted outlet.		X
Water retention/detention time in this wetland is increased by thick vegetation.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)	X	

Other evidence of sediment, pollutant and nutrient removal (Explain below)

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

Project Name: Wood-Pawcatuck Watershed Assessment Project #: 20111470.B10

Wetland Assessment Area: Wetland #2

Date: 07/18/16 Weather: Sunny, 90s°F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (PONDS & LAKES)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to pond or lake dominated by forest, shrub and/or meadow community		
Shallow littoral zone with emergent vegetation present		
Pond or lake is at least 10 feet deep		
Pond or lake is covered by more than 15 but less than 40 percent submerged or emergent vegetation		
Direct stormwater discharge(s) are few to none and , if present, originate from smaller culverts/outfalls		
Sand bars or evidence of stormwater runoff at inlet is absent		
Water transparency is high		
Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent		
Pond or lake is greater than 0.5 acre		
Dense algal blooms, nuisance aquatic vegetation or duckweed are not or have not historically been observed		
Other evidence of finfish habitat (Explain below)		

☐ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to stream or river dominated by forest, shrub and/or meadow community		
Channel is shaded by riparian trees or shrubs		
Bank is predominantly vegetated with high cover (e.g. trees and shrubs)		
Barriers to anadromous fish (i.e. dams, including beaver dams, waterfalls, road crossings, etc.) are absent from the stream reach associated with this wetland.		
Dominant bottom substrate is gravel and/or cobbles		
Bottom substrate is embedded with minimal sand and silt		
Diversity of instream habitat (e.g. riffles, runs, shallow pools and deep pools) is high		
Channel alteration (i.e. channelization, islands, point bars, etc.) are few to absent		
Bank is stabilized; Little to no evidence of scour or erosion is present		
Stream or river contains common to many cover objects (i.e, fallen logs, boulders, undercut banks)		

Project Name: Wood-Pawcatuck Watershed Assessment Project #: 20111470.B10

Wetland Assessment Area: Wetland #2

Date: 07/18/16 Weather: Sunny, 90s°F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS) (cont'd)

Stream or river is predominantly buffered from other land uses by a vegetated zone greater than 20 feet in width

Direct stormwater discharge(s) are few to none, and, if present, originate from smaller culverts/outfalls

Sand bars or evidence of stormwater runoff at inlet is absent

Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent

Quality of the watercourse associated with this wetland is able to support healthy fish/shellfish

Other evidence of finfish habitat (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

PRODUCTION EXPORT

Considerations/Qualifiers	**Yes**	**No**
Wildlife food sources growing within this wetland are abundant and diverse.		X
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland exhibits high degree of plant community structure/species diversity	X	
Evidence of wildlife use found within this wetland.	X	
Fish or shellfish develop or occur in this wetland.		X
Nutrients exported or "flushed" from wetlands to watercourses (permanent outlet present).		X

Other evidence of production export (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

WILDLIFE HABITAT

Considerations/Qualifiers	**Yes**	**No**
Wetland is not degraded or fragmented by human activity.		X
Wildlife overland access to other wetlands is present and relatively unfragmented or unimpeded.		X
More than 40% of this wetland edge is bordered by upland wildlife habitat (e.g., shrub thicket, woodland, farmland, or idle land) at least 500 feet in width.	X	
Wetland is contiguous with other wetland systems connected by a watercourse or lake.	X	
Water quality of the watercourse, pond, or lake associated with this wetland meets or exceeds Class A or B standards.		

Project Name: Wood-Pawcatuck Watershed Assessment Project #: 20111470.B10
Wetland Assessment Area: Wetland #2
Date: 07/18/16 Weather: Sunny, 90s°F Photographs Taken? Yes / No

WILDLIFE HABITAT (cont'd)

Dominant wetland class includes deep or shallow marsh or wooded swamp.	X	
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Wetland exhibits a high degree of interspersion of vegetation classes (e.g. forest, shrub, emergent marsh, wet meadow, open water).	X	
Two or more islands or inclusions of upland within the wetland are present.		X
Wetland exhibits a high degree of diversity in plant community structure (e.g., tree/shrub/vine/grasses/mosses).	X	
Wetland or watercourse contains numerous and diverse habitat features (e.g., snags, downed woody debris, rocks, seeps/springs, well drained sandy soils).	X	
Evidence of obligate or facultative vernal pool species have been observed in or near the wetland.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography).	X	
Dominant vegetation cover type is not composed of invasive or noxious species.	X	

Other evidence wildlife habitat (Explain below).

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:
Wetland is located in a Natural Heritage area.

EDUCATIONAL, SCIENTIFIC & RECREATION VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.	X	
Wildlife habitat is a principal function of the wetland	X	
Direct access is available to a perennial watercourse (e.g., stream pond or lake)	X	
Wetland is part of a recreation area, park, forest, or refuge.		X
Hunting and/or fishing is available within or from the wetland.	X	
Hiking occurs or has the potential to occur in the wetland	X	
Off-road public parking available at or near the wetland or watercourse.	X	
Wetland is within a short drive or safe walk from highly populated public and private areas.		X
Wetland currently used for educational or scientific purposes.		X
Access to water is available at this potential recreation site for boating, canoeing, or fishing.	X	

No known safety hazards exist (If not, explain below).

Other evidence educational, scientific or recreation value (Explain below).

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

Inspectors: RJC, SJW

FUSS & O'NEILL

Project Name: Wood-Pawcatuck Watershed Assessment Project #: 20111470.B10

Wetland Assessment Area: Wetland #2

Date: 07/18/16 Weather: Sunny, 90s°F Photographs Taken? Yes / No

UNIQUENESS & HERITAGE VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.	X	
Wetland identified as a whole or in part as an exemplary natural community (Explain below)		X
Wetland considered a locally and/or regionally significant (Explain below)		X

Other evidence of uniqueness or heritage values (Explain below)

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:
Wetland is located in a Natural Heritage area.

SUMMARY OF FUNCTIONS & VALUES

Function/Value	**Principal Function**	**Secondary Function**
Groundwater Recharge & Discharge	X	
Floodflow Alteration	X	
Sediment, Pollutant & Nutrient Removal	X	
Finfish Habitat (Ponds & Lakes)	N/A	N/A
Finfish Habitat (Streams & Rivers)	N/A	N/A
Production Export		X
Wildlife Habitat	X	
Educational, Scientific & Recreation Value	X	
Uniqueness & Heritage	X	

MISCELLANEOUS NOTES & COMMENTS:

WETLAND FUNCTION & VALUE ASSESSMENT FIELD FORM

This form has been developed to streamline the function and value assessment process of wetlands and watercourses in the field. The form has largely been developed using the procedure outlined in the U.S. Army Corps of Engineers "Highway Methodology Work Book: Supplement. Wetland Functions and Values: A Descriptive Approach" (1995, NAEEP-360-1-30a). This methodology is a descriptive approach and does not rely upon semi-quantitative numerical models to identify principal functions and values of wetlands and watercourse.

Many of the criteria used as "considerations and qualifiers" are drawn directly from the U.S. Army Corps of Engineers methodology. However, other assessment methods were considered (e.g. Wisc. DNR, 1992, "Rapid Assessment Methodology for Evaluating Wetland functions and Values." and Ammann, et al., 1996,"Method for the Evaluation of Inland Wetlands in Connecticut.") as well professional experience. Each criteria listed is an indicator of that function or value . An affirmative response, therefore, supports the assumptions of a given function or value. Generally, a majority of affirmative responses will indicate that the given function or value is a "principal" function or value. However, the criteria are not weighted and thus it is incumbent upon the inspector to use his or her best professional judgment when identify "principal" functions or values.

Groundwater Recharge & Discharge
The capacity or potential for a wetland to interact with groundwater such that water moves from surface water to ground water (Recharge) or from ground water to surface water (Discharge)

Floodflow Alteration
The storage of inflowing water from storm or flooding events, resulting in detention and retention of water on the wetland surface

Finfish Habitat (Ponds & Lakes)
Considers the quality of the aquatic habitat of a pond or lake, and its capacity to support finfish.

Finfish Habitat (Streams & Rivers)
Considers the quality of the aquatic habitat of a perennial watercourse, and its capacity to support finfish.

Sediment, Pollutant & Nutrient Removal
The capacity of a wetland to remove dissolved, suspended and floatable material from storm water runoff and prevents degradation of water quality.

Production Export
The capacity of a wetland to produce wildlife food sources, or to export biomass that sustains downstream ecosystems and local wildlife populations.

Wildlife Habitat
The capacity of a wetland to support a diverse and abundant wildlife community typically associated with wetland and wetland edges.

Educational, Scientific & Recreation Value
The suitability of a wetland for classroom field trips or scientific research, or to support various recreation activities (e.g., hiking, canoeing, boating, fishing, hunting, bird watching).

Uniqueness & Heritage
The degree to which a wetland is considered a locally or regionally unique natural resource.

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10

Wetland Assessment Area: Wetland #3

Date: 7/18/2016 Weather: Sunny, 90°F Photographs Taken? Yes / No

GROUNDWATER RECHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is underlain by stratified drift, gravel or sandy soils.	X	
Wetland is *not* underlain by hardpan, impervious soils (e.g., clays and silts) or bedrock	X	
Wetland is associated with a perennial or intermittent watercourse	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%)	X	
Wetland is associated with a watercourse but lacks a defined outlet or contains a constricted outlet		X
Other evidence of groundwater recharge is present (i.e., local water supplies piezometer data, etc.)		

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

GROUNDWATER DISCHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is *not* underlain by stratified drift, gravel or sandy soils.		X
Wetland is underlain by hardpan; impervious, tight grained soils (high clay and/or silt content); or bedrock		X
Wetland formed as a result of seeps or springs		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)	X	
Wetland is associated with a watercourse and contains only an outlet, no defined inlet		X
Other evidence of groundwater discharge are present (i.e., water temperature, piezometer data, etc.)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10

Wetland Assessment Area: Wetland #3

Date: 7/18/2016 Weather: Sunny, 90°F Photographs Taken? Yes / No

FLOODFLOW ALTERATION

Considerations/Qualifiers	**Yes**	**No**
Area of this wetland is large relative to its watershed		X
Wetland occurs in the upper portions of its watershed and the effective flood storage is small or non-existent upslope of or above the wetland	X	
Wetland watershed contains a high percent of impervious surfaces		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography) or ponding (e.g. sediment deposits or lines)	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%).	X	
Wetland located in a floodplain of an adjacent watercourse.	X	
Wetland has a constricted outlet.		X
Wetland contains hydric soils which are able to absorb and detain water.	X	
Watershed has a history of economic loss due to flooding.		X
Associated watercourse, if present, is sinuous or diffuse.		X
Other evidence of floodflow alteration (Explain below)		

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

SEDIMENT, POLLUTANT & NUTRIENT REMOVAL

Considerations/Qualifiers	**Yes**	**No**
Wetland saturated for most of the season.	X	
Ponded water (including deep water or open water habitat) is present in the wetland.	X	
Wetland edge is broad and intermittently aerobic.	X	
Deep organic/sediment deposits are present	X	
Slowly drained fine grained mineral or organic soils are present.	X	
Alluvial soils present in or immediately adjacent to wetland.	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%).	X	
Water retention/detention time in this wetland is increased by constricted outlet.		X
Water retention/detention time in this wetland is increased by thick vegetation.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)	X	
Other evidence of sediment, pollutant and nutrient removal (Explain below)		

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10
Wetland Assessment Area: Wetland #3
Date: 7/18/2016 Weather: Sunny, 90°F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (PONDS & LAKES)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to pond or lake dominated by forest, shrub and/or meadow community	X	
Shallow littoral zone with emergent vegetation present	X	
Pond or lake is ate least 10 feet deep		X*
Pond or lake is covered by more than 15 but less than 40 percent submerged or emergent vegetation		X
Direct stormwater discharge(s) are few to none and , if present, originate from smaller culverts/outfalls	X	
Sand bars or evidence of stormwater runoff at inlet is absent	X	
Water transparency is high		X
Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent		X
Pond or lake is greater than 0.5 acre	X	
Dense algal blooms, nuisance aquatic vegetation or duckweed are not or have not historically been observed	X	
Other evidence of finfish habitat (Explain below)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:
*Estimated due to presence of rooted aquatic vegetation over much (>70%) of ponded surface.

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to stream or river dominated by forest, shrub and/or meadow community		
Channel is shaded by riparian trees or shrubs		
Bank is predominantly vegetated with high cover (e.g. trees and shrubs)		
Barriers to anadromous fish (i.e. dams, including beaver dams, waterfalls, road crossings, etc.) are absent from the stream reach associated with this wetland.		
Dominant bottom substrate is gravel and/or cobbles		
Bottom substrate is embedded with minimal sand and silt		
Diversity of instream habitat (e.g. riffles, runs, shallow pools and deep pools) is high		
Channel alteration (i.e. channelization, islands, point bars, etc.) are few to absent		
Bank is stabilized; Little to no evidence of scour or erosion is present		
Stream or river contains common to many cover objects (i.e, fallen logs, boulders, undercut banks)		

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10
Wetland Assessment Area: Wetland #3
Date: 7/18/2016 Weather: Sunny, 90°F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS) (cont'd)

Stream or river is predominantly buffered from other land uses by a vegetated zone greater than 20 feet in width

Direct stormwater discharge(s) are few to none, and, if present, originate from smaller culverts/outfalls

Sand bars or evidence of stormwater runoff at inlet is absent

Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent

Quality of the watercourse associated with this wetland is able to support healthy fish/shellfish

Other evidence of finfish habitat (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

PRODUCTION EXPORT

Considerations/Qualifiers	**Yes**	**No**
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland exhibits high degree of plant community structure/species diversity	X	
Evidence of wildlife use found within this wetland.	X	
Fish or shellfish develop or occur in this wetland.		X
Nutrients exported or "flushed" from wetlands to watercourses (permanent outlet present).	X	

Other evidence of production export (Explain below)

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

WILDLIFE HABITAT

Considerations/Qualifiers	**Yes**	**No**
Wetland is not degraded or fragmented by human activity.	X	
Wildlife overland access to other wetlands is present and relatively unfragmented or unimpeded.	X	
More than 40% of this wetland edge is bordered by upland wildlife habitat (e.g., shrub thicket, woodland, farmland, or idle land) at least 500 feet in width.	X	
Wetland is contiguous with other wetland systems connected by a watercourse or lake.	X	
Water quality of the watercourse, pond, or lake associated with this wetland meets or exceeds Class A or B standards.		

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10
Wetland Assessment Area: Wetland #3
Date: 7/18/2016 Weather: Sunny, 90°F Photographs Taken? Yes / No

WILDLIFE HABITAT (cont'd)

Dominant wetland class includes deep or shallow marsh or wooded swamp.	X
Wildlife food sources growing within this wetland are abundant and diverse.	X
Wetland exhibits a high degree of interspersion of vegetation classes (e.g. forest, shrub, emergent marsh, wet meadow, open water).	X
Two or more islands or inclusions of upland within the wetland are present.	X
Wetland exhibits a high degree of diversity in plant community structure (e.g., tree/shrub/vine/grasses/mosses).	X
Wetland or watercourse contains numerous and diverse habitat features (e.g., snags, downed woody debris, rocks, seeps/springs, well drained sandy soils).	X
Evidence of obligate or facultative vernal pool species have been observed in or near the wetland.	X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography).	X
Dominant vegetation cover type is not composed of invasive or noxious species.	X

Other evidence wildlife habitat (Explain below).

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

EDUCATIONAL, SCIENTIFIC & RECREATION VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.	X	
Wildlife habitat is a principal function of the wetland	X	
Direct access is available to a perennial watercourse (e.g., stream pond or lake)	X	
Wetland is part of a recreation area, park, forest, or refuge.		X
Hunting and/or fishing is available within or from the wetland.		X
Hiking occurs or has the potential to occur in the wetland	X	
Off-road public parking available at or near the wetland or watercourse.		X
Wetland is within a short drive or safe walk from highly populated public and private areas.		X
Wetland currently used for educational or scientific purposes.		X
Access to water is available at this potential recreation site for boating, canoeing, or fishing.	X	

No known safety hazards exist (If not, explain below).

Other evidence educational, scientific or recreation value (Explain below).

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10
Wetland Assessment Area: Wetland #3
Date: 7/18/2016 Weather: Sunny, 90°F Photographs Taken? Yes / No
Wetland is located in NDDB area.

UNIQUENESS & HERITAGE VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.	X	
Wetland identified as a whole or in part as an exemplary natural community (Explain below)		X
Wetland considered a locally and/or regionally significant (Explain below)		X

Other evidence of uniqueness or heritage values (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:
Wetland is located in NDDB area.

SUMMARY OF FUNCTIONS & VALUES

Function/Value	**Principal Function**	**Secondary Function**
Groundwater Recharge & Discharge	X	
Floodflow Alteration	X	
Sediment, Pollutant & Nutrient Removal	X	
Finfish Habitat (Ponds & Lakes)		X
Finfish Habitat (Streams & Rivers)	N/A	N/A
Production Export	X	
Wildlife Habitat	X	
Educational, Scientific & Recreation Value		X
Uniqueness & Heritage		X

MISCELLANEOUS NOTES & COMMENTS:
Bound by forest to west and south. Remove dam under bridge, clearing of shrubs may increase flood storage.

Inspector:_____

WETLAND FUNCTION & VALUE ASSESSMENT FIELD FORM

This form has been developed to streamline the function and value assessment process of wetlands and watercourses in the field. The form has largely been developed using the procedure outlined in the U.S. Army Corps of Engineers "Highway Methodology Work Book: Supplement. Wetland Functions and Values: A Descriptive Approach" (1995, NAEEP-360-1-30a). This methodology is a descriptive approach and does not rely upon semi-quantitative numerical models to identify principal functions and values of wetlands and watercourse.

Many of the criteria used as "considerations and qualifiers" are drawn directly from the U.S. Army Corps of Engineers methodology. However, other assessment methods were considered (e.g. Wisc. DNR, 1992, "Rapid Assessment Methodology for Evaluating Wetland functions and Values." and Ammann, et al., 1996,"Method for the Evaluation of Inland Wetlands in Connecticut.") as well professional experience. Each criteria listed is an indicator of that function or value . An affirmative response, therefore, supports the assumptions of a given function or value. Generally, a majority of affirmative responses will indicate that the given function or value is a "principal" function or value. However, the criteria are not weighted and thus it is incumbent upon the inspector to use his or her best professional judgment when identify "principal" functions or values.

Groundwater Recharge & Discharge
The capacity or potential for a wetland to interact with groundwater such that water moves from surface water to ground water (Recharge) or from ground water to surface water (Discharge)

Floodflow Alteration
The storage of inflowing water from storm or flooding events, resulting in detention and retention of water on the wetland surface

Finfish Habitat (Ponds & Lakes)
Considers the quality of the aquatic habitat of a pond or lake, and its capacity to support finfish.

Finfish Habitat (Streams & Rivers)
Considers the quality of the aquatic habitat of a perennial watercourse, and its capacity to support finfish.

Sediment, Pollutant & Nutrient Removal
The capacity of a wetland to remove dissolved, suspended and floatable material from storm water runoff and prevents degradation of water quality.

Production Export
The capacity of a wetland to produce wildlife food sources, or to export biomass that sustains downstream ecosystems and local wildlife populations.

Wildlife Habitat
The capacity of a wetland to support a diverse and abundant wildlife community typically associated with wetland and wetland edges.

Educational, Scientific & Recreation Value
The suitability of a wetland for classroom field trips or scientific research, or to support various recreation activities (e.g., hiking, canoeing, boating, fishing, hunting, bird watching).

Uniqueness & Heritage
The degree to which a wetland is considered a locally or regionally unique natural resource.

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10

Wetland Assessment Area: Wetland #4

Date: 7/19/2016 Weather: Sunny, 85°F Photographs Taken? Yes / No

GROUNDWATER RECHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is underlain by stratified drift, gravel or sandy soils.	X	
Wetland is ***not*** underlain by hardpan, impervious soils (e.g., clays and silts) or bedrock	X	
Wetland is associated with a perennial or intermittent watercourse	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%)	X	
Wetland is associated with a watercourse but lacks a defined outlet or contains a constricted outlet		X
Other evidence of groundwater recharge is present (i.e., local water supplies piezometer data, etc.)		

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

GROUNDWATER DISCHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is ***not*** underlain by stratified drift, gravel or sandy soils.		X
Wetland is underlain by hardpan; impervious, tight grained soils (high clay and/or silt content); or bedrock		X
Wetland formed as a result of seeps or springs		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)		X
Wetland is associated with a watercourse and contains only an outlet, no defined inlet		X
Other evidence of groundwater discharge are present (i.e., water temperature, piezometer data, etc.)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10

Wetland Assessment Area: Wetland #4

Date: 7/19/2016 Weather: Sunny, 85◦F Photographs Taken? Yes / No

FLOODFLOW ALTERATION

Considerations/Qualifiers	**Yes**	**No**
Area of this wetland is large relative to its watershed		X
Wetland occurs in the upper portions of its watershed and the effective flood storage is small or non-existent upslope of or above the wetland		X
Wetland watershed contains a high percent of impervious surfaces		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography) or ponding (e.g. sediment deposits or lines)	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%).	X	
Wetland located in a floodplain of an adjacent watercourse.	X	
Wetland has a constricted outlet.		X
Wetland contains hydric soils which are able to absorb and detain water.	X	
Watershed has a history of economic loss due to flooding.		X
Associated watercourse, if present, is sinuous or diffuse.	X	
Other evidence of floodflow alteration (Explain below)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

SEDIMENT, POLLUTANT & NUTRIENT REMOVAL

Considerations/Qualifiers	**Yes**	**No**
Wetland saturated for most of the season.	X*	
Ponded water (including deep water or open water habitat) is present in the wetland.		X*
Wetland edge is broad and intermittently aerobic.	X	
Deep organic/sediment deposits are present	X	
Slowly drained fine grained mineral or organic soils are present.	X	
Alluvial soils present in or immediately adjacent to wetland.	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%).	X	
Water retention/detention time in this wetland is increased by constricted outlet.		X
Water retention/detention time in this wetland is increased by thick vegetation.		X
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)		
Other evidence of sediment, pollutant and nutrient removal (Explain below)		

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

*****Majority of pond was dry during assessment.

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10

Wetland Assessment Area: Wetland #4

Date: 7/19/2016 Weather: Sunny, 85◦F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (PONDS & LAKES)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to pond or lake dominated by forest, shrub and/or meadow community	X	
Shallow littoral zone with emergent vegetation present		X*
Pond or lake is ate least 10 feet deep		X*
Pond or lake is covered by more than 15 but less than 40 percent submerged or emergent vegetation		X*
Direct stormwater discharge(s) are few to none and , if present, originate from smaller culverts/outfalls	X	
Sand bars or evidence of stormwater runoff at inlet is absent	X	
Water transparency is high		X*
Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent	X	
Pond or lake is greater than 0.5 acre	X	
Dense algal blooms, nuisance aquatic vegetation or duckweed are not or have not historically been observed		X*

Other evidence of finfish habitat (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

*****Majority of pond was dry during assessment.

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to stream or river dominated by forest, shrub and/or meadow community		
Channel is shaded by riparian trees or shrubs		
Bank is predominantly vegetated with high cover (e.g. trees and shrubs)		
Barriers to anadromous fish (i.e. dams, including beaver dams, waterfalls, road crossings, etc.) are absent from the stream reach associated with this wetland.		
Dominant bottom substrate is gravel and/or cobbles		
Bottom substrate is embedded with minimal sand and silt		
Diversity of instream habitat (e.g. riffles, runs, shallow pools and deep pools) is high		
Channel alteration (i.e. channelization, islands, point bars, etc.) are few to absent		
Bank is stabilized; Little to no evidence of scour or erosion is present		
Stream or river contains common to many cover objects (i.e, fallen logs, boulders, undercut banks)		

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10
Wetland Assessment Area: Wetland #4
Date: 7/19/2016 Weather: Sunny, 85◦F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS) (cont'd)

Stream or river is predominantly buffered from other land uses by a vegetated zone greater than 20 feet in width

Direct stormwater discharge(s) are few to none, and, if present, originate from smaller culverts/outfalls

Sand bars or evidence of stormwater runoff at inlet is absent

Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent

Quality of the watercourse associated with this wetland is able to support healthy fish/shellfish

Other evidence of finfish habitat (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

PRODUCTION EXPORT

Considerations/Qualifiers	**Yes**	**No**
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland exhibits high degree of plant community structure/species diversity	X	
Evidence of wildlife use found within this wetland.	X	
Fish or shellfish develop or occur in this wetland.		X
Nutrients exported or "flushed" from wetlands to watercourses (permanent outlet present).	X	

Other evidence of production export (Explain below)

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

WILDLIFE HABITAT

Considerations/Qualifiers	**Yes**	**No**
Wetland is not degraded or fragmented by human activity.	X	
Wildlife overland access to other wetlands is present and relatively unfragmented or unimpeded.	X	
More than 40% of this wetland edge is bordered by upland wildlife habitat (e.g., shrub thicket, woodland, farmland, or idle land) at least 500 feet in width.	X	
Wetland is contiguous with other wetland systems connected by a watercourse or lake.	X	
Water quality of the watercourse, pond, or lake associated with this wetland meets or exceeds Class A or B standards.		

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10
Wetland Assessment Area: Wetland #4
Date: 7/19/2016 Weather: Sunny, 85◦F Photographs Taken? Yes / No

WILDLIFE HABITAT (cont'd)

Dominant wetland class includes deep or shallow marsh or wooded swamp.		X
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Wetland exhibits a high degree of interspersion of vegetation classes (e.g. forest, shrub, emergent marsh, wet meadow, open water).	X	
Two or more islands or inclusions of upland within the wetland are present.	X	
Wetland exhibits a high degree of diversity in plant community structure (e.g., tree/shrub/vine/grasses/mosses).	X	
Wetland or watercourse contains numerous and diverse habitat features (e.g., snags, downed woody debris, rocks, seeps/springs, well drained sandy soils).	X	
Evidence of obligate or facultative vernal pool species have been observed in or near the wetland.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography).	X	
Dominant vegetation cover type is not composed of invasive or noxious species.	X	

Other evidence wildlife habitat (Explain below).

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

EDUCATIONAL, SCIENTIFIC & RECREATION VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.	X	
Wildlife habitat is a principal function of the wetland	X	
Direct access is available to a perennial watercourse (e.g., stream pond or lake)	X	
Wetland is part of a recreation area, park, forest, or refuge.	X	
Hunting and/or fishing is available within or from the wetland.	X	
Hiking occurs or has the potential to occur in the wetland	X	
Off-road public parking available at or near the wetland or watercourse.		X
Wetland is within a short drive or safe walk from highly populated public and private areas.		X
Wetland currently used for educational or scientific purposes.		X
Access to water is available at this potential recreation site for boating, canoeing, or fishing.		X

No known safety hazards exist (If not, explain below).

Other evidence educational, scientific or recreation value (Explain below).

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10
Wetland Assessment Area: Wetland #4
Date: 7/19/2016 Weather: Sunny, 85◦F Photographs Taken? Yes / No
Wetland is located within NDDB area and Pachaug State Forest.

UNIQUENESS & HERITAGE VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.	X	
Wetland identified as a whole or in part as an exemplary natural community (Explain below)		X
Wetland considered a locally and/or regionally significant (Explain below)	X	

Other evidence of uniqueness or heritage values (Explain below)

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:
Wetland is located within NDDB area and Pachaug State Forest.

SUMMARY OF FUNCTIONS & VALUES

Function/Value	**Principal Function**	**Secondary Function**
Groundwater Recharge & Discharge	X	
Floodflow Alteration		X
Sediment, Pollutant & Nutrient Removal	X	
Finfish Habitat (Ponds & Lakes)		X
Finfish Habitat (Streams & Rivers)	N/A	N/A
Production Export	X	
Wildlife Habitat	X	
Educational, Scientific & Recreation Value		X
Uniqueness & Heritage	X	

MISCELLANEOUS NOTES & COMMENTS:
Pond was mostly dry, Area to NW may offer potential for mitigation.

Inspector:_____

WETLAND FUNCTION & VALUE ASSESSMENT FIELD FORM

This form has been developed to streamline the function and value assessment process of wetlands and watercourses in the field. The form has largely been developed using the procedure outlined in the U.S. Army Corps of Engineers "Highway Methodology Work Book: Supplement. Wetland Functions and Values: A Descriptive Approach" (1995, NAEEP-360-1-30a). This methodology is a descriptive approach and does not rely upon semi-quantitative numerical models to identify principal functions and values of wetlands and watercourse.

Many of the criteria used as "considerations and qualifiers" are drawn directly from the U.S. Army Corps of Engineers methodology. However, other assessment methods were considered (e.g. Wisc. DNR, 1992, "Rapid Assessment Methodology for Evaluating Wetland functions and Values." and Ammann, et al., 1996,"Method for the Evaluation of Inland Wetlands in Connecticut.") as well professional experience. Each criteria listed is an indicator of that function or value . An affirmative response, therefore, supports the assumptions of a given function or value. Generally, a majority of affirmative responses will indicate that the given function or value is a "principal" function or value. However, the criteria are not weighted and thus it is incumbent upon the inspector to use his or her best professional judgment when identify "principal" functions or values.

Groundwater Recharge & Discharge
The capacity or potential for a wetland to interact with groundwater such that water moves from surface water to ground water (Recharge) or from ground water to surface water (Discharge)

Floodflow Alteration
The storage of inflowing water from storm or flooding events, resulting in detention and retention of water on the wetland surface

Finfish Habitat (Ponds & Lakes)
Considers the quality of the aquatic habitat of a pond or lake, and its capacity to support finfish.

Finfish Habitat (Streams & Rivers)
Considers the quality of the aquatic habitat of a perennial watercourse, and its capacity to support finfish.

Sediment, Pollutant & Nutrient Removal
The capacity of a wetland to remove dissolved, suspended and floatable material from storm water runoff and prevents degradation of water quality.

Production Export
The capacity of a wetland to produce wildlife food sources, or to export biomass that sustains downstream ecosystems and local wildlife populations.

Wildlife Habitat
The capacity of a wetland to support a diverse and abundant wildlife community typically associated with wetland and wetland edges.

Educational, Scientific & Recreation Value
The suitability of a wetland for classroom field trips or scientific research, or to support various recreation activities (e.g., hiking, canoeing, boating, fishing, hunting, bird watching).

Uniqueness & Heritage
The degree to which a wetland is considered a locally or regionally unique natural resource.

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111407.B10

Wetland Assessment Area: Wetland #5

Date: 7/19/2016 Weather :Sunny, 80°F Photographs Taken? Yes / No

GROUNDWATER RECHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is underlain by stratified drift, gravel or sandy soils.	X	
Wetland is *not* underlain by hardpan, impervious soils (e.g., clays and silts) or bedrock	X	
Wetland is associated with a perennial or intermittent watercourse		X
Wetland formed on relatively gentle slopes (e.g., less than 3%)	X	
Wetland is associated with a watercourse but lacks a defined outlet or contains a constricted outlet		X
Other evidence of groundwater recharge is present (i.e., local water supplies piezometer data, etc.)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

GROUNDWATER DISCHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is *not* underlain by stratified drift, gravel or sandy soils.		X
Wetland is underlain by hardpan; impervious, tight grained soils (high clay and/or silt content); or bedrock		X
Wetland formed as a result of seeps or springs	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)	X	
Wetland is associated with a watercourse and contains only an outlet, no defined inlet	X	
Other evidence of groundwater discharge are present (i.e., water temperature, piezometer data, etc.)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111407.B10

Wetland Assessment Area: Wetland #5

Date: 7/19/2016 Weather :Sunny, 80°F Photographs Taken? Yes / No

FLOODFLOW ALTERATION

Considerations/Qualifiers	**Yes**	**No**
Area of this wetland is large relative to its watershed		X
Wetland occurs in the upper portions of its watershed and the effective flood storage is small or non-existent upslope of or above the wetland		X
Wetland watershed contains a high percent of impervious surfaces		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography) or ponding (e.g. sediment deposits or lines)	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%).	X	
Wetland located in a floodplain of an adjacent watercourse.	X	
Wetland has a constricted outlet.		X
Wetland contains hydric soils which are able to absorb and detain water.	X	
Watershed has a history of economic loss due to flooding.		X
Associated watercourse, if present, is sinuous or diffuse.		X

Other evidence of floodflow alteration (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

SEDIMENT, POLLUTANT & NUTRIENT REMOVAL

Considerations/Qualifiers	**Yes**	**No**
Wetland saturated for most of the season.	X	
Ponded water (including deep water or open water habitat) is present in the wetland.	X	
Wetland edge is broad and intermittently aerobic.	X	
Deep organic/sediment deposits are present	X	
Slowly drained fine grained mineral or organic soils are present.	X	
Alluvial soils present in or immediately adjacent to wetland.	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%).	X	
Water retention/detention time in this wetland is increased by constricted outlet.		X
Water retention/detention time in this wetland is increased by thick vegetation.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)	X	

Other evidence of sediment, pollutant and nutrient removal (Explain below)

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111407.B10

Wetland Assessment Area: Wetland #5

Date: 7/19/2016 Weather :Sunny, 80°F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (PONDS & LAKES)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to pond or lake dominated by forest, shrub and/or meadow community	X	
Shallow littoral zone with emergent vegetation present	X	
Pond or lake is ate least 10 feet deep		X
Pond or lake is covered by more than 15 but less than 40 percent submerged or emergent vegetation		X
Direct stormwater discharge(s) are few to none and , if present, originate from smaller culverts/outfalls	X	
Sand bars or evidence of stormwater runoff at inlet is absent		X
Water transparency is high	X	
Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent	X	
Pond or lake is greater than 0.5 acre	X	
Dense algal blooms, nuisance aquatic vegetation or duckweed are not or have not historically been observed	X	

Other evidence of finfish habitat (Explain below)

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to stream or river dominated by forest, shrub and/or meadow community		
Channel is shaded by riparian trees or shrubs		
Bank is predominantly vegetated with high cover (e.g. trees and shrubs)		
Barriers to anadromous fish (i.e. dams, including beaver dams, waterfalls, road crossings, etc.) are absent from the stream reach associated with this wetland.		
Dominant bottom substrate is gravel and/or cobbles		
Bottom substrate is embedded with minimal sand and silt		
Diversity of instream habitat (e.g. riffles, runs, shallow pools and deep pools) is high		
Channel alteration (i.e. channelization, islands, point bars, etc.) are few to absent		
Bank is stabilized; Little to no evidence of scour or erosion is present		
Stream or river contains common to many cover objects (i.e, fallen logs, boulders, undercut banks)		

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111407.B10

Wetland Assessment Area: Wetland #5

Date: 7/19/2016 Weather :Sunny, 80°F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS) (cont'd)

Stream or river is predominantly buffered from other land uses by a vegetated zone greater than 20 feet in width

Direct stormwater discharge(s) are few to none, and, if present, originate from smaller culverts/outfalls

Sand bars or evidence of stormwater runoff at inlet is absent

Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent

Quality of the watercourse associated with this wetland is able to support healthy fish/shellfish

Other evidence of finfish habitat (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

PRODUCTION EXPORT

Considerations/Qualifiers	**Yes**	**No**
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland exhibits high degree of plant community structure/species diversity	X	
Evidence of wildlife use found within this wetland.	X	
Fish or shellfish develop or occur in this wetland.		X
Nutrients exported or "flushed" from wetlands to watercourses (permanent outlet present).	X	

Other evidence of production export (Explain below)

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

WILDLIFE HABITAT

Considerations/Qualifiers	**Yes**	**No**
Wetland is not degraded or fragmented by human activity.	X	
Wildlife overland access to other wetlands is present and relatively unfragmented or unimpeded.	X	
More than 40% of this wetland edge is bordered by upland wildlife habitat (e.g., shrub thicket, woodland, farmland, or idle land) at least 500 feet in width.	X	
Wetland is contiguous with other wetland systems connected by a watercourse or lake.	X	
Water quality of the watercourse, pond, or lake associated with this wetland meets or exceeds Class A or B standards.		

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111407.B10
Wetland Assessment Area: Wetland #5
Date: 7/19/2016 Weather :Sunny, 80°F Photographs Taken? Yes / No

WILDLIFE HABITAT (cont'd)

Dominant wetland class includes deep or shallow marsh or wooded swamp.		X
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Wetland exhibits a high degree of interspersion of vegetation classes (e.g. forest, shrub, emergent marsh, wet meadow, open water).	X	
Two or more islands or inclusions of upland within the wetland are present.	X	
Wetland exhibits a high degree of diversity in plant community structure (e.g., tree/shrub/vine/grasses/mosses).	X	
Wetland or watercourse contains numerous and diverse habitat features (e.g., snags, downed woody debris, rocks, seeps/springs, well drained sandy soils).	X	
Evidence of obligate or facultative vernal pool species have been observed in or near the wetland.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography).	X	
Dominant vegetation cover type is not composed of invasive or noxious species.	X	

Other evidence wildlife habitat (Explain below).

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

EDUCATIONAL, SCIENTIFIC & RECREATION VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.	X	
Wildlife habitat is a principal function of the wetland	X	
Direct access is available to a perennial watercourse (e.g., stream pond or lake)	X	
Wetland is part of a recreation area, park, forest, or refuge.	X	
Hunting and/or fishing is available within or from the wetland.	X	
Hiking occurs or has the potential to occur in the wetland	X	
Off-road public parking available at or near the wetland or watercourse.		X
Wetland is within a short drive or safe walk from highly populated public and private areas.		X
Wetland currently used for educational or scientific purposes.		X
Access to water is available at this potential recreation site for boating, canoeing, or fishing.	X	

No known safety hazards exist (If not, explain below).

Other evidence educational, scientific or recreation value (Explain below).

☐ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111407.B10

Wetland Assessment Area: Wetland #5

Date: 7/19/2016 Weather :Sunny, 80°F Photographs Taken? Yes / No

Eastern portion of wetland is located inside of a NDDB area, entire wetland is located within Pachaug State Forest.

UNIQUENESS & HERITAGE VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.	X	
Wetland identified as a whole or in part as an exemplary natural community (Explain below)		X
Wetland considered a locally and/or regionally significant (Explain below)	X	

Other evidence of uniqueness or heritage values (Explain below)

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:
Eastern portion of wetland is located inside of a NDDB area, entire wetland is located within Pachaug State Forest.

SUMMARY OF FUNCTIONS & VALUES

Function/Value	**Principal Function**	**Secondary Function**
Groundwater Recharge & Discharge		X
Floodflow Alteration		X
Sediment, Pollutant & Nutrient Removal	X	
Finfish Habitat (Ponds & Lakes)	X	
Finfish Habitat (Streams & Rivers)	N/A	N/A
Production Export	X	
Wildlife Habitat	X	
Educational, Scientific & Recreation Value		X
Uniqueness & Heritage	X	

MISCELLANEOUS NOTES & COMMENTS:
Located in nature preserve (Pachaug State Forest). Mostly stream habitat in rocky valley, surrounded by forest.

Inspector:_____

WETLAND FUNCTION & VALUE ASSESSMENT FIELD FORM

This form has been developed to streamline the function and value assessment process of wetlands and watercourses in the field. The form has largely been developed using the procedure outlined in the U.S. Army Corps of Engineers "Highway Methodology Work Book: Supplement. Wetland Functions and Values: A Descriptive Approach" (1995, NAEEP-360-1-30a). This methodology is a descriptive approach and does not rely upon semi-quantitative numerical models to identify principal functions and values of wetlands and watercourse.

Many of the criteria used as "considerations and qualifiers" are drawn directly from the U.S. Army Corps of Engineers methodology. However, other assessment methods were considered (e.g. Wisc. DNR, 1992, "Rapid Assessment Methodology for Evaluating Wetland functions and Values." and Ammann, et al., 1996,"Method for the Evaluation of Inland Wetlands in Connecticut.") as well professional experience. Each criteria listed is an indicator of that function or value . An affirmative response, therefore, supports the assumptions of a given function or value. Generally, a majority of affirmative responses will indicate that the given function or value is a "principal" function or value. However, the criteria are not weighted and thus it is incumbent upon the inspector to use his or her best professional judgment when identify "principal" functions or values.

Groundwater Recharge & Discharge
The capacity or potential for a wetland to interact with groundwater such that water moves from surface water to ground water (Recharge) or from ground water to surface water (Discharge)

Floodflow Alteration
The storage of inflowing water from storm or flooding events, resulting in detention and retention of water on the wetland surface

Finfish Habitat (Ponds & Lakes)
Considers the quality of the aquatic habitat of a pond or lake, and its capacity to support finfish.

Finfish Habitat (Streams & Rivers)
Considers the quality of the aquatic habitat of a perennial watercourse, and its capacity to support finfish.

Sediment, Pollutant & Nutrient Removal
The capacity of a wetland to remove dissolved, suspended and floatable material from storm water runoff and prevents degradation of water quality.

Production Export
The capacity of a wetland to produce wildlife food sources, or to export biomass that sustains downstream ecosystems and local wildlife populations.

Wildlife Habitat
The capacity of a wetland to support a diverse and abundant wildlife community typically associated with wetland and wetland edges.

Educational, Scientific & Recreation Value
The suitability of a wetland for classroom field trips or scientific research, or to support various recreation activities (e.g., hiking, canoeing, boating, fishing, hunting, bird watching).

Uniqueness & Heritage
The degree to which a wetland is considered a locally or regionally unique natural resource.

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10

Wetland Assessment Area: Wetland #6

Date: 7/18/2016 Weather: Sunny, 85°F Photographs Taken? Yes / No

GROUNDWATER RECHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is underlain by stratified drift, gravel or sandy soils.	X	
Wetland is *not* underlain by hardpan, impervious soils (e.g., clays and silts) or bedrock	X	
Wetland is associated with a perennial or intermittent watercourse	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%)		X
Wetland is associated with a watercourse but lacks a defined outlet or contains a constricted outlet		X
Other evidence of groundwater recharge is present (i.e., local water supplies piezometer data, etc.)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

GROUNDWATER DISCHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is *not* underlain by stratified drift, gravel or sandy soils.		X
Wetland is underlain by hardpan; impervious, tight grained soils (high clay and/or silt content); or bedrock	X	
Wetland formed as a result of seeps or springs	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)	X	
Wetland is associated with a watercourse and contains only an outlet, no defined inlet	X	
Other evidence of groundwater discharge are present (i.e., water temperature, piezometer data, etc.)		

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10

Wetland Assessment Area: Wetland #6

Date: 7/18/2016 Weather: Sunny, 85◦F Photographs Taken? Yes / No

FLOODFLOW ALTERATION

Considerations/Qualifiers	**Yes**	**No**
Area of this wetland is large relative to its watershed		X
Wetland occurs in the upper portions of its watershed and the effective flood storage is small or non-existent upslope of or above the wetland	X	
Wetland watershed contains a high percent of impervious surfaces		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography) or ponding (e.g. sediment deposits or lines)	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%).		X
Wetland located in a floodplain of an adjacent watercourse.		X
Wetland has a constricted outlet.		X
Wetland contains hydric soils which are able to absorb and detain water.	X	
Watershed has a history of economic loss due to flooding.		X
Associated watercourse, if present, is sinuous or diffuse.	X	

Other evidence of floodflow alteration (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

SEDIMENT, POLLUTANT & NUTRIENT REMOVAL

Considerations/Qualifiers	**Yes**	**No**
Wetland saturated for most of the season.	X	
Ponded water (including deep water or open water habitat) is present in the wetland.	X	
Wetland edge is broad and intermittently aerobic.	X	
Deep organic/sediment deposits are present	X	
Slowly drained fine grained mineral or organic soils are present.	X	
Alluvial soils present in or immediately adjacent to wetland.	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%).		X
Water retention/detention time in this wetland is increased by constricted outlet.		X
Water retention/detention time in this wetland is increased by thick vegetation.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)	X	

Other evidence of sediment, pollutant and nutrient removal (Explain below)

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10

Wetland Assessment Area: Wetland #6

Date: 7/18/2016 Weather: Sunny, 85◦F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (PONDS & LAKES)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to pond or lake dominated by forest, shrub and/or meadow community	X	
Shallow littoral zone with emergent vegetation present	X	
Pond or lake is ate least 10 feet deep		X
Pond or lake is covered by more than 15 but less than 40 percent submerged or emergent vegetation		X
Direct stormwater discharge(s) are few to none and , if present, originate from smaller culverts/outfalls	X	
Sand bars or evidence of stormwater runoff at inlet is absent	X	
Water transparency is high		X
Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent		X
Pond or lake is greater than 0.5 acre		X
Dense algal blooms, nuisance aquatic vegetation or duckweed are not or have not historically been observed	X	

Other evidence of finfish habitat (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to stream or river dominated by forest, shrub and/or meadow community		
Channel is shaded by riparian trees or shrubs		
Bank is predominantly vegetated with high cover (e.g. trees and shrubs)		
Barriers to anadromous fish (i.e. dams, including beaver dams, waterfalls, road crossings, etc.) are absent from the stream reach associated with this wetland.		
Dominant bottom substrate is gravel and/or cobbles		
Bottom substrate is embedded with minimal sand and silt		
Diversity of instream habitat (e.g. riffles, runs, shallow pools and deep pools) is high		
Channel alteration (i.e. channelization, islands, point bars, etc.) are few to absent		
Bank is stabilized; Little to no evidence of scour or erosion is present		
Stream or river contains common to many cover objects (i.e, fallen logs, boulders, undercut banks)		

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10
Wetland Assessment Area: Wetland #6
Date: 7/18/2016 Weather: Sunny, 85◦F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS) (cont'd)

Stream or river is predominantly buffered from other land uses by a vegetated zone greater than 20 feet in width

Direct stormwater discharge(s) are few to none, and, if present, originate from smaller culverts/outfalls

Sand bars or evidence of stormwater runoff at inlet is absent

Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent

Quality of the watercourse associated with this wetland is able to support healthy fish/shellfish

Other evidence of finfish habitat (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

PRODUCTION EXPORT

Considerations/Qualifiers	**Yes**	**No**
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland exhibits high degree of plant community structure/species diversity	X	
Evidence of wildlife use found within this wetland.	X	
Fish or shellfish develop or occur in this wetland.		X
Nutrients exported or "flushed" from wetlands to watercourses (permanent outlet present).	X	

Other evidence of production export (Explain below)

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

WILDLIFE HABITAT

Considerations/Qualifiers	**Yes**	**No**
Wetland is not degraded or fragmented by human activity.	X	
Wildlife overland access to other wetlands is present and relatively unfragmented or unimpeded.	X	
More than 40% of this wetland edge is bordered by upland wildlife habitat (e.g., shrub thicket, woodland, farmland, or idle land) at least 500 feet in width.	X	
Wetland is contiguous with other wetland systems connected by a watercourse or lake.	X	
Water quality of the watercourse, pond, or lake associated with this wetland meets or exceeds Class A or B standards.		

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10
Wetland Assessment Area: Wetland #6
Date: 7/18/2016 Weather: Sunny, 85◦F Photographs Taken? Yes / No

WILDLIFE HABITAT (cont'd)

Dominant wetland class includes deep or shallow marsh or wooded swamp.		X
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Wetland exhibits a high degree of interspersion of vegetation classes (e.g. forest, shrub, emergent marsh, wet meadow, open water).		X
Two or more islands or inclusions of upland within the wetland are present.	X	
Wetland exhibits a high degree of diversity in plant community structure (e.g., tree/shrub/vine/grasses/mosses).	X	
Wetland or watercourse contains numerous and diverse habitat features (e.g., snags, downed woody debris, rocks, seeps/springs, well drained sandy soils).	X	
Evidence of obligate or facultative vernal pool species have been observed in or near the wetland.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography).	X	
Dominant vegetation cover type is not composed of invasive or noxious species.	X	

Other evidence wildlife habitat (Explain below).

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

EDUCATIONAL, SCIENTIFIC & RECREATION VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.		X
Wildlife habitat is a principal function of the wetland	X	
Direct access is available to a perennial watercourse (e.g., stream pond or lake)	X	
Wetland is part of a recreation area, park, forest, or refuge.	X	
Hunting and/or fishing is available within or from the wetland.	X	
Hiking occurs or has the potential to occur in the wetland	X	
Off-road public parking available at or near the wetland or watercourse.		X
Wetland is within a short drive or safe walk from highly populated public and private areas.		X
Wetland currently used for educational or scientific purposes.		X
Access to water is available at this potential recreation site for boating, canoeing, or fishing.		X

No known safety hazards exist (If not, explain below).

Other evidence educational, scientific or recreation value (Explain below).

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10
Wetland Assessment Area: Wetland #6
Date: 7/18/2016 Weather: Sunny, 85◦F Photographs Taken? Yes / No

UNIQUENESS & HERITAGE VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.		X
Wetland identified as a whole or in part as an exemplary natural community (Explain below)		X
Wetland considered a locally and/or regionally significant (Explain below)	X	

Other evidence of uniqueness or heritage values (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:
Wetland is located on Pachaug State Forest land.

SUMMARY OF FUNCTIONS & VALUES

Function/Value	**Principal Function**	**Secondary Function**
Groundwater Recharge & Discharge	X	
Floodflow Alteration		X
Sediment, Pollutant & Nutrient Removal	X	
Finfish Habitat (Ponds & Lakes)		X
Finfish Habitat (Streams & Rivers)	N/A	N/A
Production Export	X	
Wildlife Habitat	X	
Educational, Scientific & Recreation Value		X
Uniqueness & Heritage		X

MISCELLANEOUS NOTES & COMMENTS:
Relatively steepbanks along edge. No phragmites observed, not sure about NE portion for mitigation (scrub/shrub area?).

Inspector:_____

WETLAND FUNCTION & VALUE ASSESSMENT FIELD FORM

This form has been developed to streamline the function and value assessment process of wetlands and watercourses in the field. The form has largely been developed using the procedure outlined in the U.S. Army Corps of Engineers "Highway Methodology Work Book: Supplement. Wetland Functions and Values: A Descriptive Approach" (1995, NAEEP-360-1-30a). This methodology is a descriptive approach and does not rely upon semi-quantitative numerical models to identify principal functions and values of wetlands and watercourse.

Many of the criteria used as "considerations and qualifiers" are drawn directly from the U.S. Army Corps of Engineers methodology. However, other assessment methods were considered (e.g. Wisc. DNR, 1992, "Rapid Assessment Methodology for Evaluating Wetland functions and Values." and Ammann, et al., 1996,"Method for the Evaluation of Inland Wetlands in Connecticut.") as well professional experience. Each criteria listed is an indicator of that function or value . An affirmative response, therefore, supports the assumptions of a given function or value. Generally, a majority of affirmative responses will indicate that the given function or value is a "principal" function or value. However, the criteria are not weighted and thus it is incumbent upon the inspector to use his or her best professional judgment when identify "principal" functions or values.

Groundwater Recharge & Discharge
The capacity or potential for a wetland to interact with groundwater such that water moves from surface water to ground water (Recharge) or from ground water to surface water (Discharge)

Floodflow Alteration
The storage of inflowing water from storm or flooding events, resulting in detention and retention of water on the wetland surface

Finfish Habitat (Ponds & Lakes)
Considers the quality of the aquatic habitat of a pond or lake, and its capacity to support finfish.

Finfish Habitat (Streams & Rivers)
Considers the quality of the aquatic habitat of a perennial watercourse, and its capacity to support finfish.

Sediment, Pollutant & Nutrient Removal
The capacity of a wetland to remove dissolved, suspended and floatable material from storm water runoff and prevents degradation of water quality.

Production Export
The capacity of a wetland to produce wildlife food sources, or to export biomass that sustains downstream ecosystems and local wildlife populations.

Wildlife Habitat
The capacity of a wetland to support a diverse and abundant wildlife community typically associated with wetland and wetland edges.

Educational, Scientific & Recreation Value
The suitability of a wetland for classroom field trips or scientific research, or to support various recreation activities (e.g., hiking, canoeing, boating, fishing, hunting, bird watching).

Uniqueness & Heritage
The degree to which a wetland is considered a locally or regionally unique natural resource.

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10

Wetland Assessment Area: Wetland #7

Date: 7/18/2016 Weather: Sunny, 85°F Photographs Taken? Yes / No

GROUNDWATER RECHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is underlain by stratified drift, gravel or sandy soils.	X	
Wetland is *not* underlain by hardpan, impervious soils (e.g., clays and silts) or bedrock	X	
Wetland is associated with a perennial or intermittent watercourse	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%)		X
Wetland is associated with a watercourse but lacks a defined outlet or contains a constricted outlet		X
Other evidence of groundwater recharge is present (i.e., local water supplies piezometer data, etc.)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

GROUNDWATER DISCHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is *not* underlain by stratified drift, gravel or sandy soils.		X
Wetland is underlain by hardpan; impervious, tight grained soils (high clay and/or silt content); or bedrock	X	
Wetland formed as a result of seeps or springs	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)	X	
Wetland is associated with a watercourse and contains only an outlet, no defined inlet	X	
Other evidence of groundwater discharge are present (i.e., water temperature, piezometer data, etc.)		

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10

Wetland Assessment Area: Wetland #7

Date: 7/18/2016 Weather: Sunny, 85◦F Photographs Taken? Yes / No

FLOODFLOW ALTERATION

Considerations/Qualifiers	**Yes**	**No**
Area of this wetland is large relative to its watershed		X
Wetland occurs in the upper portions of its watershed and the effective flood storage is small or non-existent upslope of or above the wetland	X	
Wetland watershed contains a high percent of impervious surfaces		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography) or ponding (e.g. sediment deposits or lines)	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%).		X
Wetland located in a floodplain of an adjacent watercourse.		X
Wetland has a constricted outlet.		X
Wetland contains hydric soils which are able to absorb and detain water.	X	
Watershed has a history of economic loss due to flooding.		X
Associated watercourse, if present, is sinuous or diffuse.	X	
Other evidence of floodflow alteration (Explain below)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

SEDIMENT, POLLUTANT & NUTRIENT REMOVAL

Considerations/Qualifiers	**Yes**	**No**
Wetland saturated for most of the season.	X	
Ponded water (including deep water or open water habitat) is present in the wetland.	X	
Wetland edge is broad and intermittently aerobic.	X	
Deep organic/sediment deposits are present	X	
Slowly drained fine grained mineral or organic soils are present.	X	
Alluvial soils present in or immediately adjacent to wetland.	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%).		X
Water retention/detention time in this wetland is increased by constricted outlet.		X
Water retention/detention time in this wetland is increased by thick vegetation.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)	X	
Other evidence of sediment, pollutant and nutrient removal (Explain below)		

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10

Wetland Assessment Area: Wetland #7

Date: 7/18/2016 Weather: Sunny, 85◦F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (PONDS & LAKES)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to pond or lake dominated by forest, shrub and/or meadow community	X	
Shallow littoral zone with emergent vegetation present	X	
Pond or lake is ate least 10 feet deep		X
Pond or lake is covered by more than 15 but less then 40 percent submered or emergent vegetation		X
Direct stormwater discharge(s) are few to none and , if present, originate from smaller culverts/outfalls	X	
Sand bars or evidence of stormwater runoff at inlet is absent	X	
Water transparency is high		X
Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent		X
Pond or lake is greater than 0.5 acre		X
Dense algal blooms, nuisance aquatic vegetation or duckweed are not or have not historically been observed	X	

Other evidence of finfish habitat (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to stream or river dominated by forest, shrub and/or meadow community		
Channel is shaded by riparian trees or shrubs		
Bank is predominantly vegetated with high cover (e.g. trees and shrubs)		
Barriers to anadromous fish (i.e. dams, including beaver dams, waterfalls, road crossings, etc.) are absent from the stream reach associated with this wetland.		
Dominant bottom substrate is gravel and/or cobbles		
Bottom substrate is embedded with minimal sand and silt		
Diversity of instream habitat (e.g. riffles, runs, shallow pools and deep pools) is high		
Channel alteration (i.e. channelization, islands, point bars, etc.) are few to absent		
Bank is stabilized; Little to no evidence of scour or erosion is present		
Stream or river contains common to many cover objects (i.e, fallen logs, boulders, undercut banks)		

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10
Wetland Assessment Area: Wetland #7
Date: 7/18/2016 Weather: Sunny, 85◦F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS) (cont'd)

Stream or river is predominantly buffered from other land uses by a vegetated zone greater than 20 feet in width

Direct stormwater discharge(s) are few to none, and, if present, originate from smaller culverts/outfalls

Sand bars or evidence of stormwater runoff at inlet is absent

Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent

Quality of the watercourse associated with this wetland is able to support healthy fish/shellfish

Other evidence of finfish habitat (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

PRODUCTION EXPORT

Considerations/Qualifiers	**Yes**	**No**
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland exhibits high degree of plant community structure/species diversity	X	
Evidence of wildlife use found within this wetland.	X	
Fish or shellfish develop or occur in this wetland.		X
Nutrients exported or "flushed" from wetlands to watercourses (permanent outlet present).	X	

Other evidence of production export (Explain below)

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

WILDLIFE HABITAT

Considerations/Qualifiers	**Yes**	**No**
Wetland is not degraded or fragmented by human activity.	X	
Wildlife overland access to other wetlands is present and relatively unfragmented or unimpeded.	X	
More than 40% of this wetland edge is bordered by upland wildlife habitat (e.g., shrub thicket, woodland, farmland, or idle land) at least 500 feet in width.	X	
Wetland is contiguous with other wetland systems connected by a watercourse or lake.	X	
Water quality of the watercourse, pond, or lake associated with this wetland meets or exceeds Class A or B standards.		

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10
Wetland Assessment Area: Wetland #7
Date: 7/18/2016 Weather: Sunny, 85°F Photographs Taken? Yes / No

WILDLIFE HABITAT (cont'd)

Dominant wetland class includes deep or shallow marsh or wooded swamp.		X
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Wetland exhibits a high degree of interspersion of vegetation classes (e.g. forest, shrub, emergent marsh, wet meadow, open water).		X
Two or more islands or inclusions of upland within the wetland are present.	X	
Wetland exhibits a high degree of diversity in plant community structure (e.g., tree/shrub/vine/grasses/mosses).	X	
Wetland or watercourse contains numerous and diverse habitat features (e.g., snags, downed woody debris, rocks, seeps/springs, well drained sandy soils).	X	
Evidence of obligate or facultative vernal pool species have been observed in or near the wetland.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography).	X	
Dominant vegetation cover type is not composed of invasive or noxious species.	X	

Other evidence wildlife habitat (Explain below).

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

EDUCATIONAL, SCIENTIFIC & RECREATION VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.		X
Wildlife habitat is a principal function of the wetland	X	
Direct access is available to a perennial watercourse (e.g., stream pond or lake)	X	
Wetland is part of a recreation area, park, forest, or refuge.	X	
Hunting and/or fishing is available within or from the wetland.	X	
Hiking occurs or has the potential to occur in the wetland	X	
Off-road public parking available at or near the wetland or watercourse.		X
Wetland is within a short drive or safe walk from highly populated public and private areas.		X
Wetland currently used for educational or scientific purposes.		X
Access to water is available at this potential recreation site for boating, canoeing, or fishing.		X

No known safety hazards exist (If not, explain below).

Other evidence educational, scientific or recreation value (Explain below).

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10
Wetland Assessment Area: Wetland #7
Date: 7/18/2016 Weather: Sunny, 85°F Photographs Taken? Yes / No

UNIQUENESS & HERITAGE VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.		X
Wetland identified as a whole or in part as an exemplary natural community (Explain below)		X
Wetland considered a locally and/or regionally significant (Explain below)	X	

Other evidence of uniqueness or heritage values (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:
Wetland is located on Pachaug State Forest land.

SUMMARY OF FUNCTIONS & VALUES

Function/Value	**Principal Function**	**Secondary Function**
Groundwater Recharge & Discharge		
Floodflow Alteration		
Sediment, Pollutant & Nutrient Removal		
Finfish Habitat (Ponds & Lakes)		
Finfish Habitat (Streams & Rivers)		
Production Export		
Wildlife Habitat		
Educational, Scientific & Recreation Value		
Uniqueness & Heritage		

MISCELLANEOUS NOTES & COMMENTS:
Relatively steep banks along edge, no phragmites observed. Less shrubby than Sheet 3_north area.

Inspector:_____

WETLAND FUNCTION & VALUE ASSESSMENT FIELD FORM

This form has been developed to streamline the function and value assessment process of wetlands and watercourses in the field. The form has largely been developed using the procedure outlined in the U.S. Army Corps of Engineers "Highway Methodology Work Book: Supplement. Wetland Functions and Values: A Descriptive Approach" (1995, NAEEP-360-1-30a). This methodology is a descriptive approach and does not rely upon semi-quantitative numerical models to identify principal functions and values of wetlands and watercourse.

Many of the criteria used as "considerations and qualifiers" are drawn directly from the U.S. Army Corps of Engineers methodology. However, other assessment methods were considered (e.g. Wisc. DNR, 1992, "Rapid Assessment Methodology for Evaluating Wetland functions and Values." and Ammann, et al., 1996,"Method for the Evaluation of Inland Wetlands in Connecticut.") as well professional experience. Each criteria listed is an indicator of that function or value . An affirmative response, therefore, supports the assumptions of a given function or value. Generally, a majority of affirmative responses will indicate that the given function or value is a "principal" function or value. However, the criteria are not weighted and thus it is incumbent upon the inspector to use his or her best professional judgment when identify "principal" functions or values.

Groundwater Recharge & Discharge
The capacity or potential for a wetland to interact with groundwater such that water moves from surface water to ground water (Recharge) or from ground water to surface water (Discharge)

Floodflow Alteration
The storage of inflowing water from storm or flooding events, resulting in detention and retention of water on the wetland surface

Finfish Habitat (Ponds & Lakes)
Considers the quality of the aquatic habitat of a pond or lake, and its capacity to support finfish.

Finfish Habitat (Streams & Rivers)
Considers the quality of the aquatic habitat of a perennial watercourse, and its capacity to support finfish.

Sediment, Pollutant & Nutrient Removal
The capacity of a wetland to remove dissolved, suspended and floatable material from storm water runoff and prevents degradation of water quality.

Production Export
The capacity of a wetland to produce wildlife food sources, or to export biomass that sustains downstream ecosystems and local wildlife populations.

Wildlife Habitat
The capacity of a wetland to support a diverse and abundant wildlife community typically associated with wetland and wetland edges.

Educational, Scientific & Recreation Value
The suitability of a wetland for classroom field trips or scientific research, or to support various recreation activities (e.g., hiking, canoeing, boating, fishing, hunting, bird watching).

Uniqueness & Heritage
The degree to which a wetland is considered a locally or regionally unique natural resource.

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10

Wetland Assessment Area: Wetland #8

Date: 7/20/2016 Weather: Sunny, 90°F Photographs Taken? Yes / No

GROUNDWATER RECHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is underlain by stratified drift, gravel or sandy soils.	X	
Wetland is ***not*** underlain by hardpan, impervious soils (e.g., clays and silts) or bedrock		X
Wetland is associated with a perennial or intermittent watercourse		X
Wetland formed on relatively gentle slopes (e.g., less than 3%)	X	
Wetland is associated with a watercourse but lacks a defined outlet or contains a constricted outlet		X
Other evidence of groundwater recharge is present (i.e., local water supplies piezometer data, etc.)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

GROUNDWATER DISCHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is ***not*** underlain by stratified drift, gravel or sandy soils.		X
Wetland is underlain by hardpan; impervious, tight grained soils (high clay and/or silt content); or bedrock	X	
Wetland formed as a result of seeps or springs		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)		X
Wetland is associated with a watercourse and contains only an outlet, no defined inlet		X
Other evidence of groundwater discharge are present (i.e., water temperature, piezometer data, etc.)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10

Wetland Assessment Area: Wetland #8

Date: 7/20/2016 Weather: Sunny, 90°F Photographs Taken? Yes / No

FLOODFLOW ALTERATION

Considerations/Qualifiers	**Yes**	**No**
Area of this wetland is large relative to its watershed		X
Wetland occurs in the upper portions of its watershed and the effective flood storage is small or non-existent upslope of or above the wetland		X
Wetland watershed contains a high percent of impervious surfaces		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography) or ponding (e.g. sediment deposits or lines)	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%).		X
Wetland located in a floodplain of an adjacent watercourse.		X
Wetland has a constricted outlet.		X
Wetland contains hydric soils which are able to absorb and detain water.	X	
Watershed has a history of economic loss due to flooding.		X
Associated watercourse, if present, is sinuous or diffuse.	X	

Other evidence of floodflow alteration (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

SEDIMENT, POLLUTANT & NUTRIENT REMOVAL

Considerations/Qualifiers	**Yes**	**No**
Wetland saturated for most of the season.	X	
Ponded water (including deep water or open water habitat) is present in the wetland.		X
Wetland edge is broad and intermittently aerobic.	X	
Deep organic/sediment deposits are present		X
Slowly drained fine grained mineral or organic soils are present.	X	
Alluvial soils present in or immediately adjacent to wetland.	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%).		X
Water retention/detention time in this wetland is increased by constricted outlet.		X
Water retention/detention time in this wetland is increased by thick vegetation.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)	X	

Other evidence of sediment, pollutant and nutrient removal (Explain below)

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland #8
Date: 7/20/2016 Weather: Sunny, 90°F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (PONDS & LAKES)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to pond or lake dominated by forest, shrub and/or meadow community	X	
Shallow littoral zone with emergent vegetation present		X
Pond or lake is ate least 10 feet deep		X
Pond or lake is covered by more than 15 but less than 40 percent submerged or emergent vegetation		X
Direct stormwater discharge(s) are few to none and , if present, originate from smaller culverts/outfalls	X	
Sand bars or evidence of stormwater runoff at inlet is absent	X	
Water transparency is high		X
Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent		X
Pond or lake is greater than 0.5 acre		X
Dense algal blooms, nuisance aquatic vegetation or duckweed are not or have not historically been observed	X	

Other evidence of finfish habitat (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:
Very little standing water absent of vegetation.

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to stream or river dominated by forest, shrub and/or meadow community		
Channel is shaded by riparian trees or shrubs		
Bank is predominantly vegetated with high cover (e.g. trees and shrubs)		
Barriers to anadromous fish (i.e. dams, including beaver dams, waterfalls, road crossings, etc.) are absent from the stream reach associated with this wetland.		
Dominant bottom substrate is gravel and/or cobbles		
Bottom substrate is embedded with minimal sand and silt		
Diversity of instream habitat (e.g. riffles, runs, shallow pools and deep pools) is high		
Channel alteration (i.e. channelization, islands, point bars, etc.) are few to absent		
Bank is stabilized; Little to no evidence of scour or erosion is present		
Stream or river contains common to many cover objects (i.e, fallen logs, boulders, undercut banks)		

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland #8
Date: 7/20/2016 Weather: Sunny, 90°F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS) (cont'd)

Stream or river is predominantly buffered from other land uses by a vegetated zone greater than 20 feet in width

Direct stormwater discharge(s) are few to none, and, if present, originate from smaller culverts/outfalls

Sand bars or evidence of stormwater runoff at inlet is absent

Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent

Quality of the watercourse associated with this wetland is able to support healthy fish/shellfish

Other evidence of finfish habitat (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

PRODUCTION EXPORT

Considerations/Qualifiers	**Yes**	**No**
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland exhibits high degree of plant community structure/species diversity	X	
Evidence of wildlife use found within this wetland.	X	
Fish or shellfish develop or occur in this wetland.		X
Nutrients exported or "flushed" from wetlands to watercourses (permanent outlet present).		X

Other evidence of production export (Explain below)

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

WILDLIFE HABITAT

Considerations/Qualifiers	**Yes**	**No**
Wetland is not degraded or fragmented by human activity.	X	
Wildlife overland access to other wetlands is present and relatively unfragmented or unimpeded.	X	
More than 40% of this wetland edge is bordered by upland wildlife habitat (e.g., shrub thicket, woodland, farmland, or idle land) at least 500 feet in width.	X	
Wetland is contiguous with other wetland systems connected by a watercourse or lake.	X	
Water quality of the watercourse, pond, or lake associated with this wetland meets or exceeds Class A or B standards.		

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland #8
Date: 7/20/2016 Weather: Sunny, 90°F Photographs Taken? Yes / No

WILDLIFE HABITAT (cont'd)

Dominant wetland class includes deep or shallow marsh or wooded swamp.	X
Wildlife food sources growing within this wetland are abundant and diverse.	X
Wetland exhibits a high degree of interspersion of vegetation classes (e.g. forest, shrub, emergent marsh, wet meadow, open water).	X
Two or more islands or inclusions of upland within the wetland are present.	X
Wetland exhibits a high degree of diversity in plant community structure (e.g., tree/shrub/vine/grasses/mosses).	X
Wetland or watercourse contains numerous and diverse habitat features (e.g., snags, downed woody debris, rocks, seeps/springs, well drained sandy soils).	X
Evidence of obligate or facultative vernal pool species have been observed in or near the wetland.	X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography).	X
Dominant vegetation cover type is not composed of invasive or noxious species.	X

Other evidence wildlife habitat (Explain below).

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

EDUCATIONAL, SCIENTIFIC & RECREATION VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.		X*
Wildlife habitat is a principal function of the wetland	X	
Direct access is available to a perennial watercourse (e.g., stream pond or lake)	X	
Wetland is part of a recreation area, park, forest, or refuge.	X	
Hunting and/or fishing is available within or from the wetland.	X	
Hiking occurs or has the potential to occur in the wetland	X	
Off-road public parking available at or near the wetland or watercourse.		X
Wetland is within a short drive or safe walk from highly populated public and private areas.		X
Wetland currently used for educational or scientific purposes.		X
Access to water is available at this potential recreation site for boating, canoeing, or fishing.		X

No known safety hazards exist (If not, explain below).

Other evidence educational, scientific or recreation value (Explain below).

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10

Wetland Assessment Area: Wetland #8

Date: 7/20/2016 Weather: Sunny, 90◦F Photographs Taken? Yes / No

*Wetland is located within 0.4 mile of NDDB area (to west). Wetland is located on Pachaug State Forest land.

UNIQUENESS & HERITAGE VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.		X*
Wetland identified as a whole or in part as an exemplary natural community (Explain below)		X
Wetland considered a locally and/or regionally significant (Explain below)	X	

Other evidence of uniqueness or heritage values (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:
*Wetland is located within 0.4 mile of NDDB area (to west). Wetland is located on Pachaug State Forest land.

SUMMARY OF FUNCTIONS & VALUES

Function/Value	**Principal Function**	**Secondary Function**
Groundwater Recharge & Discharge		X
Floodflow Alteration		X
Sediment, Pollutant & Nutrient Removal	X	
Finfish Habitat (Ponds & Lakes)		X
Finfish Habitat (Streams & Rivers)	N/A	N/A
Production Export	X	
Wildlife Habitat	X	
Educational, Scientific & Recreation Value		X
Uniqueness & Heritage		X

MISCELLANEOUS NOTES & COMMENTS:
Very shrubby, steep slopes.

Inspector:_____

WETLAND FUNCTION & VALUE ASSESSMENT FIELD FORM

This form has been developed to streamline the function and value assessment process of wetlands and watercourses in the field. The form has largely been developed using the procedure outlined in the U.S. Army Corps of Engineers "Highway Methodology Work Book: Supplement. Wetland Functions and Values: A Descriptive Approach" (1995, NAEEP-360-1-30a). This methodology is a descriptive approach and does not rely upon semi-quantitative numerical models to identify principal functions and values of wetlands and watercourse.

Many of the criteria used as "considerations and qualifiers" are drawn directly from the U.S. Army Corps of Engineers methodology. However, other assessment methods were considered (e.g. Wisc. DNR, 1992, "Rapid Assessment Methodology for Evaluating Wetland functions and Values." and Ammann, et al., 1996,"Method for the Evaluation of Inland Wetlands in Connecticut.") as well professional experience. Each criteria listed is an indicator of that function or value . An affirmative response, therefore, supports the assumptions of a given function or value. Generally, a majority of affirmative responses will indicate that the given function or value is a "principal" function or value. However, the criteria are not weighted and thus it is incumbent upon the inspector to use his or her best professional judgment when identify "principal" functions or values.

Groundwater Recharge & Discharge
The capacity or potential for a wetland to interact with groundwater such that water moves from surface water to ground water (Recharge) or from ground water to surface water (Discharge)

Floodflow Alteration
The storage of inflowing water from storm or flooding events, resulting in detention and retention of water on the wetland surface

Finfish Habitat (Ponds & Lakes)
Considers the quality of the aquatic habitat of a pond or lake, and its capacity to support finfish.

Finfish Habitat (Streams & Rivers)
Considers the quality of the aquatic habitat of a perennial watercourse, and its capacity to support finfish.

Sediment, Pollutant & Nutrient Removal
The capacity of a wetland to remove dissolved, suspended and floatable material from storm water runoff and prevents degradation of water quality.

Production Export
The capacity of a wetland to produce wildlife food sources, or to export biomass that sustains downstream ecosystems and local wildlife populations.

Wildlife Habitat
The capacity of a wetland to support a diverse and abundant wildlife community typically associated with wetland and wetland edges.

Educational, Scientific & Recreation Value
The suitability of a wetland for classroom field trips or scientific research, or to support various recreation activities (e.g., hiking, canoeing, boating, fishing, hunting, bird watching).

Uniqueness & Heritage
The degree to which a wetland is considered a locally or regionally unique natural resource.

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland #9
Date: 7/19/2016 Weather: Sunny, 85°F Photographs Taken? Yes / No

GROUNDWATER RECHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is underlain by stratified drift, gravel or sandy soils.	X	
Wetland is *not* underlain by hardpan, impervious soils (e.g., clays and silts) or bedrock		X
Wetland is associated with a perennial or intermittent watercourse		X
Wetland formed on relatively gentle slopes (e.g., less than 3%)	X	
Wetland is associated with a watercourse but lacks a defined outlet or contains a constricted outlet		X
Other evidence of groundwater recharge is present (i.e., local water supplies piezometer data, etc.)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

GROUNDWATER DISCHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is *not* underlain by stratified drift, gravel or sandy soils.		X
Wetland is underlain by hardpan; impervious, tight grained soils (high clay and/or silt content); or bedrock	X	
Wetland formed as a result of seeps or springs		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)		X
Wetland is associated with a watercourse and contains only an outlet, no defined inlet		X
Other evidence of groundwater discharge are present (i.e., water temperature, piezometer data, etc.)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland #9
Date: 7/19/2016 Weather: Sunny, 85◦F Photographs Taken? Yes / No

FLOODFLOW ALTERATION

Considerations/Qualifiers	**Yes**	**No**
Area of this wetland is large relative to its watershed		X
Wetland occurs in the upper portions of its watershed and the effective flood storage is small or non-existent upslope of or above the wetland		X
Wetland watershed contains a high percent of impervious surfaces		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography) or ponding (e.g. sediment deposits or lines)	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%).		X
Wetland located in a floodplain of an adjacent watercourse.		X
Wetland has a constricted outlet.		X
Wetland contains hydric soils which are able to absorb and detain water.	X	
Watershed has a history of economic loss due to flooding.		X
Associated watercourse, if present, is sinuous or diffuse.	X	
Other evidence of floodflow alteration (Explain below)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

SEDIMENT, POLLUTANT & NUTRIENT REMOVAL

Considerations/Qualifiers	**Yes**	**No**
Wetland saturated for most of the season.	X	
Ponded water (including deep water or open water habitat) is present in the wetland.	X	
Wetland edge is broad and intermittently aerobic.	X	
Deep organic/sediment deposits are present		X
Slowly drained fine grained mineral or organic soils are present.	X	
Alluvial soils present in or immediately adjacent to wetland.	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%).		X
Water retention/detention time in this wetland is increased by constricted outlet.		X
Water retention/detention time in this wetland is increased by thick vegetation.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)	X	
Other evidence of sediment, pollutant and nutrient removal (Explain below)		

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland #9
Date: 7/19/2016 Weather: Sunny, 85◦F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (PONDS & LAKES)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to pond or lake dominated by forest, shrub and/or meadow community	X	
Shallow littoral zone with emergent vegetation present		X
Pond or lake is ate least 10 feet deep		X
Pond or lake is covered by more than 15 but less than 40 percent submerged or emergent vegetation		X
Direct stormwater discharge(s) are few to none and , if present, originate from smaller culverts/outfalls	X	
Sand bars or evidence of stormwater runoff at inlet is absent	X	
Water transparency is high		X
Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent		X
Pond or lake is greater than 0.5 acre		X
Dense algal blooms, nuisance aquatic vegetation or duckweed are not or have not historically been observed	X	
Other evidence of finfish habitat (Explain below)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:
Majority of pond is covered with rooted aquatic vegetation.

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to stream or river dominated by forest, shrub and/or meadow community		
Channel is shaded by riparian trees or shrubs		
Bank is predominantly vegetated with high cover (e.g. trees and shrubs)		
Barriers to anadromous fish (i.e. dams, including beaver dams, waterfalls, road crossings, etc.) are absent from the stream reach associated with this wetland.		
Dominant bottom substrate is gravel and/or cobbles		
Bottom substrate is embedded with minimal sand and silt		
Diversity of instream habitat (e.g. riffles, runs, shallow pools and deep pools) is high		
Channel alteration (i.e. channelization, islands, point bars, etc.) are few to absent		
Bank is stabilized; Little to no evidence of scour or erosion is present		
Stream or river contains common to many cover objects (i.e, fallen logs, boulders, undercut banks)		

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland #9
Date: 7/19/2016 Weather: Sunny, 85◦F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS) (cont'd)

Stream or river is predominantly buffered from other land uses by a vegetated zone greater than 20 feet in width

Direct stormwater discharge(s) are few to none, and, if present, originate from smaller culverts/outfalls

Sand bars or evidence of stormwater runoff at inlet is absent

Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent

Quality of the watercourse associated with this wetland is able to support healthy fish/shellfish

Other evidence of finfish habitat (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

PRODUCTION EXPORT

Considerations/Qualifiers	**Yes**	**No**
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland exhibits high degree of plant community structure/species diversity	X	
Evidence of wildlife use found within this wetland.	X	
Fish or shellfish develop or occur in this wetland.		X
Nutrients exported or "flushed" from wetlands to watercourses (permanent outlet present).		X

Other evidence of production export (Explain below)

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

WILDLIFE HABITAT

Considerations/Qualifiers	**Yes**	**No**
Wetland is not degraded or fragmented by human activity.	X	
Wildlife overland access to other wetlands is present and relatively unfragmented or unimpeded.	X	
More than 40% of this wetland edge is bordered by upland wildlife habitat (e.g., shrub thicket, woodland, farmland, or idle land) at least 500 feet in width.	X	
Wetland is contiguous with other wetland systems connected by a watercourse or lake.	X	
Water quality of the watercourse, pond, or lake associated with this wetland meets or exceeds Class A or B standards.		

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland #9
Date: 7/19/2016 Weather: Sunny, 85◦F Photographs Taken? Yes / No

WILDLIFE HABITAT (cont'd)

Dominant wetland class includes deep or shallow marsh or wooded swamp.	X
Wildlife food sources growing within this wetland are abundant and diverse.	X
Wetland exhibits a high degree of interspersion of vegetation classes (e.g. forest, shrub, emergent marsh, wet meadow, open water).	X
Two or more islands or inclusions of upland within the wetland are present.	X
Wetland exhibits a high degree of diversity in plant community structure (e.g., tree/shrub/vine/grasses/mosses).	X
Wetland or watercourse contains numerous and diverse habitat features (e.g., snags, downed woody debris, rocks, seeps/springs, well drained sandy soils).	X
Evidence of obligate or facultative vernal pool species have been observed in or near the wetland.	X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography).	X
Dominant vegetation cover type is not composed of invasive or noxious species.	X

Other evidence wildlife habitat (Explain below).

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

EDUCATIONAL, SCIENTIFIC & RECREATION VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.		X*
Wildlife habitat is a principal function of the wetland	X	
Direct access is available to a perennial watercourse (e.g., stream pond or lake)	X	
Wetland is part of a recreation area, park, forest, or refuge.	X	
Hunting and/or fishing is available within or from the wetland.	X	
Hiking occurs or has the potential to occur in the wetland	X	
Off-road public parking available at or near the wetland or watercourse.		X
Wetland is within a short drive or safe walk from highly populated public and private areas.		X
Wetland currently used for educational or scientific purposes.		X
Access to water is available at this potential recreation site for boating, canoeing, or fishing.		X

No known safety hazards exist (If not, explain below).

Other evidence educational, scientific or recreation value (Explain below).

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10

Wetland Assessment Area: Wetland #9

Date: 7/19/2016 Weather: Sunny, 85◦F Photographs Taken? Yes / No

*Wetland is located within 0.4 mile of NDDB area (to west). Wetland is located on Pachaug State Forest land.

UNIQUENESS & HERITAGE VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.		X*
Wetland identified as a whole or in part as an exemplary natural community (Explain below)		X
Wetland considered a locally and/or regionally significant (Explain below)	X	

Other evidence of uniqueness or heritage values (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:
*Wetland is located within 0.4 mile of NDDB area (to west). Wetland is located on Pachaug State Forest land.

SUMMARY OF FUNCTIONS & VALUES

Function/Value	**Principal Function**	**Secondary Function**
Groundwater Recharge & Discharge		X
Floodflow Alteration		X
Sediment, Pollutant & Nutrient Removal	X	
Finfish Habitat (Ponds & Lakes)		X
Finfish Habitat (Streams & Rivers)	N/A	N/A
Production Export	X	
Wildlife Habitat	X	
Educational, Scientific & Recreation Value		X
Uniqueness & Heritage		X

MISCELLANEOUS NOTES & COMMENTS:

Inspector:_____

WETLAND FUNCTION & VALUE ASSESSMENT FIELD FORM

This form has been developed to streamline the function and value assessment process of wetlands and watercourses in the field. The form has largely been developed using the procedure outlined in the U.S. Army Corps of Engineers "Highway Methodology Work Book: Supplement. Wetland Functions and Values: A Descriptive Approach" (1995, NAEEP-360-1-30a). This methodology is a descriptive approach and does not rely upon semi-quantitative numerical models to identify principal functions and values of wetlands and watercourse.

Many of the criteria used as "considerations and qualifiers" are drawn directly from the U.S. Army Corps of Engineers methodology. However, other assessment methods were considered (e.g. Wisc. DNR, 1992, "Rapid Assessment Methodology for Evaluating Wetland functions and Values." and Ammann, et al., 1996,"Method for the Evaluation of Inland Wetlands in Connecticut.") as well professional experience. Each criteria listed is an indicator of that function or value . An affirmative response, therefore, supports the assumptions of a given function or value. Generally, a majority of affirmative responses will indicate that the given function or value is a "principal" function or value. However, the criteria are not weighted and thus it is incumbent upon the inspector to use his or her best professional judgment when identify "principal" functions or values.

Groundwater Recharge & Discharge
The capacity or potential for a wetland to interact with groundwater such that water moves from surface water to ground water (Recharge) or from ground water to surface water (Discharge)

Floodflow Alteration
The storage of inflowing water from storm or flooding events, resulting in detention and retention of water on the wetland surface

Finfish Habitat (Ponds & Lakes)
Considers the quality of the aquatic habitat of a pond or lake, and its capacity to support finfish.

Finfish Habitat (Streams & Rivers)
Considers the quality of the aquatic habitat of a perennial watercourse, and its capacity to support finfish.

Sediment, Pollutant & Nutrient Removal
The capacity of a wetland to remove dissolved, suspended and floatable material from storm water runoff and prevents degradation of water quality.

Production Export
The capacity of a wetland to produce wildlife food sources, or to export biomass that sustains downstream ecosystems and local wildlife populations.

Wildlife Habitat
The capacity of a wetland to support a diverse and abundant wildlife community typically associated with wetland and wetland edges.

Educational, Scientific & Recreation Value
The suitability of a wetland for classroom field trips or scientific research, or to support various recreation activities (e.g., hiking, canoeing, boating, fishing, hunting, bird watching).

Uniqueness & Heritage
The degree to which a wetland is considered a locally or regionally unique natural resource.

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10

Wetland Assessment Area: Wetland #10

Date: 7/20/2016 Weather: Sunny, 90°F Photographs Taken? Yes / No

GROUNDWATER RECHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is underlain by stratified drift, gravel or sandy soils.	X	
Wetland is *not* underlain by hardpan, impervious soils (e.g., clays and silts) or bedrock	X	
Wetland is associated with a perennial or intermittent watercourse		X
Wetland formed on relatively gentle slopes (e.g., less than 3%)	X	
Wetland is associated with a watercourse but lacks a defined outlet or contains a constricted outlet		X
Other evidence of groundwater recharge is present (i.e., local water supplies piezometer data, etc.)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

GROUNDWATER DISCHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is *not* underlain by stratified drift, gravel or sandy soils.		X
Wetland is underlain by hardpan; impervious, tight grained soils (high clay and/or silt content); or bedrock		X
Wetland formed as a result of seeps or springs		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)		X
Wetland is associated with a watercourse and contains only an outlet, no defined inlet		X
Other evidence of groundwater discharge are present (i.e., water temperature, piezometer data, etc.)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland #10
Date: 7/20/2016 Weather: Sunny, 90°F Photographs Taken? Yes / No

FLOODFLOW ALTERATION

Considerations/Qualifiers	**Yes**	**No**
Area of this wetland is large relative to its watershed		X
Wetland occurs in the upper portions of its watershed and the effective flood storage is small or non-existent upslope of or above the wetland		X
Wetland watershed contains a high percent of impervious surfaces		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography) or ponding (e.g. sediment deposits or lines)	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%).	X	
Wetland located in a floodplain of an adjacent watercourse.		X
Wetland has a constricted outlet.		X
Wetland contains hydric soils which are able to absorb and detain water.	X	
Watershed has a history of economic loss due to flooding.		X
Associated watercourse, if present, is sinuous or diffuse.	X	
Other evidence of floodflow alteration (Explain below)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

SEDIMENT, POLLUTANT & NUTRIENT REMOVAL

Considerations/Qualifiers	**Yes**	**No**
Wetland saturated for most of the season.	X	
Ponded water (including deep water or open water habitat) is present in the wetland.	X	
Wetland edge is broad and intermittently aerobic.	X	
Deep organic/sediment deposits are present	X	
Slowly drained fine grained mineral or organic soils are present.	X	
Alluvial soils present in or immediately adjacent to wetland.	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%).	X	
Water retention/detention time in this wetland is increased by constricted outlet.		X
Water retention/detention time in this wetland is increased by thick vegetation.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)	X	
Other evidence of sediment, pollutant and nutrient removal (Explain below)		

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10

Wetland Assessment Area: Wetland #10

Date: 7/20/2016 Weather: Sunny, 90°F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (PONDS & LAKES)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to pond or lake dominated by forest, shrub and/or meadow community	X	
Shallow littoral zone with emergent vegetation present	X	
Pond or lake is ate least 10 feet deep		X*
Pond or lake is covered by more than 15 but less than 40 percent submerged or emergent vegetation		X*
Direct stormwater discharge(s) are few to none and , if present, originate from smaller culverts/outfalls	X	
Sand bars or evidence of stormwater runoff at inlet is absent	X	
Water transparency is high		X
Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent		X
Pond or lake is greater than 0.5 acre	X	
Dense algal blooms, nuisance aquatic vegetation or duckweed are not or have not historically been observed	X	

Other evidence of finfish habitat (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

*Estimated due to presence of rooted aquatic vegetation over more than 40% of the pond surface.

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to stream or river dominated by forest, shrub and/or meadow community		
Channel is shaded by riparian trees or shrubs		
Bank is predominantly vegetated with high cover (e.g. trees and shrubs)		
Barriers to anadromous fish (i.e. dams, including beaver dams, waterfalls, road crossings, etc.) are absent from the stream reach associated with this wetland.		
Dominant bottom substrate is gravel and/or cobbles		
Bottom substrate is embedded with minimal sand and silt		
Diversity of instream habitat (e.g. riffles, runs, shallow pools and deep pools) is high		
Channel alteration (i.e. channelization, islands, point bars, etc.) are few to absent		
Bank is stabilized; Little to no evidence of scour or erosion is present		
Stream or river contains common to many cover objects (i.e, fallen logs, boulders, undercut banks)		

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland #10
Date: 7/20/2016 Weather: Sunny, 90°F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS) (cont'd)

Stream or river is predominantly buffered from other land uses by a vegetated zone greater than 20 feet in width

Direct stormwater discharge(s) are few to none, and, if present, originate from smaller culverts/outfalls

Sand bars or evidence of stormwater runoff at inlet is absent

Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent

Quality of the watercourse associated with this wetland is able to support healthy fish/shellfish

Other evidence of finfish habitat (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

PRODUCTION EXPORT

Considerations/Qualifiers	**Yes**	**No**
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland exhibits high degree of plant community structure/species diversity	X	
Evidence of wildlife use found within this wetland.	X	
Fish or shellfish develop or occur in this wetland.		X
Nutrients exported or "flushed" from wetlands to watercourses (permanent outlet present).		X

Other evidence of production export (Explain below)

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

WILDLIFE HABITAT

Considerations/Qualifiers	**Yes**	**No**
Wetland is not degraded or fragmented by human activity.	X	
Wildlife overland access to other wetlands is present and relatively unfragmented or unimpeded.	X	
More than 40% of this wetland edge is bordered by upland wildlife habitat (e.g., shrub thicket, woodland, farmland, or idle land) at least 500 feet in width.	X	
Wetland is contiguous with other wetland systems connected by a watercourse or lake.	X	
Water quality of the watercourse, pond, or lake associated with this wetland meets or exceeds Class A or B standards.		

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland #10
Date: 7/20/2016 Weather: Sunny, 90°F Photographs Taken? Yes / No

WILDLIFE HABITAT (cont'd)

Dominant wetland class includes deep or shallow marsh or wooded swamp.	X
Wildlife food sources growing within this wetland are abundant and diverse.	X
Wetland exhibits a high degree of interspersion of vegetation classes (e.g. forest, shrub, emergent marsh, wet meadow, open water).	X
Two or more islands or inclusions of upland within the wetland are present.	X
Wetland exhibits a high degree of diversity in plant community structure (e.g., tree/shrub/vine/grasses/mosses).	X
Wetland or watercourse contains numerous and diverse habitat features (e.g., snags, downed woody debris, rocks, seeps/springs, well drained sandy soils).	X
Evidence of obligate or facultative vernal pool species have been observed in or near the wetland.	X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography).	X
Dominant vegetation cover type is not composed of invasive or noxious species.	X

Other evidence wildlife habitat (Explain below).

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

EDUCATIONAL, SCIENTIFIC & RECREATION VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.		X*
Wildlife habitat is a principal function of the wetland	X	
Direct access is available to a perennial watercourse (e.g., stream pond or lake)	X	
Wetland is part of a recreation area, park, forest, or refuge.	X	
Hunting and/or fishing is available within or from the wetland.	X	
Hiking occurs or has the potential to occur in the wetland	X	
Off-road public parking available at or near the wetland or watercourse.		X
Wetland is within a short drive or safe walk from highly populated public and private areas.		X
Wetland currently used for educational or scientific purposes.		X
Access to water is available at this potential recreation site for boating, canoeing, or fishing.		X

No known safety hazards exist (If not, explain below).

Other evidence educational, scientific or recreation value (Explain below).

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10

Wetland Assessment Area: Wetland #10

Date: 7/20/2016 Weather: Sunny, 90◦F Photographs Taken? Yes / No

*Wetland is located within 0.4 mile of NDDB area (to west). Wetland is located on Pachaug State Forest land.

UNIQUENESS & HERITAGE VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.		X*
Wetland identified as a whole or in part as an exemplary natural community (Explain below)		X
Wetland considered a locally and/or regionally significant (Explain below)	X	

Other evidence of uniqueness or heritage values (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:
*Wetland is located within 0.4 mile of NDDB area (to west). Wetland is located on Pachaug State Forest land.

SUMMARY OF FUNCTIONS & VALUES

Function/Value	**Principal Function**	**Secondary Function**
Groundwater Recharge & Discharge		X
Floodflow Alteration		X
Sediment, Pollutant & Nutrient Removal	X	
Finfish Habitat (Ponds & Lakes)		X
Finfish Habitat (Streams & Rivers)	N/A	N/A
Production Export	X	
Wildlife Habitat	X	
Educational, Scientific & Recreation Value	X	
Uniqueness & Heritage		X

MISCELLANEOUS NOTES & COMMENTS:
Possible mitigation – widen the culvert to the north.

Inspector:_____

WETLAND FUNCTION & VALUE ASSESSMENT FIELD FORM

This form has been developed to streamline the function and value assessment process of wetlands and watercourses in the field. The form has largely been developed using the procedure outlined in the U.S. Army Corps of Engineers "Highway Methodology Work Book: Supplement. Wetland Functions and Values: A Descriptive Approach" (1995, NAEEP-360-1-30a). This methodology is a descriptive approach and does not rely upon semi-quantitative numerical models to identify principal functions and values of wetlands and watercourse.

Many of the criteria used as "considerations and qualifiers" are drawn directly from the U.S. Army Corps of Engineers methodology. However, other assessment methods were considered (e.g. Wisc. DNR, 1992, "Rapid Assessment Methodology for Evaluating Wetland functions and Values." and Ammann, et al., 1996,"Method for the Evaluation of Inland Wetlands in Connecticut.") as well professional experience. Each criteria listed is an indicator of that function or value . An affirmative response, therefore, supports the assumptions of a given function or value. Generally, a majority of affirmative responses will indicate that the given function or value is a "principal" function or value. However, the criteria are not weighted and thus it is incumbent upon the inspector to use his or her best professional judgment when identify "principal" functions or values.

Groundwater Recharge & Discharge
The capacity or potential for a wetland to interact with groundwater such that water moves from surface water to ground water (Recharge) or from ground water to surface water (Discharge)

Floodflow Alteration
The storage of inflowing water from storm or flooding events, resulting in detention and retention of water on the wetland surface

Finfish Habitat (Ponds & Lakes)
Considers the quality of the aquatic habitat of a pond or lake, and its capacity to support finfish.

Finfish Habitat (Streams & Rivers)
Considers the quality of the aquatic habitat of a perennial watercourse, and its capacity to support finfish.

Sediment, Pollutant & Nutrient Removal
The capacity of a wetland to remove dissolved, suspended and floatable material from storm water runoff and prevents degradation of water quality.

Production Export
The capacity of a wetland to produce wildlife food sources, or to export biomass that sustains downstream ecosystems and local wildlife populations.

Wildlife Habitat
The capacity of a wetland to support a diverse and abundant wildlife community typically associated with wetland and wetland edges.

Educational, Scientific & Recreation Value
The suitability of a wetland for classroom field trips or scientific research, or to support various recreation activities (e.g., hiking, canoeing, boating, fishing, hunting, bird watching).

Uniqueness & Heritage
The degree to which a wetland is considered a locally or regionally unique natural resource.

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10

Wetland Assessment Area: Wetland #11

Date:7/20/2016 Weather: Sunny, 90°F Photographs Taken? Yes / No

GROUNDWATER RECHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is underlain by stratified drift, gravel or sandy soils.	X	
Wetland is ***not*** underlain by hardpan, impervious soils (e.g., clays and silts) or bedrock	X	
Wetland is associated with a perennial or intermittent watercourse	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%)		X
Wetland is associated with a watercourse but lacks a defined outlet or contains a constricted outlet	X	
Other evidence of groundwater recharge is present (i.e., local water supplies piezometer data, etc.)		

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

GROUNDWATER DISCHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is ***not*** underlain by stratified drift, gravel or sandy soils.		X
Wetland is underlain by hardpan; impervious, tight grained soils (high clay and/or silt content); or bedrock		X
Wetland formed as a result of seeps or springs	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)	X	
Wetland is associated with a watercourse and contains only an outlet, no defined inlet	X	
Other evidence of groundwater discharge are present (i.e., water temperature, piezometer data, etc.)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10

Wetland Assessment Area: Wetland #11

Date:7/20/2016 Weather: Sunny, 90°F Photographs Taken? Yes / No

FLOODFLOW ALTERATION

Considerations/Qualifiers	Yes	No
Area of this wetland is large relative to its watershed		X
Wetland occurs in the upper portions of its watershed and the effective flood storage is small or non-existent upslope of or above the wetland		X
Wetland watershed contains a high percent of impervious surfaces		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography) or ponding (e.g. sediment deposits or lines)	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%).		X
Wetland located in a floodplain of an adjacent watercourse.		X
Wetland has a constricted outlet.	X	
Wetland contains hydric soils which are able to absorb and detain water.	X	
Watershed has a history of economic loss due to flooding.		X
Associated watercourse, if present, is sinuous or diffuse.	X	

Other evidence of floodflow alteration (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

SEDIMENT, POLLUTANT & NUTRIENT REMOVAL

Considerations/Qualifiers	Yes	No
Wetland saturated for most of the season.	X	
Ponded water (including deep water or open water habitat) is present in the wetland.	X	
Wetland edge is broad and intermittently aerobic.	X	
Deep organic/sediment deposits are present	X	
Slowly drained fine grained mineral or organic soils are present.	X	
Alluvial soils present in or immediately adjacent to wetland.	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%).		X
Water retention/detention time in this wetland is increased by constricted outlet.	X	
Water retention/detention time in this wetland is increased by thick vegetation.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)	X	

Other evidence of sediment, pollutant and nutrient removal (Explain below)

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10
Wetland Assessment Area: Wetland #11
Date:7/20/2016 Weather: Sunny, 90°F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (PONDS & LAKES)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to pond or lake dominated by forest, shrub and/or meadow community	X	
Shallow littoral zone with emergent vegetation present	X	
Pond or lake is ate least 10 feet deep		X*
Pond or lake is covered by more than 15 but less than 40 percent submerged or emergent vegetation		X*
Direct stormwater discharge(s) are few to none and , if present, originate from smaller culverts/outfalls	X	
Sand bars or evidence of stormwater runoff at inlet is absent		X
Water transparency is high		X
Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent		X
Pond or lake is greater than 0.5 acre	X	
Dense algal blooms, nuisance aquatic vegetation or duckweed are not or have not historically been observed	X	

Other evidence of finfish habitat (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:
*Estimated due to presence of rooted aquatic vegetation over much (>60%) of the pond surface.

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to stream or river dominated by forest, shrub and/or meadow community		
Channel is shaded by riparian trees or shrubs		
Bank is predominantly vegetated with high cover (e.g. trees and shrubs)		
Barriers to anadromous fish (i.e. dams, including beaver dams, waterfalls, road crossings, etc.) are absent from the stream reach associated with this wetland.		
Dominant bottom substrate is gravel and/or cobbles		
Bottom substrate is embedded with minimal sand and silt		
Diversity of instream habitat (e.g. riffles, runs, shallow pools and deep pools) is high		
Channel alteration (i.e. channelization, islands, point bars, etc.) are few to absent		
Bank is stabilized; Little to no evidence of scour or erosion is present		
Stream or river contains common to many cover objects (i.e, fallen logs, boulders, undercut banks)		

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10
Wetland Assessment Area: Wetland #11
Date:7/20/2016 Weather: Sunny, 90°F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS) (cont'd)

Stream or river is predominantly buffered from other land uses by a vegetated zone greater than 20 feet in width

Direct stormwater discharge(s) are few to none, and, if present, originate from smaller culverts/outfalls

Sand bars or evidence of stormwater runoff at inlet is absent

Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent

Quality of the watercourse associated with this wetland is able to support healthy fish/shellfish

Other evidence of finfish habitat (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

PRODUCTION EXPORT

Considerations/Qualifiers	**Yes**	**No**
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland exhibits high degree of plant community structure/species diversity	X	
Evidence of wildlife use found within this wetland.	X	
Fish or shellfish develop or occur in this wetland.		X
Nutrients exported or "flushed" from wetlands to watercourses (permanent outlet present).	X	

Other evidence of production export (Explain below)

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

WILDLIFE HABITAT

Considerations/Qualifiers	**Yes**	**No**
Wetland is not degraded or fragmented by human activity.	X	
Wildlife overland access to other wetlands is present and relatively unfragmented or unimpeded.	X	
More than 40% of this wetland edge is bordered by upland wildlife habitat (e.g., shrub thicket, woodland, farmland, or idle land) at least 500 feet in width.	X	
Wetland is contiguous with other wetland systems connected by a watercourse or lake.	X	
Water quality of the watercourse, pond, or lake associated with this wetland meets or exceeds Class A or B standards.		

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10
Wetland Assessment Area: Wetland #11
Date:7/20/2016 Weather: Sunny, 90°F Photographs Taken? Yes / No

WILDLIFE HABITAT (cont'd)

Dominant wetland class includes deep or shallow marsh or wooded swamp.	X
Wildlife food sources growing within this wetland are abundant and diverse.	X
Wetland exhibits a high degree of interspersion of vegetation classes (e.g. forest, shrub, emergent marsh, wet meadow, open water).	X
Two or more islands or inclusions of upland within the wetland are present.	X
Wetland exhibits a high degree of diversity in plant community structure (e.g., tree/shrub/vine/grasses/mosses).	X
Wetland or watercourse contains numerous and diverse habitat features (e.g., snags, downed woody debris, rocks, seeps/springs, well drained sandy soils).	X
Evidence of obligate or facultative vernal pool species have been observed in or near the wetland.	X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography).	X
Dominant vegetation cover type is not composed of invasive or noxious species.	X

Other evidence wildlife habitat (Explain below).

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

EDUCATIONAL, SCIENTIFIC & RECREATION VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.	X*	
Wildlife habitat is a principal function of the wetland	X	
Direct access is available to a perennial watercourse (e.g., stream pond or lake)	X	
Wetland is part of a recreation area, park, forest, or refuge.	X	
Hunting and/or fishing is available within or from the wetland.		X
Hiking occurs or has the potential to occur in the wetland	X	
Off-road public parking available at or near the wetland or watercourse.		X
Wetland is within a short drive or safe walk from highly populated public and private areas.		X
Wetland currently used for educational or scientific purposes.		X
Access to water is available at this potential recreation site for boating, canoeing, or fishing.		X

No known safety hazards exist (If not, explain below).

Other evidence educational, scientific or recreation value (Explain below).

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10
Wetland Assessment Area: Wetland #11
Date:7/20/2016 Weather: Sunny, 90◦F Photographs Taken? Yes / No
*Wetland is located within a NDDB area.

UNIQUENESS & HERITAGE VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.	X*	
Wetland identified as a whole or in part as an exemplary natural community (Explain below)	X	
Wetland considered a locally and/or regionally significant (Explain below)	X	

Other evidence of uniqueness or heritage values (Explain below)

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:
*Wetland is located within a NDDB area. Wetland is part of the Assekonk Wildlife Refuge and Sanctuary.

SUMMARY OF FUNCTIONS & VALUES

Function/Value	**Principal Function**	**Secondary Function**
Groundwater Recharge & Discharge	X	
Floodflow Alteration		X
Sediment, Pollutant & Nutrient Removal	X	
Finfish Habitat (Ponds & Lakes)		X
Finfish Habitat (Streams & Rivers)	N/A	N/A
Production Export	X	
Wildlife Habitat	X	
Educational, Scientific & Recreation Value	X	
Uniqueness & Heritage	X	

MISCELLANEOUS NOTES & COMMENTS:
Many small vegetated islands.

Inspector:_____

WETLAND FUNCTION & VALUE ASSESSMENT FIELD FORM

This form has been developed to streamline the function and value assessment process of wetlands and watercourses in the field. The form has largely been developed using the procedure outlined in the U.S. Army Corps of Engineers "Highway Methodology Work Book: Supplement. Wetland Functions and Values: A Descriptive Approach" (1995, NAEEP-360-1-30a). This methodology is a descriptive approach and does not rely upon semi-quantitative numerical models to identify principal functions and values of wetlands and watercourse.

Many of the criteria used as "considerations and qualifiers" are drawn directly from the U.S. Army Corps of Engineers methodology. However, other assessment methods were considered (e.g. Wisc. DNR, 1992, "Rapid Assessment Methodology for Evaluating Wetland functions and Values." and Ammann, et al., 1996,"Method for the Evaluation of Inland Wetlands in Connecticut.") as well professional experience. Each criteria listed is an indicator of that function or value . An affirmative response, therefore, supports the assumptions of a given function or value. Generally, a majority of affirmative responses will indicate that the given function or value is a "principal" function or value. However, the criteria are not weighted and thus it is incumbent upon the inspector to use his or her best professional judgment when identify "principal" functions or values.

Groundwater Recharge & Discharge
The capacity or potential for a wetland to interact with groundwater such that water moves from surface water to ground water (Recharge) or from ground water to surface water (Discharge)

Floodflow Alteration
The storage of inflowing water from storm or flooding events, resulting in detention and retention of water on the wetland surface

Finfish Habitat (Ponds & Lakes)
Considers the quality of the aquatic habitat of a pond or lake, and its capacity to support finfish.

Finfish Habitat (Streams & Rivers)
Considers the quality of the aquatic habitat of a perennial watercourse, and its capacity to support finfish.

Sediment, Pollutant & Nutrient Removal
The capacity of a wetland to remove dissolved, suspended and floatable material from storm water runoff and prevents degradation of water quality.

Production Export
The capacity of a wetland to produce wildlife food sources, or to export biomass that sustains downstream ecosystems and local wildlife populations.

Wildlife Habitat
The capacity of a wetland to support a diverse and abundant wildlife community typically associated with wetland and wetland edges.

Educational, Scientific & Recreation Value
The suitability of a wetland for classroom field trips or scientific research, or to support various recreation activities (e.g., hiking, canoeing, boating, fishing, hunting, bird watching).

Uniqueness & Heritage
The degree to which a wetland is considered a locally or regionally unique natural resource.

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10

Wetland Assessment Area: Wetland #12

Date: 7/12/2016 Weather: Sunny, 80°F Photographs Taken? Yes / No

GROUNDWATER RECHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is underlain by stratified drift, gravel or sandy soils.		X
Wetland is *not* underlain by hardpan, impervious soils (e.g., clays and silts) or bedrock	X	
Wetland is associated with a perennial or intermittent watercourse	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%)		X
Wetland is associated with a watercourse but lacks a defined outlet or contains a constricted outlet		X
Other evidence of groundwater recharge is present (i.e., local water supplies piezometer data, etc.)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

GROUNDWATER DISCHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is *not* underlain by stratified drift, gravel or sandy soils.	X	
Wetland is underlain by hardpan; impervious, tight grained soils (high clay and/or silt content); or bedrock		X
Wetland formed as a result of seeps or springs		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)	X	
Wetland is associated with a watercourse and contains only an outlet, no defined inlet		X
Other evidence of groundwater discharge are present (i.e., water temperature, piezometer data, etc.)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10

Wetland Assessment Area: Wetland #12

Date: 7/12/2016 Weather: Sunny, 80°F Photographs Taken? Yes / No

FLOODFLOW ALTERATION

Considerations/Qualifiers	**Yes**	**No**
Area of this wetland is large relative to its watershed		X
Wetland occurs in the upper portions of its watershed and the effective flood storage is small or non-existent upslope of or above the wetland		X
Wetland watershed contains a high percent of impervious surfaces		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography) or ponding (e.g. sediment deposits or lines)		X
Wetland formed on relatively gentle slopes (e.g., less than 3%).		X
Wetland located in a floodplain of an adjacent watercourse.		X
Wetland has a constricted outlet.		X
Wetland contains hydric soils which are able to absorb and detain water.	X	
Watershed has a history of economic loss due to flooding.		X
Associated watercourse, if present, is sinuous or diffuse.	X	
Other evidence of floodflow alteration (Explain below)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

SEDIMENT, POLLUTANT & NUTRIENT REMOVAL

Considerations/Qualifiers	**Yes**	**No**
Wetland saturated for most of the season.	X	
Ponded water (including deep water or open water habitat) is present in the wetland.		X
Wetland edge is broad and intermittently aerobic.	X	
Deep organic/sediment deposits are present	X	
Slowly drained fine grained mineral or organic soils are present.	X	
Alluvial soils present in or immediately adjacent to wetland.	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%).		X
Water retention/detention time in this wetland is increased by constricted outlet.		X
Water retention/detention time in this wetland is increased by thick vegetation.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)	X	
Other evidence of sediment, pollutant and nutrient removal (Explain below)		

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10

Wetland Assessment Area: Wetland #12

Date: 7/12/2016 Weather: Sunny, 80°F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (PONDS & LAKES)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to pond or lake dominated by forest, shrub and/or meadow community		
Shallow littoral zone with emergent vegetation present		
Pond or lake is ate least 10 feet deep		
Pond or lake is covered by more than 15 but less then 40 percent submered or emergent vegetation		
Direct stormwater discharge(s) are few to none and , if present, originate from smaller culverts/outfalls		
Sand bars or evidence of stormwater runoff at inlet is absent		
Water transparency is high		
Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent		
Pond or lake is greater than 0.5 acre		
Dense algal blooms, nuisance aquatic vegetation or duckweed are not or have not historically been observed		
Other evidence of finfish habitat (Explain below)		

☐ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to stream or river dominated by forest, shrub and/or meadow community		
Channel is shaded by riparian trees or shrubs		
Bank is predominantly vegetated with high cover (e.g. trees and shrubs)		
Barriers to anadromous fish (i.e. dams, including beaver dams, waterfalls, road crossings, etc.) are absent from the stream reach associated with this wetland.		
Dominant bottom substrate is gravel and/or cobbles		
Bottom substrate is embedded with minimal sand and silt		
Diversity of instream habitat (e.g. riffles, runs, shallow pools and deep pools) is high		
Channel alteration (i.e. channelization, islands, point bars, etc.) are few to absent		
Bank is stabilized; Little to no evidence of scour or erosion is present		
Stream or river contains common to many cover objects (i.e, fallen logs, boulders, undercut banks)		

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland #12
Date: 7/12/2016 Weather: Sunny, 80°F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS) (cont'd)

Stream or river is predominantly buffered from other land uses by a vegetated zone greater than 20 feet in width

Direct stormwater discharge(s) are few to none, and, if present, originate from smaller culverts/outfalls

Sand bars or evidence of stormwater runoff at inlet is absent

Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent

Quality of the watercourse associated with this wetland is able to support healthy fish/shellfish

Other evidence of finfish habitat (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

PRODUCTION EXPORT

Considerations/Qualifiers	**Yes**	**No**
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland exhibits high degree of plant community structure/species diversity		X
Evidence of wildlife use found within this wetland.	X	
Fish or shellfish develop or occur in this wetland.		X
Nutrients exported or "flushed" from wetlands to watercourses (permanent outlet present).	X	

Other evidence of production export (Explain below)

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

WILDLIFE HABITAT

Considerations/Qualifiers	**Yes**	**No**
Wetland is not degraded or fragmented by human activity.		X
Wildlife overland access to other wetlands is present and relatively unfragmented or unimpeded.	X	
More than 40% of this wetland edge is bordered by upland wildlife habitat (e.g., shrub thicket, woodland, farmland, or idle land) at least 500 feet in width.	X	
Wetland is contiguous with other wetland systems connected by a watercourse or lake.		X
Water quality of the watercourse, pond, or lake associated with this wetland meets or exceeds Class A or B standards.		

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland #12
Date: 7/12/2016 Weather: Sunny, 80°F Photographs Taken? Yes / No

WILDLIFE HABITAT (cont'd)

Dominant wetland class includes deep or shallow marsh or wooded swamp.		X
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Wetland exhibits a high degree of interspersion of vegetation classes (e.g. forest, shrub, emergent marsh, wet meadow, open water).		X
Two or more islands or inclusions of upland within the wetland are present.		X
Wetland exhibits a high degree of diversity in plant community structure (e.g., tree/shrub/vine/grasses/mosses).	X	
Wetland or watercourse contains numerous and diverse habitat features (e.g., snags, downed woody debris, rocks, seeps/springs, well drained sandy soils).	X	
Evidence of obligate or facultative vernal pool species have been observed in or near the wetland.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography).	X	
Dominant vegetation cover type is not composed of invasive or noxious species.	X	

Other evidence wildlife habitat (Explain below).

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

EDUCATIONAL, SCIENTIFIC & RECREATION VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.		X*
Wildlife habitat is a principal function of the wetland	X	
Direct access is available to a perennial watercourse (e.g., stream pond or lake)	X	
Wetland is part of a recreation area, park, forest, or refuge.		X
Hunting and/or fishing is available within or from the wetland.		X
Hiking occurs or has the potential to occur in the wetland		X
Off-road public parking available at or near the wetland or watercourse.		X
Wetland is within a short drive or safe walk from highly populated public and private areas.		X
Wetland currently used for educational or scientific purposes.		X
Access to water is available at this potential recreation site for boating, canoeing, or fishing.		X

No known safety hazards exist (If not, explain below).

Other evidence educational, scientific or recreation value (Explain below).

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10

Wetland Assessment Area: Wetland #12

Date: 7/12/2016 Weather: Sunny, 80°F Photographs Taken? Yes / No

*NDDB areas occur 0.3 mile to west and south (southern area is cut off from wetland by highway), movement of species is plausible.

UNIQUENESS & HERITAGE VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.		X*
Wetland identified as a whole or in part as an exemplary natural community (Explain below)		X
Wetland considered a locally and/or regionally significant (Explain below)		X

Other evidence of uniqueness or heritage values (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

*NDDB areas occur 0.3 mile to west and south (southern area is cut off from wetland by highway), movement of species is plausible.

SUMMARY OF FUNCTIONS & VALUES

Function/Value	**Principal Function**	**Secondary Function**
Groundwater Recharge & Discharge		X
Floodflow Alteration		X
Sediment, Pollutant & Nutrient Removal	X	
Finfish Habitat (Ponds & Lakes)	N/A	N/A
Finfish Habitat (Streams & Rivers)	N/A	N/A
Production Export	X	
Wildlife Habitat	X	
Educational, Scientific & Recreation Value		X
Uniqueness & Heritage		X

MISCELLANEOUS NOTES & COMMENTS:

No standing water observed in wetland. Area drainage affected by the stream channeling. Excavated areas run from culvert (assumed) through wetland. Wetland has thick layer of muck (~3-4 feet) under organic layer. No real flood control.

Inspector:_____

WETLAND FUNCTION & VALUE ASSESSMENT FIELD FORM

This form has been developed to streamline the function and value assessment process of wetlands and watercourses in the field. The form has largely been developed using the procedure outlined in the U.S. Army Corps of Engineers "Highway Methodology Work Book: Supplement. Wetland Functions and Values: A Descriptive Approach" (1995, NAEEP-360-1-30a). This methodology is a descriptive approach and does not rely upon semi-quantitative numerical models to identify principal functions and values of wetlands and watercourse.

Many of the criteria used as "considerations and qualifiers" are drawn directly from the U.S. Army Corps of Engineers methodology. However, other assessment methods were considered (e.g. Wisc. DNR, 1992, "Rapid Assessment Methodology for Evaluating Wetland functions and Values." and Ammann, et al., 1996,"Method for the Evaluation of Inland Wetlands in Connecticut.") as well professional experience. Each criteria listed is an indicator of that function or value . An affirmative response, therefore, supports the assumptions of a given function or value. Generally, a majority of affirmative responses will indicate that the given function or value is a "principal" function or value. However, the criteria are not weighted and thus it is incumbent upon the inspector to use his or her best professional judgment when identify "principal" functions or values.

Groundwater Recharge & Discharge
The capacity or potential for a wetland to interact with groundwater such that water moves from surface water to ground water (Recharge) or from ground water to surface water (Discharge)

Floodflow Alteration
The storage of inflowing water from storm or flooding events, resulting in detention and retention of water on the wetland surface

Finfish Habitat (Ponds & Lakes)
Considers the quality of the aquatic habitat of a pond or lake, and its capacity to support finfish.

Finfish Habitat (Streams & Rivers)
Considers the quality of the aquatic habitat of a perennial watercourse, and its capacity to support finfish.

Sediment, Pollutant & Nutrient Removal
The capacity of a wetland to remove dissolved, suspended and floatable material from storm water runoff and prevents degradation of water quality.

Production Export
The capacity of a wetland to produce wildlife food sources, or to export biomass that sustains downstream ecosystems and local wildlife populations.

Wildlife Habitat
The capacity of a wetland to support a diverse and abundant wildlife community typically associated with wetland and wetland edges.

Educational, Scientific & Recreation Value
The suitability of a wetland for classroom field trips or scientific research, or to support various recreation activities (e.g., hiking, canoeing, boating, fishing, hunting, bird watching).

Uniqueness & Heritage
The degree to which a wetland is considered a locally or regionally unique natural resource.

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10

Wetland Assessment Area: Wetland #13

Date: 7/12/2016 Weather: Sunny, 80°F Photographs Taken? Yes / No

GROUNDWATER RECHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is underlain by stratified drift, gravel or sandy soils.	X	
Wetland is *not* underlain by hardpan, impervious soils (e.g., clays and silts) or bedrock	X	
Wetland is associated with a perennial or intermittent watercourse		X
Wetland formed on relatively gentle slopes (e.g., less than 3%)		X
Wetland is associated with a watercourse but lacks a defined outlet or contains a constricted outlet		X
Other evidence of groundwater recharge is present (i.e., local water supplies piezometer data, etc.)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

GROUNDWATER DISCHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is *not* underlain by stratified drift, gravel or sandy soils.		X
Wetland is underlain by hardpan; impervious, tight grained soils (high clay and/or silt content); or bedrock		X
Wetland formed as a result of seeps or springs	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)	X	
Wetland is associated with a watercourse and contains only an outlet, no defined inlet		X
Other evidence of groundwater discharge are present (i.e., water temperature, piezometer data, etc.)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10

Wetland Assessment Area: Wetland #13

Date: 7/12/2016 Weather: Sunny, 80°F Photographs Taken? Yes / No

FLOODFLOW ALTERATION

Considerations/Qualifiers	**Yes**	**No**
Area of this wetland is large relative to its watershed		X
Wetland occurs in the upper portions of its watershed and the effective flood storage is small or non-existent upslope of or above the wetland		X
Wetland watershed contains a high percent of impervious surfaces		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography) or ponding (e.g. sediment deposits or lines)	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%).		X
Wetland located in a floodplain of an adjacent watercourse.		X
Wetland has a constricted outlet.		X
Wetland contains hydric soils which are able to absorb and detain water.	X	
Watershed has a history of economic loss due to flooding.		X
Associated watercourse, if present, is sinuous or diffuse.		X

Other evidence of floodflow alteration (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

SEDIMENT, POLLUTANT & NUTRIENT REMOVAL

Considerations/Qualifiers	**Yes**	**No**
Wetland saturated for most of the season.	X	
Ponded water (including deep water or open water habitat) is present in the wetland.	X	
Wetland edge is broad and intermittently aerobic.	X	
Deep organic/sediment deposits are present		X
Slowly drained fine grained mineral or organic soils are present.	X	
Alluvial soils present in or immediately adjacent to wetland.		X
Wetland formed on relatively gentle slopes (e.g., less than 3%).		X
Water retention/detention time in this wetland is increased by constricted outlet.		X
Water retention/detention time in this wetland is increased by thick vegetation.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)	X	

Other evidence of sediment, pollutant and nutrient removal (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10

Wetland Assessment Area: Wetland #13

Date: 7/12/2016 Weather: Sunny, 80°F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (PONDS & LAKES)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to pond or lake dominated by forest, shrub and/or meadow community	X	
Shallow littoral zone with emergent vegetation present	X	
Pond or lake is ate least 10 feet deep		X
Pond or lake is covered by more than 15 but less than 40 percent submerged or emergent vegetation	X	
Direct stormwater discharge(s) are few to none and , if present, originate from smaller culverts/outfalls	X	
Sand bars or evidence of stormwater runoff at inlet is absent		X
Water transparency is high		X
Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent		X*
Pond or lake is greater than 0.5 acre		X
Dense algal blooms, nuisance aquatic vegetation or duckweed are not or have not historically been observed	X	
Other evidence of finfish habitat (Explain below)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:
*Wetland is adjacent to a major highway, with high possibility of road salt runoff.

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to stream or river dominated by forest, shrub and/or meadow community		
Channel is shaded by riparian trees or shrubs		
Bank is predominantly vegetated with high cover (e.g. trees and shrubs)		
Barriers to anadromous fish (i.e. dams, including beaver dams, waterfalls, road crossings, etc.) are absent from the stream reach associated with this wetland.		
Dominant bottom substrate is gravel and/or cobbles		
Bottom substrate is embedded with minimal sand and silt		
Diversity of instream habitat (e.g. riffles, runs, shallow pools and deep pools) is high		
Channel alteration (i.e. channelization, islands, point bars, etc.) are few to absent		
Bank is stabilized; Little to no evidence of scour or erosion is present		
Stream or river contains common to many cover objects (i.e, fallen logs, boulders, undercut banks)		

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10
Wetland Assessment Area: Wetland #13
Date: 7/12/2016 Weather: Sunny, 80°F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS) (cont'd)

Stream or river is predominantly buffered from other land uses by a vegetated zone greater than 20 feet in width

Direct stormwater discharge(s) are few to none, and, if present, originate from smaller culverts/outfalls

Sand bars or evidence of stormwater runoff at inlet is absent

Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent

Quality of the watercourse associated with this wetland is able to support healthy fish/shellfish

Other evidence of finfish habitat (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

PRODUCTION EXPORT

Considerations/Qualifiers	**Yes**	**No**
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland exhibits high degree of plant community structure/species diversity	X	
Evidence of wildlife use found within this wetland.	X	
Fish or shellfish develop or occur in this wetland.		X
Nutrients exported or "flushed" from wetlands to watercourses (permanent outlet present).		X

Other evidence of production export (Explain below)

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

WILDLIFE HABITAT

Considerations/Qualifiers	**Yes**	**No**
Wetland is not degraded or fragmented by human activity.		X*
Wildlife overland access to other wetlands is present and relatively unfragmented or unimpeded.	X	
More than 40% of this wetland edge is bordered by upland wildlife habitat (e.g., shrub thicket, woodland, farmland, or idle land) at least 500 feet in width.	X	
Wetland is contiguous with other wetland systems connected by a watercourse or lake.		X
Water quality of the watercourse, pond, or lake associated with this wetland meets or exceeds Class A or B standards.		

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10
Wetland Assessment Area: Wetland #13
Date: 7/12/2016 Weather: Sunny, 80°F Photographs Taken? Yes / No

WILDLIFE HABITAT (cont'd)

Dominant wetland class includes deep or shallow marsh or wooded swamp.	X	
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Wetland exhibits a high degree of interspersion of vegetation classes (e.g. forest, shrub, emergent marsh, wet meadow, open water).	X	
Two or more islands or inclusions of upland within the wetland are present.	X	
Wetland exhibits a high degree of diversity in plant community structure (e.g., tree/shrub/vine/grasses/mosses).	X	
Wetland or watercourse contains numerous and diverse habitat features (e.g., snags, downed woody debris, rocks, seeps/springs, well drained sandy soils).		X
Evidence of obligate or facultative vernal pool species have been observed in or near the wetland.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography).	X	
Dominant vegetation cover type is not composed of invasive or noxious species.	X	

Other evidence wildlife habitat (Explain below).

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:
*Wetland is adjacent to a major highway.

EDUCATIONAL, SCIENTIFIC & RECREATION VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.		X
Wildlife habitat is a principal function of the wetland	X	
Direct access is available to a perennial watercourse (e.g., stream pond or lake)		X
Wetland is part of a recreation area, park, forest, or refuge.		X
Hunting and/or fishing is available within or from the wetland.		X
Hiking occurs or has the potential to occur in the wetland		X
Off-road public parking available at or near the wetland or watercourse.		X
Wetland is within a short drive or safe walk from highly populated public and private areas.		X
Wetland currently used for educational or scientific purposes.		X
Access to water is available at this potential recreation site for boating, canoeing, or fishing.		X

No known safety hazards exist (If not, explain below).

Other evidence educational, scientific or recreation value (Explain below).

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10
Wetland Assessment Area: Wetland #13
Date: 7/12/2016 Weather: Sunny, 80°F Photographs Taken? Yes / No

UNIQUENESS & HERITAGE VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.		X
Wetland identified as a whole or in part as an exemplary natural community (Explain below)		X
Wetland considered a locally and/or regionally significant (Explain below)		X

Other evidence of uniqueness or heritage values (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

SUMMARY OF FUNCTIONS & VALUES

Function/Value	**Principal Function**	**Secondary Function**
Groundwater Recharge & Discharge		X
Floodflow Alteration		X
Sediment, Pollutant & Nutrient Removal		X
Finfish Habitat (Ponds & Lakes)		X
Finfish Habitat (Streams & Rivers)	N/A	N/A
Production Export	X	
Wildlife Habitat	X	
Educational, Scientific & Recreation Value		X
Uniqueness & Heritage		X

MISCELLANEOUS NOTES & COMMENTS:

Inspector:_____

WETLAND FUNCTION & VALUE ASSESSMENT FIELD FORM

This form has been developed to streamline the function and value assessment process of wetlands and watercourses in the field. The form has largely been developed using the procedure outlined in the U.S. Army Corps of Engineers "Highway Methodology Work Book: Supplement. Wetland Functions and Values: A Descriptive Approach" (1995, NAEEP-360-1-30a). This methodology is a descriptive approach and does not rely upon semi-quantitative numerical models to identify principal functions and values of wetlands and watercourse.

Many of the criteria used as "considerations and qualifiers" are drawn directly from the U.S. Army Corps of Engineers methodology. However, other assessment methods were considered (e.g. Wisc. DNR, 1992, "Rapid Assessment Methodology for Evaluating Wetland functions and Values." and Ammann, et al., 1996,"Method for the Evaluation of Inland Wetlands in Connecticut.") as well professional experience. Each criteria listed is an indicator of that function or value . An affirmative response, therefore, supports the assumptions of a given function or value. Generally, a majority of affirmative responses will indicate that the given function or value is a "principal" function or value. However, the criteria are not weighted and thus it is incumbent upon the inspector to use his or her best professional judgment when identify "principal" functions or values.

Groundwater Recharge & Discharge
The capacity or potential for a wetland to interact with groundwater such that water moves from surface water to ground water (Recharge) or from ground water to surface water (Discharge)

Floodflow Alteration
The storage of inflowing water from storm or flooding events, resulting in detention and retention of water on the wetland surface

Finfish Habitat (Ponds & Lakes)
Considers the quality of the aquatic habitat of a pond or lake, and its capacity to support finfish.

Finfish Habitat (Streams & Rivers)
Considers the quality of the aquatic habitat of a perennial watercourse, and its capacity to support finfish.

Sediment, Pollutant & Nutrient Removal
The capacity of a wetland to remove dissolved, suspended and floatable material from storm water runoff and prevents degradation of water quality.

Production Export
The capacity of a wetland to produce wildlife food sources, or to export biomass that sustains downstream ecosystems and local wildlife populations.

Wildlife Habitat
The capacity of a wetland to support a diverse and abundant wildlife community typically associated with wetland and wetland edges.

Educational, Scientific & Recreation Value
The suitability of a wetland for classroom field trips or scientific research, or to support various recreation activities (e.g., hiking, canoeing, boating, fishing, hunting, bird watching).

Uniqueness & Heritage
The degree to which a wetland is considered a locally or regionally unique natural resource.

Project Name: Wood Pawcatuck Watershed Wetland Assessments Project #:20111470.B10
Wetland Assessment Area: Wetland #14
Date: 07/12/2016 Weather: Sunny, 85°F Photographs Taken? Yes / No

GROUNDWATER RECHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is underlain by stratified drift, gravel or sandy soils.	X	
Wetland is *not* underlain by hardpan, impervious soils (e.g., clays and silts) or bedrock	X	
Wetland is associated with a perennial or intermittent watercourse	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%)	X	
Wetland is associated with a watercourse but lacks a defined outlet or contains a constricted outlet		X
Other evidence of groundwater recharge is present (i.e., local water supplies piezometer data, etc.)		

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

GROUNDWATER DISCHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is *not* underlain by stratified drift, gravel or sandy soils.		X
Wetland is underlain by hardpan; impervious, tight grained soils (high clay and/or silt content); or bedrock		X
Wetland formed as a result of seeps or springs		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)	X	
Wetland is associated with a watercourse and contains only an outlet, no defined inlet		X
Other evidence of groundwater discharge are present (i.e., water temperature, piezometer data, etc.)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessments Project #:20111470.B10
Wetland Assessment Area: Wetland #14
Date: 07/12/2016 Weather: Sunny, 85◦F Photographs Taken? Yes / No

FLOODFLOW ALTERATION

Considerations/Qualifiers	**Yes**	**No**
Area of this wetland is large relative to its watershed		X
Wetland occurs in the upper portions of its watershed and the effective flood storage is small or non-existent upslope of or above the wetland		X
Wetland watershed contains a high percent of impervious surfaces		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography) or ponding (e.g. sediment deposits or lines)	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%).	X	
Wetland located in a floodplain of an adjacent watercourse.	X	
Wetland has a constricted outlet.		X
Wetland contains hydric soils which are able to absorb and detain water.	X	
Watershed has a history of economic loss due to flooding.		X
Associated watercourse, if present, is sinuous or diffuse.	X	
Other evidence of floodflow alteration (Explain below)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

SEDIMENT, POLLUTANT & NUTRIENT REMOVAL

Considerations/Qualifiers	**Yes**	**No**
Wetland saturated for most of the season.	X	
Ponded water (including deep water or open water habitat) is present in the wetland.	X	
Wetland edge is broad and intermittently aerobic.	X	
Deep organic/sediment deposits are present	X	
Slowly drained fine grained mineral or organic soils are present.	X	
Alluvial soils present in or immediately adjacent to wetland.	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%).	X	
Water retention/detention time in this wetland is increased by constricted outlet.		X
Water retention/detention time in this wetland is increased by thick vegetation.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)		X
Other evidence of sediment, pollutant and nutrient removal (Explain below)		

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessments Project #:20111470.B10
Wetland Assessment Area: Wetland #14
Date: 07/12/2016 Weather: Sunny, 85◦F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (PONDS & LAKES)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to pond or lake dominated by forest, shrub and/or meadow community		X
Shallow littoral zone with emergent vegetation present	X	
Pond or lake is ate least 10 feet deep	X*	
Pond or lake is covered by more than 15 but less than 40 percent submerged or emergent vegetation	X	
Direct stormwater discharge(s) are few to none and , if present, originate from smaller culverts/outfalls		X
Sand bars or evidence of stormwater runoff at inlet is absent		X
Water transparency is high		X
Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent		X
Pond or lake is greater than 0.5 acre	X	
Dense algal blooms, nuisance aquatic vegetation or duckweed are not or have not historically been observed		X
Other evidence of finfish habitat (Explain below)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:
*Estimated due to lack of rooted aquatic vegetation on much of the surface.

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to stream or river dominated by forest, shrub and/or meadow community		
Channel is shaded by riparian trees or shrubs		
Bank is predominantly vegetated with high cover (e.g. trees and shrubs)		
Barriers to anadromous fish (i.e. dams, including beaver dams, waterfalls, road crossings, etc.) are absent from the stream reach associated with this wetland.		
Dominant bottom substrate is gravel and/or cobbles		
Bottom substrate is embedded with minimal sand and silt		
Diversity of instream habitat (e.g. riffles, runs, shallow pools and deep pools) is high		
Channel alteration (i.e. channelization, islands, point bars, etc.) are few to absent		
Bank is stabilized; Little to no evidence of scour or erosion is present		
Stream or river contains common to many cover objects (i.e, fallen logs, boulders, undercut banks)		

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessments Project #:20111470.B10
Wetland Assessment Area: Wetland #14
Date: 07/12/2016 Weather: Sunny, 85◦F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS) (cont'd)

Stream or river is predominantly buffered from other land uses by a vegetated zone greater than 20 feet in width

Direct stormwater discharge(s) are few to none, and, if present, originate from smaller culverts/outfalls

Sand bars or evidence of stormwater runoff at inlet is absent

Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent

Quality of the watercourse associated with this wetland is able to support healthy fish/shellfish

Other evidence of finfish habitat (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

PRODUCTION EXPORT

Considerations/Qualifiers	**Yes**	**No**
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland exhibits high degree of plant community structure/species diversity	X	
Evidence of wildlife use found within this wetland.	X	
Fish or shellfish develop or occur in this wetland.	X	
Nutrients exported or "flushed" from wetlands to watercourses (permanent outlet present).	X	

Other evidence of production export (Explain below)

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

WILDLIFE HABITAT

Considerations/Qualifiers	**Yes**	**No**
Wetland is not degraded or fragmented by human activity.		X
Wildlife overland access to other wetlands is present and relatively unfragmented or unimpeded.	X	
More than 40% of this wetland edge is bordered by upland wildlife habitat (e.g., shrub thicket, woodland, farmland, or idle land) at least 500 feet in width.	X	
Wetland is contiguous with other wetland systems connected by a watercourse or lake.	X	
Water quality of the watercourse, pond, or lake associated with this wetland meets or exceeds Class A or B standards.		

Project Name: Wood Pawcatuck Watershed Wetland Assessments Project #:20111470.B10
Wetland Assessment Area: Wetland #14
Date: 07/12/2016 Weather: Sunny, 85◦F Photographs Taken? Yes / No

WILDLIFE HABITAT (cont'd)

Dominant wetland class includes deep or shallow marsh or wooded swamp.	X	
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Wetland exhibits a high degree of interspersion of vegetation classes (e.g. forest, shrub, emergent marsh, wet meadow, open water).	X	
Two or more islands or inclusions of upland within the wetland are present.		X
Wetland exhibits a high degree of diversity in plant community structure (e.g., tree/shrub/vine/grasses/mosses).	X	
Wetland or watercourse contains numerous and diverse habitat features (e.g., snags, downed woody debris, rocks, seeps/springs, well drained sandy soils).	X	
Evidence of obligate or facultative vernal pool species have been observed in or near the wetland.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography).	X	
Dominant vegetation cover type is not composed of invasive or noxious species.	X	

Other evidence wildlife habitat (Explain below).

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

EDUCATIONAL, SCIENTIFIC & RECREATION VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.		X*
Wildlife habitat is a principal function of the wetland	X	
Direct access is available to a perennial watercourse (e.g., stream pond or lake)	X	
Wetland is part of a recreation area, park, forest, or refuge.		X
Hunting and/or fishing is available within or from the wetland.		X
Hiking occurs or has the potential to occur in the wetland		X
Off-road public parking available at or near the wetland or watercourse.		X
Wetland is within a short drive or safe walk from highly populated public and private areas.	X	
Wetland currently used for educational or scientific purposes.		X
Access to water is available at this potential recreation site for boating, canoeing, or fishing.		X

No known safety hazards exist (If not, explain below).

Other evidence educational, scientific or recreation value (Explain below).

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessments Project #:20111470.B10

Wetland Assessment Area: Wetland #14

Date: 07/12/2016 Weather: Sunny, 85◦F Photographs Taken? Yes / No

*Wetland is bordered by a Natural Heritage Area to the north and south, within 0.3 mile with unimpeded access.

UNIQUENESS & HERITAGE VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.		X*
Wetland identified as a whole or in part as an exemplary natural community (Explain below)		X
Wetland considered a locally and/or regionally significant (Explain below)		X

Other evidence of uniqueness or heritage values (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:
*Wetland is bordered by a Natural Heritage Area to the north and south, within 0.3 mile with unimpeded access.

SUMMARY OF FUNCTIONS & VALUES

Function/Value	**Principal Function**	**Secondary Function**
Groundwater Recharge & Discharge	X	
Floodflow Alteration		X
Sediment, Pollutant & Nutrient Removal	X	
Finfish Habitat (Ponds & Lakes)		X
Finfish Habitat (Streams & Rivers)	N/A	N/A
Production Export	X	
Wildlife Habitat	X	
Educational, Scientific & Recreation Value		X
Uniqueness & Heritage		X

MISCELLANEOUS NOTES & COMMENTS:

WETLAND FUNCTION & VALUE ASSESSMENT FIELD FORM

This form has been developed to streamline the function and value assessment process of wetlands and watercourses in the field. The form has largely been developed using the procedure outlined in the U.S. Army Corps of Engineers "Highway Methodology Work Book: Supplement. Wetland Functions and Values: A Descriptive Approach" (1995, NAEEP-360-1-30a). This methodology is a descriptive approach and does not rely upon semi-quantitative numerical models to identify principal functions and values of wetlands and watercourse.

Many of the criteria used as "considerations and qualifiers" are drawn directly from the U.S. Army Corps of Engineers methodology. However, other assessment methods were considered (e.g. Wisc. DNR, 1992, "Rapid Assessment Methodology for Evaluating Wetland functions and Values." and Ammann, et al., 1996,"Method for the Evaluation of Inland Wetlands in Connecticut.") as well professional experience. Each criteria listed is an indicator of that function or value . An affirmative response, therefore, supports the assumptions of a given function or value. Generally, a majority of affirmative responses will indicate that the given function or value is a "principal" function or value. However, the criteria are not weighted and thus it is incumbent upon the inspector to use his or her best professional judgment when identify "principal" functions or values.

Groundwater Recharge & Discharge
The capacity or potential for a wetland to interact with groundwater such that water moves from surface water to ground water (Recharge) or from ground water to surface water (Discharge)

Floodflow Alteration
The storage of inflowing water from storm or flooding events, resulting in detention and retention of water on the wetland surface

Finfish Habitat (Ponds & Lakes)
Considers the quality of the aquatic habitat of a pond or lake, and its capacity to support finfish.

Finfish Habitat (Streams & Rivers)
Considers the quality of the aquatic habitat of a perennial watercourse, and its capacity to support finfish.

Sediment, Pollutant & Nutrient Removal
The capacity of a wetland to remove dissolved, suspended and floatable material from storm water runoff and prevents degradation of water quality.

Production Export
The capacity of a wetland to produce wildlife food sources, or to export biomass that sustains downstream ecosystems and local wildlife populations.

Wildlife Habitat
The capacity of a wetland to support a diverse and abundant wildlife community typically associated with wetland and wetland edges.

Educational, Scientific & Recreation Value
The suitability of a wetland for classroom field trips or scientific research, or to support various recreation activities (e.g., hiking, canoeing, boating, fishing, hunting, bird watching).

Uniqueness & Heritage
The degree to which a wetland is considered a locally or regionally unique natural resource.

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland #15
Date: 07/15/2016 Weather: Sunny, 85°F Photographs Taken? Yes / No

GROUNDWATER RECHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is underlain by stratified drift, gravel or sandy soils.	X	
Wetland is *not* underlain by hardpan, impervious soils (e.g., clays and silts) or bedrock	X	
Wetland is associated with a perennial or intermittent watercourse	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%)	X	
Wetland is associated with a watercourse but lacks a defined outlet or contains a constricted outlet		X
Other evidence of groundwater recharge is present (i.e., local water supplies piezometer data, etc.)		

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

GROUNDWATER DISCHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is *not* underlain by stratified drift, gravel or sandy soils.		X
Wetland is underlain by hardpan; impervious, tight grained soils (high clay and/or silt content); or bedrock		X
Wetland formed as a result of seeps or springs		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)		X
Wetland is associated with a watercourse and contains only an outlet, no defined inlet		X
Other evidence of groundwater discharge are present (i.e., water temperature, piezometer data, etc.)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland #15
Date: 07/15/2016 Weather: Sunny, 85◦F Photographs Taken? Yes / No

FLOODFLOW ALTERATION

Considerations/Qualifiers	**Yes**	**No**
Area of this wetland is large relative to its watershed		X
Wetland occurs in the upper portions of its watershed and the effective flood storage is small or non-existent upslope of or above the wetland		X
Wetland watershed contains a high percent of impervious surfaces		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography) or ponding (e.g. sediment deposits or lines)		X
Wetland formed on relatively gentle slopes (e.g., less than 3%).	X	
Wetland located in a floodplain of an adjacent watercourse.		X
Wetland has a constricted outlet.		X
Wetland contains hydric soils which are able to absorb and detain water.	X	
Watershed has a history of economic loss due to flooding.		X
Associated watercourse, if present, is sinuous or diffuse.	X	
Other evidence of floodflow alteration (Explain below)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

SEDIMENT, POLLUTANT & NUTRIENT REMOVAL

Considerations/Qualifiers	**Yes**	**No**
Wetland saturated for most of the season.	X	
Ponded water (including deep water or open water habitat) is present in the wetland.	X	
Wetland edge is broad and intermittently aerobic.	X	
Deep organic/sediment deposits are present	X	
Slowly drained fine grained mineral or organic soils are present.	X	
Alluvial soils present in or immediately adjacent to wetland.	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%).	X	
Water retention/detention time in this wetland is increased by constricted outlet.		X
Water retention/detention time in this wetland is increased by thick vegetation.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)		X
Other evidence of sediment, pollutant and nutrient removal (Explain below)		

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10

Wetland Assessment Area: Wetland #15

Date: 07/15/2016 Weather: Sunny, 85◦F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (PONDS & LAKES)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to pond or lake dominated by forest, shrub and/or meadow community	X	
Shallow littoral zone with emergent vegetation present	X	
Pond or lake is ate least 10 feet deep		X*
Pond or lake is covered by more than 15 but less than 40 percent submerged or emergent vegetation	X	
Direct stormwater discharge(s) are few to none and , if present, originate from smaller culverts/outfalls		X
Sand bars or evidence of stormwater runoff at inlet is absent	X	
Water transparency is high		X
Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent	X	
Pond or lake is greater than 0.5 acre	X	
Dense algal blooms, nuisance aquatic vegetation or duckweed are not or have not historically been observed	X	

Other evidence of finfish habitat (Explain below)

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

*****Estimated due to presence of rooted aquatic vegetation.

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to stream or river dominated by forest, shrub and/or meadow community		
Channel is shaded by riparian trees or shrubs		
Bank is predominantly vegetated with high cover (e.g. trees and shrubs)		
Barriers to anadromous fish (i.e. dams, including beaver dams, waterfalls, road crossings, etc.) are absent from the stream reach associated with this wetland.		
Dominant bottom substrate is gravel and/or cobbles		
Bottom substrate is embedded with minimal sand and silt		
Diversity of instream habitat (e.g. riffles, runs, shallow pools and deep pools) is high		
Channel alteration (i.e. channelization, islands, point bars, etc.) are few to absent		
Bank is stabilized; Little to no evidence of scour or erosion is present		
Stream or river contains common to many cover objects (i.e, fallen logs, boulders, undercut banks)		

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland #15
Date: 07/15/2016 Weather: Sunny, 85◦F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS) (cont'd)

Stream or river is predominantly buffered from other land uses by a vegetated zone greater than 20 feet in width

Direct stormwater discharge(s) are few to none, and, if present, originate from smaller culverts/outfalls

Sand bars or evidence of stormwater runoff at inlet is absent

Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent

Quality of the watercourse associated with this wetland is able to support healthy fish/shellfish

Other evidence of finfish habitat (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

PRODUCTION EXPORT

Considerations/Qualifiers	**Yes**	**No**
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland exhibits high degree of plant community structure/species diversity	X	
Evidence of wildlife use found within this wetland.	X	
Fish or shellfish develop or occur in this wetland.		X
Nutrients exported or "flushed" from wetlands to watercourses (permanent outlet present).	X	

Other evidence of production export (Explain below)

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

WILDLIFE HABITAT

Considerations/Qualifiers	**Yes**	**No**
Wetland is not degraded or fragmented by human activity.		X
Wildlife overland access to other wetlands is present and relatively unfragmented or unimpeded.	X	
More than 40% of this wetland edge is bordered by upland wildlife habitat (e.g., shrub thicket, woodland, farmland, or idle land) at least 500 feet in width.	X	
Wetland is contiguous with other wetland systems connected by a watercourse or lake.	X	
Water quality of the watercourse, pond, or lake associated with this wetland meets or exceeds Class A or B standards.		

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland #15
Date: 07/15/2016 Weather: Sunny, 85◦F Photographs Taken? Yes / No

WILDLIFE HABITAT (cont'd)

Dominant wetland class includes deep or shallow marsh or wooded swamp.	X	
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Wetland exhibits a high degree of interspersion of vegetation classes (e.g. forest, shrub, emergent marsh, wet meadow, open water).	X	
Two or more islands or inclusions of upland within the wetland are present.		X
Wetland exhibits a high degree of diversity in plant community structure (e.g., tree/shrub/vine/grasses/mosses).	X	
Wetland or watercourse contains numerous and diverse habitat features (e.g., snags, downed woody debris, rocks, seeps/springs, well drained sandy soils).	X	
Evidence of obligate or facultative vernal pool species have been observed in or near the wetland.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography).		X
Dominant vegetation cover type is not composed of invasive or noxious species.	X	

Other evidence wildlife habitat (Explain below).

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

EDUCATIONAL, SCIENTIFIC & RECREATION VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.		X*
Wildlife habitat is a principal function of the wetland	X	
Direct access is available to a perennial watercourse (e.g., stream pond or lake)	X	
Wetland is part of a recreation area, park, forest, or refuge.		X
Hunting and/or fishing is available within or from the wetland.		X
Hiking occurs or has the potential to occur in the wetland		X
Off-road public parking available at or near the wetland or watercourse.		X
Wetland is within a short drive or safe walk from highly populated public and private areas.		X
Wetland currently used for educational or scientific purposes.		X
Access to water is available at this potential recreation site for boating, canoeing, or fishing.		X

No known safety hazards exist (If not, explain below).

Other evidence educational, scientific or recreation value (Explain below).

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10

Wetland Assessment Area: Wetland #15

Date: 07/15/2016 Weather: Sunny, 85◦F Photographs Taken? Yes / No

*Natural Heritage Area located 0.3 mile northwest of wetland; movement of listed species is plausible.

UNIQUENESS & HERITAGE VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.		X*
Wetland identified as a whole or in part as an exemplary natural community (Explain below)		X
Wetland considered a locally and/or regionally significant (Explain below)		X

Other evidence of uniqueness or heritage values (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:
*Natural Heritage Area located 0.3 mile northwest of wetland; movement of listed species is plausible.

SUMMARY OF FUNCTIONS & VALUES

Function/Value	**Principal Function**	**Secondary Function**
Groundwater Recharge & Discharge	X	
Floodflow Alteration		X
Sediment, Pollutant & Nutrient Removal	X	
Finfish Habitat (Ponds & Lakes)	X	
Finfish Habitat (Streams & Rivers)	N/A	N/A
Production Export	X	
Wildlife Habitat	X	
Educational, Scientific & Recreation Value		X
Uniqueness & Heritage		X

MISCELLANEOUS NOTES & COMMENTS:
Bound by residential properties and roads. Potential additional flood storage to east and possibly southwest.

Inspector:_____

WETLAND FUNCTION & VALUE ASSESSMENT FIELD FORM

This form has been developed to streamline the function and value assessment process of wetlands and watercourses in the field. The form has largely been developed using the procedure outlined in the U.S. Army Corps of Engineers "Highway Methodology Work Book: Supplement. Wetland Functions and Values: A Descriptive Approach" (1995, NAEEP-360-1-30a). This methodology is a descriptive approach and does not rely upon semi-quantitative numerical models to identify principal functions and values of wetlands and watercourse.

Many of the criteria used as "considerations and qualifiers" are drawn directly from the U.S. Army Corps of Engineers methodology. However, other assessment methods were considered (e.g. Wisc. DNR, 1992, "Rapid Assessment Methodology for Evaluating Wetland functions and Values." and Ammann, et al., 1996,"Method for the Evaluation of Inland Wetlands in Connecticut.") as well professional experience. Each criteria listed is an indicator of that function or value . An affirmative response, therefore, supports the assumptions of a given function or value. Generally, a majority of affirmative responses will indicate that the given function or value is a "principal" function or value. However, the criteria are not weighted and thus it is incumbent upon the inspector to use his or her best professional judgment when identify "principal" functions or values.

Groundwater Recharge & Discharge
The capacity or potential for a wetland to interact with groundwater such that water moves from surface water to ground water (Recharge) or from ground water to surface water (Discharge)

Floodflow Alteration
The storage of inflowing water from storm or flooding events, resulting in detention and retention of water on the wetland surface

Finfish Habitat (Ponds & Lakes)
Considers the quality of the aquatic habitat of a pond or lake, and its capacity to support finfish.

Finfish Habitat (Streams & Rivers)
Considers the quality of the aquatic habitat of a perennial watercourse, and its capacity to support finfish.

Sediment, Pollutant & Nutrient Removal
The capacity of a wetland to remove dissolved, suspended and floatable material from storm water runoff and prevents degradation of water quality.

Production Export
The capacity of a wetland to produce wildlife food sources, or to export biomass that sustains downstream ecosystems and local wildlife populations.

Wildlife Habitat
The capacity of a wetland to support a diverse and abundant wildlife community typically associated with wetland and wetland edges.

Educational, Scientific & Recreation Value
The suitability of a wetland for classroom field trips or scientific research, or to support various recreation activities (e.g., hiking, canoeing, boating, fishing, hunting, bird watching).

Uniqueness & Heritage
The degree to which a wetland is considered a locally or regionally unique natural resource.

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland #16
Date: 7/14/2016 Weather: Overcast, rainy, 80◦F Photographs Taken? Yes / No

GROUNDWATER RECHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is underlain by stratified drift, gravel or sandy soils.		X
Wetland is *not* underlain by hardpan, impervious soils (e.g., clays and silts) or bedrock	X	
Wetland is associated with a perennial or intermittent watercourse		X
Wetland formed on relatively gentle slopes (e.g., less than 3%)	X	
Wetland is associated with a watercourse but lacks a defined outlet or contains a constricted outlet		X
Other evidence of groundwater recharge is present (i.e., local water supplies piezometer data, etc.)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

GROUNDWATER DISCHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is *not* underlain by stratified drift, gravel or sandy soils.	X	
Wetland is underlain by hardpan; impervious, tight grained soils (high clay and/or silt content); or bedrock		X
Wetland formed as a result of seeps or springs	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)	X	
Wetland is associated with a watercourse and contains only an outlet, no defined inlet		X
Other evidence of groundwater discharge are present (i.e., water temperature, piezometer data, etc.)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland #16
Date: 7/14/2016 Weather: Overcast, rainy, 80◦F Photographs Taken? Yes / No

FLOODFLOW ALTERATION

Considerations/Qualifiers	**Yes**	**No**
Area of this wetland is large relative to its watershed		X
Wetland occurs in the upper portions of its watershed and the effective flood storage is small or non-existent upslope of or above the wetland	X	
Wetland watershed contains a high percent of impervious surfaces		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography) or ponding (e.g. sediment deposits or lines)	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%).	X	
Wetland located in a floodplain of an adjacent watercourse.		X
Wetland has a constricted outlet.		X
Wetland contains hydric soils which are able to absorb and detain water.	X	
Watershed has a history of economic loss due to flooding.		X
Associated watercourse, if present, is sinuous or diffuse.	X	
Other evidence of floodflow alteration (Explain below)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

SEDIMENT, POLLUTANT & NUTRIENT REMOVAL

Considerations/Qualifiers	**Yes**	**No**
Wetland saturated for most of the season.	X	
Ponded water (including deep water or open water habitat) is present in the wetland.	X	
Wetland edge is broad and intermittently aerobic.	X	
Deep organic/sediment deposits are present	X	
Slowly drained fine grained mineral or organic soils are present.	X	
Alluvial soils present in or immediately adjacent to wetland.		X
Wetland formed on relatively gentle slopes (e.g., less than 3%).	X	
Water retention/detention time in this wetland is increased by constricted outlet.		X
Water retention/detention time in this wetland is increased by thick vegetation.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)	X	
Other evidence of sediment, pollutant and nutrient removal (Explain below)		

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10

Wetland Assessment Area: Wetland #16

Date: 7/14/2016 Weather: Overcast, rainy, 80◦F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (PONDS & LAKES)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to pond or lake dominated by forest, shrub and/or meadow community	X	
Shallow littoral zone with emergent vegetation present		X
Pond or lake is ate least 10 feet deep		X
Pond or lake is covered by more than 15 but less then 40 percent submered or emergent vegetation		X
Direct stormwater discharge(s) are few to none and , if present, originate from smaller culverts/outfalls	X	
Sand bars or evidence of stormwater runoff at inlet is absent		X
Water transparency is high		X
Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent		X
Pond or lake is greater than 0.5 acre		X
Dense algal blooms, nuisance aquatic vegetation or duckweed are not or have not historically been observed		X

Other evidence of finfish habitat (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to stream or river dominated by forest, shrub and/or meadow community		
Channel is shaded by riparian trees or shrubs		
Bank is predominantly vegetated with high cover (e.g. trees and shrubs)		
Barriers to anadromous fish (i.e. dams, including beaver dams, waterfalls, road crossings, etc.) are absent from the stream reach associated with this wetland.		
Dominant bottom substrate is gravel and/or cobbles		
Bottom substrate is embedded with minimal sand and silt		
Diversity of instream habitat (e.g. riffles, runs, shallow pools and deep pools) is high		
Channel alteration (i.e. channelization, islands, point bars, etc.) are few to absent		
Bank is stabilized; Little to no evidence of scour or erosion is present		
Stream or river contains common to many cover objects (i.e, fallen logs, boulders, undercut banks)		

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland #16
Date: 7/14/2016 Weather: Overcast, rainy, 80◦F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS) (cont'd)

Stream or river is predominantly buffered from other land uses by a vegetated zone greater than 20 feet in width

Direct stormwater discharge(s) are few to none, and, if present, originate from smaller culverts/outfalls

Sand bars or evidence of stormwater runoff at inlet is absent

Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent

Quality of the watercourse associated with this wetland is able to support healthy fish/shellfish

Other evidence of finfish habitat (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

PRODUCTION EXPORT

Considerations/Qualifiers	**Yes**	**No**
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland exhibits high degree of plant community structure/species diversity	X	
Evidence of wildlife use found within this wetland.	X	
Fish or shellfish develop or occur in this wetland.		X
Nutrients exported or "flushed" from wetlands to watercourses (permanent outlet present).	X	

Other evidence of production export (Explain below)

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

WILDLIFE HABITAT

Considerations/Qualifiers	**Yes**	**No**
Wetland is not degraded or fragmented by human activity.		X
Wildlife overland access to other wetlands is present and relatively unfragmented or unimpeded.		X
More than 40% of this wetland edge is bordered by upland wildlife habitat (e.g., shrub thicket, woodland, farmland, or idle land) at least 500 feet in width.		X
Wetland is contiguous with other wetland systems connected by a watercourse or lake.		X
Water quality of the watercourse, pond, or lake associated with this wetland meets or exceeds Class A or B standards.		

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland #16
Date: 7/14/2016 Weather: Overcast, rainy, 80◦F Photographs Taken? Yes / No

WILDLIFE HABITAT (cont'd)

Dominant wetland class includes deep or shallow marsh or wooded swamp.	X	
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Wetland exhibits a high degree of interspersion of vegetation classes (e.g. forest, shrub, emergent marsh, wet meadow, open water).	X	
Two or more islands or inclusions of upland within the wetland are present.		X
Wetland exhibits a high degree of diversity in plant community structure (e.g., tree/shrub/vine/grasses/mosses).	X	
Wetland or watercourse contains numerous and diverse habitat features (e.g., snags, downed woody debris, rocks, seeps/springs, well drained sandy soils).		X
Evidence of obligate or facultative vernal pool species have been observed in or near the wetland.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography).	X	
Dominant vegetation cover type is not composed of invasive or noxious species.	X	

Other evidence wildlife habitat (Explain below).

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

EDUCATIONAL, SCIENTIFIC & RECREATION VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.	X*	
Wildlife habitat is a principal function of the wetland		X
Direct access is available to a perennial watercourse (e.g., stream pond or lake)		X
Wetland is part of a recreation area, park, forest, or refuge.		X
Hunting and/or fishing is available within or from the wetland.		X
Hiking occurs or has the potential to occur in the wetland		X
Off-road public parking available at or near the wetland or watercourse.	X	
Wetland is within a short drive or safe walk from highly populated public and private areas.	X	
Wetland currently used for educational or scientific purposes.		X
Access to water is available at this potential recreation site for boating, canoeing, or fishing.		X

No known safety hazards exist (If not, explain below).

Other evidence educational, scientific or recreation value (Explain below).

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10

Wetland Assessment Area: Wetland #16

Date: 7/14/2016 Weather: Overcast, rainy, 80◦F Photographs Taken? Yes / No

*Wetland is located less than half a mile from a Natural Heritage Area; movement of listed species to and through wetland area is possible.

UNIQUENESS & HERITAGE VALUE

Considerations/Qualifiers	Yes	No
Wetland contains state or federal listed species.	X	
Wetland identified as a whole or in part as an exemplary natural community (Explain below)		X
Wetland considered a locally and/or regionally significant (Explain below)		X

Other evidence of uniqueness or heritage values (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:
*Wetland is located less than half a mile from a Natural Heritage Area; movement of listed species to and through wetland area is possible.

SUMMARY OF FUNCTIONS & VALUES

Function/Value	Principal Function	Secondary Function
Groundwater Recharge & Discharge		X
Floodflow Alteration		X
Sediment, Pollutant & Nutrient Removal	X	
Finfish Habitat (Ponds & Lakes)		X
Finfish Habitat (Streams & Rivers)	N/A	N/A
Production Export	X	
Wildlife Habitat		X
Educational, Scientific & Recreation Value		X
Uniqueness & Heritage		X

MISCELLANEOUS NOTES & COMMENTS:

Phragmites management is possible, wetland is bound by active agriculture fields, cemetery. Wooded area around stream offers possibly potential for mitigation.

Inspector:_____

WETLAND FUNCTION & VALUE ASSESSMENT FIELD FORM

This form has been developed to streamline the function and value assessment process of wetlands and watercourses in the field. The form has largely been developed using the procedure outlined in the U.S. Army Corps of Engineers "Highway Methodology Work Book: Supplement. Wetland Functions and Values: A Descriptive Approach" (1995, NAEEP-360-1-30a). This methodology is a descriptive approach and does not rely upon semi-quantitative numerical models to identify principal functions and values of wetlands and watercourse.

Many of the criteria used as "considerations and qualifiers" are drawn directly from the U.S. Army Corps of Engineers methodology. However, other assessment methods were considered (e.g. Wisc. DNR, 1992, "Rapid Assessment Methodology for Evaluating Wetland functions and Values." and Ammann, et al., 1996,"Method for the Evaluation of Inland Wetlands in Connecticut.") as well professional experience. Each criteria listed is an indicator of that function or value . An affirmative response, therefore, supports the assumptions of a given function or value. Generally, a majority of affirmative responses will indicate that the given function or value is a "principal" function or value. However, the criteria are not weighted and thus it is incumbent upon the inspector to use his or her best professional judgment when identify "principal" functions or values.

Groundwater Recharge & Discharge
The capacity or potential for a wetland to interact with groundwater such that water moves from surface water to ground water (Recharge) or from ground water to surface water (Discharge)

Floodflow Alteration
The storage of inflowing water from storm or flooding events, resulting in detention and retention of water on the wetland surface

Finfish Habitat (Ponds & Lakes)
Considers the quality of the aquatic habitat of a pond or lake, and its capacity to support finfish.

Finfish Habitat (Streams & Rivers)
Considers the quality of the aquatic habitat of a perennial watercourse, and its capacity to support finfish.

Sediment, Pollutant & Nutrient Removal
The capacity of a wetland to remove dissolved, suspended and floatable material from storm water runoff and prevents degradation of water quality.

Production Export
The capacity of a wetland to produce wildlife food sources, or to export biomass that sustains downstream ecosystems and local wildlife populations.

Wildlife Habitat
The capacity of a wetland to support a diverse and abundant wildlife community typically associated with wetland and wetland edges.

Educational, Scientific & Recreation Value
The suitability of a wetland for classroom field trips or scientific research, or to support various recreation activities (e.g., hiking, canoeing, boating, fishing, hunting, bird watching).

Uniqueness & Heritage
The degree to which a wetland is considered a locally or regionally unique natural resource.

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland #17
Date: 7/18/2016 Weather: Sunny, 85°F Photographs Taken? Yes / No

GROUNDWATER RECHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is underlain by stratified drift, gravel or sandy soils.	X	
Wetland is *not* underlain by hardpan, impervious soils (e.g., clays and silts) or bedrock	X	
Wetland is associated with a perennial or intermittent watercourse	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%)	X	
Wetland is associated with a watercourse but lacks a defined outlet or contains a constricted outlet		X
Other evidence of groundwater recharge is present (i.e., local water supplies piezometer data, etc.)		

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

GROUNDWATER DISCHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is *not* underlain by stratified drift, gravel or sandy soils.		X
Wetland is underlain by hardpan; impervious, tight grained soils (high clay and/or silt content); or bedrock		X
Wetland formed as a result of seeps or springs		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)		X
Wetland is associated with a watercourse and contains only an outlet, no defined inlet		X
Other evidence of groundwater discharge are present (i.e., water temperature, piezometer data, etc.)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland #17
Date: 7/18/2016 Weather: Sunny, 85◦F Photographs Taken? Yes / No

FLOODFLOW ALTERATION

Considerations/Qualifiers	**Yes**	**No**
Area of this wetland is large relative to its watershed	X	
Wetland occurs in the upper portions of its watershed and the effective flood storage is small or non-existent upslope of or above the wetland	X	
Wetland watershed contains a high percent of impervious surfaces		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography) or ponding (e.g. sediment deposits or lines)		X
Wetland formed on relatively gentle slopes (e.g., less than 3%).	X	
Wetland located in a floodplain of an adjacent watercourse.		X
Wetland has a constricted outlet.	X	
Wetland contains hydric soils which are able to absorb and detain water.	X	
Watershed has a history of economic loss due to flooding.		X
Associated watercourse, if present, is sinuous or diffuse.		X
Other evidence of floodflow alteration (Explain below)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

SEDIMENT, POLLUTANT & NUTRIENT REMOVAL

Considerations/Qualifiers	**Yes**	**No**
Wetland saturated for most of the season.	X	
Ponded water (including deep water or open water habitat) is present in the wetland.	X	
Wetland edge is broad and intermittently aerobic.		X
Deep organic/sediment deposits are present	X	
Slowly drained fine grained mineral or organic soils are present.	X	
Alluvial soils present in or immediately adjacent to wetland.		X
Wetland formed on relatively gentle slopes (e.g., less than 3%).	X	
Water retention/detention time in this wetland is increased by constricted outlet.	X	
Water retention/detention time in this wetland is increased by thick vegetation.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)		X
Other evidence of sediment, pollutant and nutrient removal (Explain below)		

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10

Wetland Assessment Area: Wetland #17

Date: 7/18/2016 Weather: Sunny, 85◦F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (PONDS & LAKES)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to pond or lake dominated by forest, shrub and/or meadow community	X	
Shallow littoral zone with emergent vegetation present		X
Pond or lake is ate least 10 feet deep	X*	
Pond or lake is covered by more than 15 but less than 40 percent submerged or emergent vegetation		X
Direct stormwater discharge(s) are few to none and , if present, originate from smaller culverts/outfalls	X	
Sand bars or evidence of stormwater runoff at inlet is absent	X	
Water transparency is high		X
Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent		X
Pond or lake is greater than 0.5 acre	X	
Dense algal blooms, nuisance aquatic vegetation or duckweed are not or have not historically been observed		X
Other evidence of finfish habitat (Explain below)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:
*Estimated due to lack of presence

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to stream or river dominated by forest, shrub and/or meadow community		
Channel is shaded by riparian trees or shrubs		
Bank is predominantly vegetated with high cover (e.g. trees and shrubs)		
Barriers to anadromous fish (i.e. dams, including beaver dams, waterfalls, road crossings, etc.) are absent from the stream reach associated with this wetland.		
Dominant bottom substrate is gravel and/or cobbles		
Bottom substrate is embedded with minimal sand and silt		
Diversity of instream habitat (e.g. riffles, runs, shallow pools and deep pools) is high		
Channel alteration (i.e. channelization, islands, point bars, etc.) are few to absent		
Bank is stabilized; Little to no evidence of scour or erosion is present		
Stream or river contains common to many cover objects (i.e, fallen logs, boulders, undercut banks)		

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland #17
Date: 7/18/2016 Weather: Sunny, 85◦F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS) (cont'd)

Stream or river is predominantly buffered from other land uses by a vegetated zone greater than 20 feet in width

Direct stormwater discharge(s) are few to none, and, if present, originate from smaller culverts/outfalls

Sand bars or evidence of stormwater runoff at inlet is absent

Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent

Quality of the watercourse associated with this wetland is able to support healthy fish/shellfish

Other evidence of finfish habitat (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

PRODUCTION EXPORT

Considerations/Qualifiers	**Yes**	**No**
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland exhibits high degree of plant community structure/species diversity	X	
Evidence of wildlife use found within this wetland.	X	
Fish or shellfish develop or occur in this wetland.		X
Nutrients exported or "flushed" from wetlands to watercourses (permanent outlet present).	X	

Other evidence of production export (Explain below)

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

WILDLIFE HABITAT

Considerations/Qualifiers	**Yes**	**No**
Wetland is not degraded or fragmented by human activity.	X	
Wildlife overland access to other wetlands is present and relatively unfragmented or unimpeded.		X
More than 40% of this wetland edge is bordered by upland wildlife habitat (e.g., shrub thicket, woodland, farmland, or idle land) at least 500 feet in width.	X	
Wetland is contiguous with other wetland systems connected by a watercourse or lake.		X
Water quality of the watercourse, pond, or lake associated with this wetland meets or exceeds Class A or B standards.		

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland #17
Date: 7/18/2016 Weather: Sunny, 85◦F Photographs Taken? Yes / No

WILDLIFE HABITAT (cont'd)

Dominant wetland class includes deep or shallow marsh or wooded swamp.	X	
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Wetland exhibits a high degree of interspersion of vegetation classes (e.g. forest, shrub, emergent marsh, wet meadow, open water).	X	
Two or more islands or inclusions of upland within the wetland are present.	X	
Wetland exhibits a high degree of diversity in plant community structure (e.g., tree/shrub/vine/grasses/mosses).	X	
Wetland or watercourse contains numerous and diverse habitat features (e.g., snags, downed woody debris, rocks, seeps/springs, well drained sandy soils).	X	
Evidence of obligate or facultative vernal pool species have been observed in or near the wetland.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography).		X
Dominant vegetation cover type is not composed of invasive or noxious species.	X	

Other evidence wildlife habitat (Explain below).

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

EDUCATIONAL, SCIENTIFIC & RECREATION VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.		X
Wildlife habitat is a principal function of the wetland	X	
Direct access is available to a perennial watercourse (e.g., stream pond or lake)	X	
Wetland is part of a recreation area, park, forest, or refuge.		X
Hunting and/or fishing is available within or from the wetland.		X
Hiking occurs or has the potential to occur in the wetland		X
Off-road public parking available at or near the wetland or watercourse.		X
Wetland is within a short drive or safe walk from highly populated public and private areas.	X	
Wetland currently used for educational or scientific purposes.		X
Access to water is available at this potential recreation site for boating, canoeing, or fishing.		X

No known safety hazards exist (If not, explain below).

Other evidence educational, scientific or recreation value (Explain below).

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland #17
Date: 7/18/2016 Weather: Sunny, 85°F Photographs Taken? Yes / No

UNIQUENESS & HERITAGE VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.		X
Wetland identified as a whole or in part as an exemplary natural community (Explain below)		X
Wetland considered a locally and/or regionally significant (Explain below)		X

Other evidence of uniqueness or heritage values (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

SUMMARY OF FUNCTIONS & VALUES

Function/Value	**Principal Function**	**Secondary Function**
Groundwater Recharge & Discharge	X	
Floodflow Alteration		X
Sediment, Pollutant & Nutrient Removal	X	
Finfish Habitat (Ponds & Lakes)		X
Finfish Habitat (Streams & Rivers)	N/A	N/A
Production Export	X	
Wildlife Habitat	X	
Educational, Scientific & Recreation Value		X
Uniqueness & Heritage		X

MISCELLANEOUS NOTES & COMMENTS:
Phragmites to the west on the other side of the culvert, potential to increase culvert size beneath Plain Meetinghouse Rd. Residential properties along road, Site located on RIDEM property.

Inspector:_____

WETLAND FUNCTION & VALUE ASSESSMENT FIELD FORM

This form has been developed to streamline the function and value assessment process of wetlands and watercourses in the field. The form has largely been developed using the procedure outlined in the U.S. Army Corps of Engineers "Highway Methodology Work Book: Supplement. Wetland Functions and Values: A Descriptive Approach" (1995, NAEEP-360-1-30a). This methodology is a descriptive approach and does not rely upon semi-quantitative numerical models to identify principal functions and values of wetlands and watercourse.

Many of the criteria used as "considerations and qualifiers" are drawn directly from the U.S. Army Corps of Engineers methodology. However, other assessment methods were considered (e.g. Wisc. DNR, 1992, "Rapid Assessment Methodology for Evaluating Wetland functions and Values." and Ammann, et al., 1996,"Method for the Evaluation of Inland Wetlands in Connecticut.") as well professional experience. Each criteria listed is an indicator of that function or value . An affirmative response, therefore, supports the assumptions of a given function or value. Generally, a majority of affirmative responses will indicate that the given function or value is a "principal" function or value. However, the criteria are not weighted and thus it is incumbent upon the inspector to use his or her best professional judgment when identify "principal" functions or values.

Groundwater Recharge & Discharge
The capacity or potential for a wetland to interact with groundwater such that water moves from surface water to ground water (Recharge) or from ground water to surface water (Discharge)

Floodflow Alteration
The storage of inflowing water from storm or flooding events, resulting in detention and retention of water on the wetland surface

Finfish Habitat (Ponds & Lakes)
Considers the quality of the aquatic habitat of a pond or lake, and its capacity to support finfish.

Finfish Habitat (Streams & Rivers)
Considers the quality of the aquatic habitat of a perennial watercourse, and its capacity to support finfish.

Sediment, Pollutant & Nutrient Removal
The capacity of a wetland to remove dissolved, suspended and floatable material from storm water runoff and prevents degradation of water quality.

Production Export
The capacity of a wetland to produce wildlife food sources, or to export biomass that sustains downstream ecosystems and local wildlife populations.

Wildlife Habitat
The capacity of a wetland to support a diverse and abundant wildlife community typically associated with wetland and wetland edges.

Educational, Scientific & Recreation Value
The suitability of a wetland for classroom field trips or scientific research, or to support various recreation activities (e.g., hiking, canoeing, boating, fishing, hunting, bird watching).

Uniqueness & Heritage
The degree to which a wetland is considered a locally or regionally unique natural resource.

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland #18
Date: 7/14/2016 Weather: Overcast, 85◦F Photographs Taken? Yes / No

GROUNDWATER RECHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is underlain by stratified drift, gravel or sandy soils.	X	
Wetland is *not* underlain by hardpan, impervious soils (e.g., clays and silts) or bedrock	X	
Wetland is associated with a perennial or intermittent watercourse	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%)	X	
Wetland is associated with a watercourse but lacks a defined outlet or contains a constricted outlet		X
Other evidence of groundwater recharge is present (i.e., local water supplies piezometer data, etc.)		

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

GROUNDWATER DISCHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is *not* underlain by stratified drift, gravel or sandy soils.		X
Wetland is underlain by hardpan; impervious, tight grained soils (high clay and/or silt content); or bedrock		X
Wetland formed as a result of seeps or springs	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)	X	
Wetland is associated with a watercourse and contains only an outlet, no defined inlet		X
Other evidence of groundwater discharge are present (i.e., water temperature, piezometer data, etc.)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10

Wetland Assessment Area: Wetland #18

Date: 7/14/2016 Weather: Overcast, 85◦F Photographs Taken? Yes / No

FLOODFLOW ALTERATION

Considerations/Qualifiers	**Yes**	**No**
Area of this wetland is large relative to its watershed		X
Wetland occurs in the upper portions of its watershed and the effective flood storage is small or non-existent upslope of or above the wetland		X
Wetland watershed contains a high percent of impervious surfaces		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography) or ponding (e.g. sediment deposits or lines)	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%).	X	
Wetland located in a floodplain of an adjacent watercourse.	X	
Wetland has a constricted outlet.		X
Wetland contains hydric soils which are able to absorb and detain water.	X	
Watershed has a history of economic loss due to flooding.		X
Associated watercourse, if present, is sinuous or diffuse.	X	
Other evidence of floodflow alteration (Explain below)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

SEDIMENT, POLLUTANT & NUTRIENT REMOVAL

Considerations/Qualifiers	**Yes**	**No**
Wetland saturated for most of the season.	X	
Ponded water (including deep water or open water habitat) is present in the wetland.		X
Wetland edge is broad and intermittently aerobic.		X
Deep organic/sediment deposits are present	X	
Slowly drained fine grained mineral or organic soils are present.	X	
Alluvial soils present in or immediately adjacent to wetland.		X
Wetland formed on relatively gentle slopes (e.g., less than 3%).	X	
Water retention/detention time in this wetland is increased by constricted outlet.		X
Water retention/detention time in this wetland is increased by thick vegetation.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)	X	
Other evidence of sediment, pollutant and nutrient removal (Explain below)		

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10

Wetland Assessment Area: Wetland #18

Date: 7/14/2016 Weather: Overcast, 85◦F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (PONDS & LAKES)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to pond or lake dominated by forest, shrub and/or meadow community		
Shallow littoral zone with emergent vegetation present		
Pond or lake is ate least 10 feet deep		
Pond or lake is covered by more than 15 but less then 40 percent submered or emergent vegetation		
Direct stormwater discharge(s) are few to none and , if present, originate from smaller culverts/outfalls		
Sand bars or evidence of stormwater runoff at inlet is absent		
Water transparency is high		
Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent		
Pond or lake is greater than 0.5 acre		
Dense algal blooms, nuisance aquatic vegetation or duckweed are not or have not historically been observed		
Other evidence of finfish habitat (Explain below)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to stream or river dominated by forest, shrub and/or meadow community		
Channel is shaded by riparian trees or shrubs		
Bank is predominantly vegetated with high cover (e.g. trees and shrubs)		
Barriers to anadromous fish (i.e. dams, including beaver dams, waterfalls, road crossings, etc.) are absent from the stream reach associated with this wetland.		
Dominant bottom substrate is gravel and/or cobbles		
Bottom substrate is embedded with minimal sand and silt		
Diversity of instream habitat (e.g. riffles, runs, shallow pools and deep pools) is high		
Channel alteration (i.e. channelization, islands, point bars, etc.) are few to absent		
Bank is stabilized; Little to no evidence of scour or erosion is present		
Stream or river contains common to many cover objects (i.e, fallen logs, boulders, undercut banks)		

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland #18
Date: 7/14/2016 Weather: Overcast, 85◦F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS) (cont'd)

Stream or river is predominantly buffered from other land uses by a vegetated zone greater than 20 feet in width

Direct stormwater discharge(s) are few to none, and, if present, originate from smaller culverts/outfalls

Sand bars or evidence of stormwater runoff at inlet is absent

Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent

Quality of the watercourse associated with this wetland is able to support healthy fish/shellfish

Other evidence of finfish habitat (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

PRODUCTION EXPORT

Considerations/Qualifiers	**Yes**	**No**
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland exhibits high degree of plant community structure/species diversity	X	
Evidence of wildlife use found within this wetland.	X	
Fish or shellfish develop or occur in this wetland.		X
Nutrients exported or "flushed" from wetlands to watercourses (permanent outlet present).	X	

Other evidence of production export (Explain below)

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

No open water located in this wetland.

WILDLIFE HABITAT

Considerations/Qualifiers	**Yes**	**No**
Wetland is not degraded or fragmented by human activity.		X
Wildlife overland access to other wetlands is present and relatively unfragmented or unimpeded.	X	
More than 40% of this wetland edge is bordered by upland wildlife habitat (e.g., shrub thicket, woodland, farmland, or idle land) at least 500 feet in width.	X	
Wetland is contiguous with other wetland systems connected by a watercourse or lake.	X	
Water quality of the watercourse, pond, or lake associated with this wetland meets or exceeds Class A or B standards.		

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland #18
Date: 7/14/2016 Weather: Overcast, 85◦F Photographs Taken? Yes / No

WILDLIFE HABITAT (cont'd)

Dominant wetland class includes deep or shallow marsh or wooded swamp.	X
Wildlife food sources growing within this wetland are abundant and diverse.	X
Wetland exhibits a high degree of interspersion of vegetation classes (e.g. forest, shrub, emergent marsh, wet meadow, open water).	X
Two or more islands or inclusions of upland within the wetland are present.	X
Wetland exhibits a high degree of diversity in plant community structure (e.g., tree/shrub/vine/grasses/mosses).	X
Wetland or watercourse contains numerous and diverse habitat features (e.g., snags, downed woody debris, rocks, seeps/springs, well drained sandy soils).	X
Evidence of obligate or facultative vernal pool species have been observed in or near the wetland.	X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography).	X
Dominant vegetation cover type is not composed of invasive or noxious species.	X

Other evidence wildlife habitat (Explain below).

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

EDUCATIONAL, SCIENTIFIC & RECREATION VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.	X	
Wildlife habitat is a principal function of the wetland	X	
Direct access is available to a perennial watercourse (e.g., stream pond or lake)		X
Wetland is part of a recreation area, park, forest, or refuge.	X	
Hunting and/or fishing is available within or from the wetland.	X	
Hiking occurs or has the potential to occur in the wetland	X	
Off-road public parking available at or near the wetland or watercourse.	X	
Wetland is within a short drive or safe walk from highly populated public and private areas.		X
Wetland currently used for educational or scientific purposes.	X	
Access to water is available at this potential recreation site for boating, canoeing, or fishing.		X

No known safety hazards exist (If not, explain below).

Other evidence educational, scientific or recreation value (Explain below).

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland #18
Date: 7/14/2016 Weather: Overcast, 85◦F Photographs Taken? Yes / No
Wetland is located within RI state management area, hunting is permitted.

UNIQUENESS & HERITAGE VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.	X	
Wetland identified as a whole or in part as an exemplary natural community (Explain below)	X	
Wetland considered a locally and/or regionally significant (Explain below)	X	

Other evidence of uniqueness or heritage values (Explain below)

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:
Wetland is located within a RI state management area (Great Swamp Management Area).

SUMMARY OF FUNCTIONS & VALUES

Function/Value	**Principal Function**	**Secondary Function**
Groundwater Recharge & Discharge	X	
Floodflow Alteration		X
Sediment, Pollutant & Nutrient Removal	X	
Finfish Habitat (Ponds & Lakes)	N/A	N/A
Finfish Habitat (Streams & Rivers)	N/A	N/A
Production Export	X	
Wildlife Habitat	X	
Educational, Scientific & Recreation Value	X	
Uniqueness & Heritage	X	

MISCELLANEOUS NOTES & COMMENTS:
No open water within wetland.

Inspector:_____

WETLAND FUNCTION & VALUE ASSESSMENT FIELD FORM

This form has been developed to streamline the function and value assessment process of wetlands and watercourses in the field. The form has largely been developed using the procedure outlined in the U.S. Army Corps of Engineers "Highway Methodology Work Book: Supplement. Wetland Functions and Values: A Descriptive Approach" (1995, NAEEP-360-1-30a). This methodology is a descriptive approach and does not rely upon semi-quantitative numerical models to identify principal functions and values of wetlands and watercourse.

Many of the criteria used as "considerations and qualifiers" are drawn directly from the U.S. Army Corps of Engineers methodology. However, other assessment methods were considered (e.g. Wisc. DNR, 1992, "Rapid Assessment Methodology for Evaluating Wetland functions and Values." and Ammann, et al., 1996,"Method for the Evaluation of Inland Wetlands in Connecticut.") as well professional experience. Each criteria listed is an indicator of that function or value . An affirmative response, therefore, supports the assumptions of a given function or value. Generally, a majority of affirmative responses will indicate that the given function or value is a "principal" function or value. However, the criteria are not weighted and thus it is incumbent upon the inspector to use his or her best professional judgment when identify "principal" functions or values.

Groundwater Recharge & Discharge
The capacity or potential for a wetland to interact with groundwater such that water moves from surface water to ground water (Recharge) or from ground water to surface water (Discharge)

Floodflow Alteration
The storage of inflowing water from storm or flooding events, resulting in detention and retention of water on the wetland surface

Finfish Habitat (Ponds & Lakes)
Considers the quality of the aquatic habitat of a pond or lake, and its capacity to support finfish.

Finfish Habitat (Streams & Rivers)
Considers the quality of the aquatic habitat of a perennial watercourse, and its capacity to support finfish.

Sediment, Pollutant & Nutrient Removal
The capacity of a wetland to remove dissolved, suspended and floatable material from storm water runoff and prevents degradation of water quality.

Production Export
The capacity of a wetland to produce wildlife food sources, or to export biomass that sustains downstream ecosystems and local wildlife populations.

Wildlife Habitat
The capacity of a wetland to support a diverse and abundant wildlife community typically associated with wetland and wetland edges.

Educational, Scientific & Recreation Value
The suitability of a wetland for classroom field trips or scientific research, or to support various recreation activities (e.g., hiking, canoeing, boating, fishing, hunting, bird watching).

Uniqueness & Heritage
The degree to which a wetland is considered a locally or regionally unique natural resource.

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland #19
Date: 7/18/2016 Weather: Sunny, 90s Photographs Taken? Yes / No

GROUNDWATER RECHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is underlain by stratified drift, gravel or sandy soils.	X	
Wetland is *not* underlain by hardpan, impervious soils (e.g., clays and silts) or bedrock	X	
Wetland is associated with a perennial or intermittent watercourse		X
Wetland formed on relatively gentle slopes (e.g., less than 3%)	X	
Wetland is associated with a watercourse but lacks a defined outlet or contains a constricted outlet	X	
Other evidence of groundwater recharge is present (i.e., local water supplies piezometer data, etc.)		

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

GROUNDWATER DISCHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is *not* underlain by stratified drift, gravel or sandy soils.		X
Wetland is underlain by hardpan; impervious, tight grained soils (high clay and/or silt content); or bedrock		X
Wetland formed as a result of seeps or springs		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)		X
Wetland is associated with a watercourse and contains only an outlet, no defined inlet		X
Other evidence of groundwater discharge are present (i.e., water temperature, piezometer data, etc.)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10

Wetland Assessment Area: Wetland #19

Date: 7/18/2016 Weather: Sunny, 90s Photographs Taken? Yes / No

FLOODFLOW ALTERATION

Considerations/Qualifiers	**Yes**	**No**
Area of this wetland is large relative to its watershed		X
Wetland occurs in the upper portions of its watershed and the effective flood storage is small or non-existent upslope of or above the wetland	X	
Wetland watershed contains a high percent of impervious surfaces		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography) or ponding (e.g. sediment deposits or lines)		X
Wetland formed on relatively gentle slopes (e.g., less than 3%).	X	
Wetland located in a floodplain of an adjacent watercourse.		X
Wetland has a constricted outlet.	X	
Wetland contains hydric soils which are able to absorb and detain water.	X	
Watershed has a history of economic loss due to flooding.		X
Associated watercourse, if present, is sinuous or diffuse.	X	
Other evidence of floodflow alteration (Explain below)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

SEDIMENT, POLLUTANT & NUTRIENT REMOVAL

Considerations/Qualifiers	**Yes**	**No**
Wetland saturated for most of the season.	X	
Ponded water (including deep water or open water habitat) is present in the wetland.	X	
Wetland edge is broad and intermittently aerobic.		X
Deep organic/sediment deposits are present	X	
Slowly drained fine grained mineral or organic soils are present.	X	
Alluvial soils present in or immediately adjacent to wetland.	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%).	X	
Water retention/detention time in this wetland is increased by constricted outlet.	X	
Water retention/detention time in this wetland is increased by thick vegetation.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)		X
Other evidence of sediment, pollutant and nutrient removal (Explain below)		

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10

Wetland Assessment Area: Wetland #19

Date: 7/18/2016 Weather: Sunny, 90s Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (PONDS & LAKES)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to pond or lake dominated by forest, shrub and/or meadow community	X	
Shallow littoral zone with emergent vegetation present	X	
Pond or lake is ate least 10 feet deep		X
Pond or lake is covered by more than 15 but less than 40 percent submerged or emergent vegetation	X	
Direct stormwater discharge(s) are few to none and , if present, originate from smaller culverts/outfalls	X	
Sand bars or evidence of stormwater runoff at inlet is absent	X	
Water transparency is high		X
Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent	X	
Pond or lake is greater than 0.5 acre	X	
Dense algal blooms, nuisance aquatic vegetation or duckweed are not or have not historically been observed	X	

Other evidence of finfish habitat (Explain below)

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to stream or river dominated by forest, shrub and/or meadow community		
Channel is shaded by riparian trees or shrubs		
Bank is predominantly vegetated with high cover (e.g. trees and shrubs)		
Barriers to anadromous fish (i.e. dams, including beaver dams, waterfalls, road crossings, etc.) are absent from the stream reach associated with this wetland.		
Dominant bottom substrate is gravel and/or cobbles		
Bottom substrate is embedded with minimal sand and silt		
Diversity of instream habitat (e.g. riffles, runs, shallow pools and deep pools) is high		
Channel alteration (i.e. channelization, islands, point bars, etc.) are few to absent		
Bank is stabilized; Little to no evidence of scour or erosion is present		
Stream or river contains common to many cover objects (i.e, fallen logs, boulders, undercut banks)		

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland #19
Date: 7/18/2016 Weather: Sunny, 90s Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS) (cont'd)

Stream or river is predominantly buffered from other land uses by a vegetated zone greater than 20 feet in width

Direct stormwater discharge(s) are few to none, and, if present, originate from smaller culverts/outfalls

Sand bars or evidence of stormwater runoff at inlet is absent

Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent

Quality of the watercourse associated with this wetland is able to support healthy fish/shellfish

Other evidence of finfish habitat (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

PRODUCTION EXPORT

Considerations/Qualifiers	**Yes**	**No**
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland exhibits high degree of plant community structure/species diversity		X
Evidence of wildlife use found within this wetland.	X	
Fish or shellfish develop or occur in this wetland.		X
Nutrients exported or "flushed" from wetlands to watercourses (permanent outlet present).	X	

Other evidence of production export (Explain below)

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

WILDLIFE HABITAT

Considerations/Qualifiers	**Yes**	**No**
Wetland is not degraded or fragmented by human activity.	X	
Wildlife overland access to other wetlands is present and relatively unfragmented or unimpeded.	X	
More than 40% of this wetland edge is bordered by upland wildlife habitat (e.g., shrub thicket, woodland, farmland, or idle land) at least 500 feet in width.	X	
Wetland is contiguous with other wetland systems connected by a watercourse or lake.	X	
Water quality of the watercourse, pond, or lake associated with this wetland meets or exceeds Class A or B standards.		

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland #19
Date: 7/18/2016 Weather: Sunny, 90s Photographs Taken? Yes / No

WILDLIFE HABITAT (cont'd)

Dominant wetland class includes deep or shallow marsh or wooded swamp.	X	
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Wetland exhibits a high degree of interspersion of vegetation classes (e.g. forest, shrub, emergent marsh, wet meadow, open water).	X	
Two or more islands or inclusions of upland within the wetland are present.		X
Wetland exhibits a high degree of diversity in plant community structure (e.g., tree/shrub/vine/grasses/mosses).	X	
Wetland or watercourse contains numerous and diverse habitat features (e.g., snags, downed woody debris, rocks, seeps/springs, well drained sandy soils).	X	
Evidence of obligate or facultative vernal pool species have been observed in or near the wetland.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography).		X
Dominant vegetation cover type is not composed of invasive or noxious species.	X	

Other evidence wildlife habitat (Explain below).

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

EDUCATIONAL, SCIENTIFIC & RECREATION VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.		X*
Wildlife habitat is a principal function of the wetland	X	
Direct access is available to a perennial watercourse (e.g., stream pond or lake)	X	
Wetland is part of a recreation area, park, forest, or refuge.		X
Hunting and/or fishing is available within or from the wetland.	X	
Hiking occurs or has the potential to occur in the wetland	X	
Off-road public parking available at or near the wetland or watercourse.		X
Wetland is within a short drive or safe walk from highly populated public and private areas.		X
Wetland currently used for educational or scientific purposes.		X
Access to water is available at this potential recreation site for boating, canoeing, or fishing.		X

No known safety hazards exist (If not, explain below).

Other evidence educational, scientific or recreation value (Explain below).

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland #19
Date: 7/18/2016 Weather: Sunny, 90s Photographs Taken? Yes / No
*Wetland is located within 0.2 mile of Natural Heritage Area

UNIQUENESS & HERITAGE VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.		X
Wetland identified as a whole or in part as an exemplary natural community (Explain below)		X
Wetland considered a locally and/or regionally significant (Explain below)		X

Other evidence of uniqueness or heritage values (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

SUMMARY OF FUNCTIONS & VALUES

Function/Value	**Principal Function**	**Secondary Function**
Groundwater Recharge & Discharge	X	
Floodflow Alteration		X
Sediment, Pollutant & Nutrient Removal	X	
Finfish Habitat (Ponds & Lakes)	X	
Finfish Habitat (Streams & Rivers)	N/A	N/A
Production Export	X	
Wildlife Habitat	X	
Educational, Scientific & Recreation Value		X
Uniqueness & Heritage		X

MISCELLANEOUS NOTES & COMMENTS:

Inspector:_____

WETLAND FUNCTION & VALUE ASSESSMENT FIELD FORM

This form has been developed to streamline the function and value assessment process of wetlands and watercourses in the field. The form has largely been developed using the procedure outlined in the U.S. Army Corps of Engineers "Highway Methodology Work Book: Supplement. Wetland Functions and Values: A Descriptive Approach" (1995, NAEEP-360-1-30a). This methodology is a descriptive approach and does not rely upon semi-quantitative numerical models to identify principal functions and values of wetlands and watercourse.

Many of the criteria used as "considerations and qualifiers" are drawn directly from the U.S. Army Corps of Engineers methodology. However, other assessment methods were considered (e.g. Wisc. DNR, 1992, "Rapid Assessment Methodology for Evaluating Wetland functions and Values." and Ammann, et al., 1996,"Method for the Evaluation of Inland Wetlands in Connecticut.") as well professional experience. Each criteria listed is an indicator of that function or value . An affirmative response, therefore, supports the assumptions of a given function or value. Generally, a majority of affirmative responses will indicate that the given function or value is a "principal" function or value. However, the criteria are not weighted and thus it is incumbent upon the inspector to use his or her best professional judgment when identify "principal" functions or values.

Groundwater Recharge & Discharge
The capacity or potential for a wetland to interact with groundwater such that water moves from surface water to ground water (Recharge) or from ground water to surface water (Discharge)

Floodflow Alteration
The storage of inflowing water from storm or flooding events, resulting in detention and retention of water on the wetland surface

Finfish Habitat (Ponds & Lakes)
Considers the quality of the aquatic habitat of a pond or lake, and its capacity to support finfish.

Finfish Habitat (Streams & Rivers)
Considers the quality of the aquatic habitat of a perennial watercourse, and its capacity to support finfish.

Sediment, Pollutant & Nutrient Removal
The capacity of a wetland to remove dissolved, suspended and floatable material from storm water runoff and prevents degradation of water quality.

Production Export
The capacity of a wetland to produce wildlife food sources, or to export biomass that sustains downstream ecosystems and local wildlife populations.

Wildlife Habitat
The capacity of a wetland to support a diverse and abundant wildlife community typically associated with wetland and wetland edges.

Educational, Scientific & Recreation Value
The suitability of a wetland for classroom field trips or scientific research, or to support various recreation activities (e.g., hiking, canoeing, boating, fishing, hunting, bird watching).

Uniqueness & Heritage
The degree to which a wetland is considered a locally or regionally unique natural resource.

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland #20
Date: 7/14/2016 Weather: Overcast, 80◦F Photographs Taken? Yes / No

GROUNDWATER RECHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is underlain by stratified drift, gravel or sandy soils.	X	
Wetland is ***not*** underlain by hardpan, impervious soils (e.g., clays and silts) or bedrock	X	
Wetland is associated with a perennial or intermittent watercourse	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%)	X	
Wetland is associated with a watercourse but lacks a defined outlet or contains a constricted outlet		X
Other evidence of groundwater recharge is present (i.e., local water supplies piezometer data, etc.)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

GROUNDWATER DISCHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is ***not*** underlain by stratified drift, gravel or sandy soils.		X
Wetland is underlain by hardpan; impervious, tight grained soils (high clay and/or silt content); or bedrock		X
Wetland formed as a result of seeps or springs		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)		X
Wetland is associated with a watercourse and contains only an outlet, no defined inlet	X	
Other evidence of groundwater discharge are present (i.e., water temperature, piezometer data, etc.)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland #20
Date: 7/14/2016 Weather: Overcast, 80◦F Photographs Taken? Yes / No

FLOODFLOW ALTERATION

Considerations/Qualifiers	**Yes**	**No**
Area of this wetland is large relative to its watershed		X
Wetland occurs in the upper portions of its watershed and the effective flood storage is small or non-existent upslope of or above the wetland	X	
Wetland watershed contains a high percent of impervious surfaces		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography) or ponding (e.g. sediment deposits or lines)		X
Wetland formed on relatively gentle slopes (e.g., less than 3%).	X	
Wetland located in a floodplain of an adjacent watercourse.		X
Wetland has a constricted outlet.	X	
Wetland contains hydric soils which are able to absorb and detain water.	X	
Watershed has a history of economic loss due to flooding.		X
Associated watercourse, if present, is sinuous or diffuse.		X
Other evidence of floodflow alteration (Explain below)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

SEDIMENT, POLLUTANT & NUTRIENT REMOVAL

Considerations/Qualifiers	**Yes**	**No**
Wetland saturated for most of the season.	X	
Ponded water (including deep water or open water habitat) is present in the wetland.	X	
Wetland edge is broad and intermittently aerobic.	X	
Deep organic/sediment deposits are present	X	
Slowly drained fine grained mineral or organic soils are present.	X	
Alluvial soils present in or immediately adjacent to wetland.		X
Wetland formed on relatively gentle slopes (e.g., less than 3%).	X	
Water retention/detention time in this wetland is increased by constricted outlet.	X	
Water retention/detention time in this wetland is increased by thick vegetation.		X
Emergent vegetation and/or dense woody stems are dominant.		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)		X
Other evidence of sediment, pollutant and nutrient removal (Explain below)		

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland #20
Date: 7/14/2016 Weather: Overcast, 80◦F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (PONDS & LAKES)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to pond or lake dominated by forest, shrub and/or meadow community		X
Shallow littoral zone with emergent vegetation present	X	
Pond or lake is ate least 10 feet deep	X*	
Pond or lake is covered by more than 15 but less than 40 percent submerged or emergent vegetation		X
Direct stormwater discharge(s) are few to none and , if present, originate from smaller culverts/outfalls		
Sand bars or evidence of stormwater runoff at inlet is absent		X
Water transparency is high		X
Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent	X*	
Pond or lake is greater than 0.5 acre	X	
Dense algal blooms, nuisance aquatic vegetation or duckweed are not or have not historically been observed		X
Other evidence of finfish habitat (Explain below)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:
*****Estimated due to lack of rooted aquatic vegetation on majority of pond surface. Wetland is bordered by railroad and agriculture fields along entire eastern edge.

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to stream or river dominated by forest, shrub and/or meadow community		
Channel is shaded by riparian trees or shrubs		
Bank is predominantly vegetated with high cover (e.g. trees and shrubs)		
Barriers to anadromous fish (i.e. dams, including beaver dams, waterfalls, road crossings, etc.) are absent from the stream reach associated with this wetland.		
Dominant bottom substrate is gravel and/or cobbles		
Bottom substrate is embedded with minimal sand and silt		
Diversity of instream habitat (e.g. riffles, runs, shallow pools and deep pools) is high		
Channel alteration (i.e. channelization, islands, point bars, etc.) are few to absent		
Bank is stabilized; Little to no evidence of scour or erosion is present		
Stream or river contains common to many cover objects (i.e, fallen logs, boulders, undercut banks)		

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland #20
Date: 7/14/2016 Weather: Overcast, 80◦F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS) (cont'd)

Stream or river is predominantly buffered from other land uses by a vegetated zone greater than 20 feet in width

Direct stormwater discharge(s) are few to none, and, if present, originate from smaller culverts/outfalls

Sand bars or evidence of stormwater runoff at inlet is absent

Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent

Quality of the watercourse associated with this wetland is able to support healthy fish/shellfish

Other evidence of finfish habitat (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

PRODUCTION EXPORT

Considerations/Qualifiers	**Yes**	**No**
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Emergent vegetation and/or dense woody stems are dominant.		X
Wetland exhibits high degree of plant community structure/species diversity	X	
Evidence of wildlife use found within this wetland.	X	
Fish or shellfish develop or occur in this wetland.		X
Nutrients exported or "flushed" from wetlands to watercourses (permanent outlet present).	X	

Other evidence of production export (Explain below)

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

WILDLIFE HABITAT

Considerations/Qualifiers	**Yes**	**No**
Wetland is not degraded or fragmented by human activity.		X
Wildlife overland access to other wetlands is present and relatively unfragmented or unimpeded.		X
More than 40% of this wetland edge is bordered by upland wildlife habitat (e.g., shrub thicket, woodland, farmland, or idle land) at least 500 feet in width.		X
Wetland is contiguous with other wetland systems connected by a watercourse or lake.		X
Water quality of the watercourse, pond, or lake associated with this wetland meets or exceeds Class A or B standards.		

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland #20
Date: 7/14/2016 Weather: Overcast, 80◦F Photographs Taken? Yes / No

WILDLIFE HABITAT (cont'd)

Dominant wetland class includes deep or shallow marsh or wooded swamp.		X
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Wetland exhibits a high degree of interspersion of vegetation classes (e.g. forest, shrub, emergent marsh, wet meadow, open water).		X
Two or more islands or inclusions of upland within the wetland are present.		X
Wetland exhibits a high degree of diversity in plant community structure (e.g., tree/shrub/vine/grasses/mosses).	X	
Wetland or watercourse contains numerous and diverse habitat features (e.g., snags, downed woody debris, rocks, seeps/springs, well drained sandy soils).		X
Evidence of obligate or facultative vernal pool species have been observed in or near the wetland.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography).		X
Dominant vegetation cover type is not composed of invasive or noxious species.		X

Other evidence wildlife habitat (Explain below).

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

EDUCATIONAL, SCIENTIFIC & RECREATION VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.		X
Wildlife habitat is a principal function of the wetland		X
Direct access is available to a perennial watercourse (e.g., stream pond or lake)	X	
Wetland is part of a recreation area, park, forest, or refuge.		X
Hunting and/or fishing is available within or from the wetland.		X
Hiking occurs or has the potential to occur in the wetland		X
Off-road public parking available at or near the wetland or watercourse.	X	
Wetland is within a short drive or safe walk from highly populated public and private areas.	X	
Wetland currently used for educational or scientific purposes.		X
Access to water is available at this potential recreation site for boating, canoeing, or fishing.	X	

No known safety hazards exist (If not, explain below).

Other evidence educational, scientific or recreation value (Explain below).

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland #20
Date: 7/14/2016 Weather: Overcast, 80◦F Photographs Taken? Yes / No

UNIQUENESS & HERITAGE VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.		X
Wetland identified as a whole or in part as an exemplary natural community (Explain below)		X
Wetland considered a locally and/or regionally significant (Explain below)		X

Other evidence of uniqueness or heritage values (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

SUMMARY OF FUNCTIONS & VALUES

Function/Value	**Principal Function**	**Secondary Function**
Groundwater Recharge & Discharge		X
Floodflow Alteration		X
Sediment, Pollutant & Nutrient Removal	X	
Finfish Habitat (Ponds & Lakes)		X
Finfish Habitat (Streams & Rivers)	N/A	N/A
Production Export	X	
Wildlife Habitat		X
Educational, Scientific & Recreation Value		X
Uniqueness & Heritage		X

MISCELLANEOUS NOTES & COMMENTS:
Surrounded by residential neighborhoods, agricultural fields and train tracks.

Inspector:_____

WETLAND FUNCTION & VALUE ASSESSMENT FIELD FORM

This form has been developed to streamline the function and value assessment process of wetlands and watercourses in the field. The form has largely been developed using the procedure outlined in the U.S. Army Corps of Engineers "Highway Methodology Work Book: Supplement. Wetland Functions and Values: A Descriptive Approach" (1995, NAEEP-360-1-30a). This methodology is a descriptive approach and does not rely upon semi-quantitative numerical models to identify principal functions and values of wetlands and watercourse.

Many of the criteria used as "considerations and qualifiers" are drawn directly from the U.S. Army Corps of Engineers methodology. However, other assessment methods were considered (e.g. Wisc. DNR, 1992, "Rapid Assessment Methodology for Evaluating Wetland functions and Values." and Ammann, et al., 1996,"Method for the Evaluation of Inland Wetlands in Connecticut.") as well professional experience. Each criteria listed is an indicator of that function or value . An affirmative response, therefore, supports the assumptions of a given function or value. Generally, a majority of affirmative responses will indicate that the given function or value is a "principal" function or value. However, the criteria are not weighted and thus it is incumbent upon the inspector to use his or her best professional judgment when identify "principal" functions or values.

Groundwater Recharge & Discharge
The capacity or potential for a wetland to interact with groundwater such that water moves from surface water to ground water (Recharge) or from ground water to surface water (Discharge)

Floodflow Alteration
The storage of inflowing water from storm or flooding events, resulting in detention and retention of water on the wetland surface

Finfish Habitat (Ponds & Lakes)
Considers the quality of the aquatic habitat of a pond or lake, and its capacity to support finfish.

Finfish Habitat (Streams & Rivers)
Considers the quality of the aquatic habitat of a perennial watercourse, and its capacity to support finfish.

Sediment, Pollutant & Nutrient Removal
The capacity of a wetland to remove dissolved, suspended and floatable material from storm water runoff and prevents degradation of water quality.

Production Export
The capacity of a wetland to produce wildlife food sources, or to export biomass that sustains downstream ecosystems and local wildlife populations.

Wildlife Habitat
The capacity of a wetland to support a diverse and abundant wildlife community typically associated with wetland and wetland edges.

Educational, Scientific & Recreation Value
The suitability of a wetland for classroom field trips or scientific research, or to support various recreation activities (e.g., hiking, canoeing, boating, fishing, hunting, bird watching).

Uniqueness & Heritage
The degree to which a wetland is considered a locally or regionally unique natural resource.

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10

Wetland Assessment Area: Wetland #21

Date: 7/14/2016 Weather: Overcast, 80◦F Photographs Taken? Yes / No

GROUNDWATER RECHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is underlain by stratified drift, gravel or sandy soils.	X	
Wetland is *not* underlain by hardpan, impervious soils (e.g., clays and silts) or bedrock		X
Wetland is associated with a perennial or intermittent watercourse	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%)	X	
Wetland is associated with a watercourse but lacks a defined outlet or contains a constricted outlet	X	
Other evidence of groundwater recharge is present (i.e., local water supplies piezometer data, etc.)		

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

GROUNDWATER DISCHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is *not* underlain by stratified drift, gravel or sandy soils.		X
Wetland is underlain by hardpan; impervious, tight grained soils (high clay and/or silt content); or bedrock	X	
Wetland formed as a result of seeps or springs		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)		X
Wetland is associated with a watercourse and contains only an outlet, no defined inlet		X
Other evidence of groundwater discharge are present (i.e., water temperature, piezometer data, etc.)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10

Wetland Assessment Area: Wetland #21

Date: 7/14/2016 Weather: Overcast, 80◦F Photographs Taken? Yes / No

FLOODFLOW ALTERATION

Considerations/Qualifiers	**Yes**	**No**
Area of this wetland is large relative to its watershed		X
Wetland occurs in the upper portions of its watershed and the effective flood storage is small or non-existent upslope of or above the wetland	X	
Wetland watershed contains a high percent of impervious surfaces		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography) or ponding (e.g. sediment deposits or lines)		X
Wetland formed on relatively gentle slopes (e.g., less than 3%).	X	
Wetland located in a floodplain of an adjacent watercourse.		X
Wetland has a constricted outlet.	X	
Wetland contains hydric soils which are able to absorb and detain water.	X	
Watershed has a history of economic loss due to flooding.		X
Associated watercourse, if present, is sinuous or diffuse.	X	
Other evidence of floodflow alteration (Explain below)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

SEDIMENT, POLLUTANT & NUTRIENT REMOVAL

Considerations/Qualifiers	**Yes**	**No**
Wetland saturated for most of the season.	X	
Ponded water (including deep water or open water habitat) is present in the wetland.	X	
Wetland edge is broad and intermittently aerobic.	X	
Deep organic/sediment deposits are present	X	
Slowly drained fine grained mineral or organic soils are present.	X	
Alluvial soils present in or immediately adjacent to wetland.	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%).	X	
Water retention/detention time in this wetland is increased by constricted outlet.	X	
Water retention/detention time in this wetland is increased by thick vegetation.		X
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)		X
Other evidence of sediment, pollutant and nutrient removal (Explain below)		

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland #21
Date: 7/14/2016 Weather: Overcast, 80◦F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (PONDS & LAKES)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to pond or lake dominated by forest, shrub and/or meadow community		X
Shallow littoral zone with emergent vegetation present	X	
Pond or lake is ate least 10 feet deep		X*
Pond or lake is covered by more than 15 but less than 40 percent submerged or emergent vegetation	X	
Direct stormwater discharge(s) are few to none and , if present, originate from smaller culverts/outfalls	X	
Sand bars or evidence of stormwater runoff at inlet is absent	X	
Water transparency is high		X
Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent		X
Pond or lake is greater than 0.5 acre	X	
Dense algal blooms, nuisance aquatic vegetation or duckweed are not or have not historically been observed		X

Other evidence of finfish habitat (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:
*Estimated due to presence of pond lilies and other rooted aquatic vegetation visible on surface. Wetland is entirely bordered by ag/turf fields along the north edge.

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to stream or river dominated by forest, shrub and/or meadow community		
Channel is shaded by riparian trees or shrubs		
Bank is predominantly vegetated with high cover (e.g. trees and shrubs)		
Barriers to anadromous fish (i.e. dams, including beaver dams, waterfalls, road crossings, etc.) are absent from the stream reach associated with this wetland.		
Dominant bottom substrate is gravel and/or cobbles		
Bottom substrate is embedded with minimal sand and silt		
Diversity of instream habitat (e.g. riffles, runs, shallow pools and deep pools) is high		
Channel alteration (i.e. channelization, islands, point bars, etc.) are few to absent		
Bank is stabilized; Little to no evidence of scour or erosion is present		
Stream or river contains common to many cover objects (i.e, fallen logs, boulders, undercut banks)		

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland #21
Date: 7/14/2016 Weather: Overcast, 80◦F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS) (cont'd)

Stream or river is predominantly buffered from other land uses by a vegetated zone greater than 20 feet in width

Direct stormwater discharge(s) are few to none, and, if present, originate from smaller culverts/outfalls

Sand bars or evidence of stormwater runoff at inlet is absent

Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent

Quality of the watercourse associated with this wetland is able to support healthy fish/shellfish

Other evidence of finfish habitat (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

PRODUCTION EXPORT

Considerations/Qualifiers	**Yes**	**No**
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland exhibits high degree of plant community structure/species diversity	X	
Evidence of wildlife use found within this wetland.	X	
Fish or shellfish develop or occur in this wetland.	X	
Nutrients exported or "flushed" from wetlands to watercourses (permanent outlet present).	X	

Other evidence of production export (Explain below)

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

WILDLIFE HABITAT

Considerations/Qualifiers	**Yes**	**No**
Wetland is not degraded or fragmented by human activity.		X
Wildlife overland access to other wetlands is present and relatively unfragmented or unimpeded.		X
More than 40% of this wetland edge is bordered by upland wildlife habitat (e.g., shrub thicket, woodland, farmland, or idle land) at least 500 feet in width.	X	
Wetland is contiguous with other wetland systems connected by a watercourse or lake.		X
Water quality of the watercourse, pond, or lake associated with this wetland meets or exceeds Class A or B standards.		

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland #21
Date: 7/14/2016 Weather: Overcast, 80◦F Photographs Taken? Yes / No

WILDLIFE HABITAT (cont'd)

Dominant wetland class includes deep or shallow marsh or wooded swamp.	X	
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Wetland exhibits a high degree of interspersion of vegetation classes (e.g. forest, shrub, emergent marsh, wet meadow, open water).		X
Two or more islands or inclusions of upland within the wetland are present.		X
Wetland exhibits a high degree of diversity in plant community structure (e.g., tree/shrub/vine/grasses/mosses).	X	
Wetland or watercourse contains numerous and diverse habitat features (e.g., snags, downed woody debris, rocks, seeps/springs, well drained sandy soils).		X
Evidence of obligate or facultative vernal pool species have been observed in or near the wetland.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography).		X
Dominant vegetation cover type is not composed of invasive or noxious species.		X

Other evidence wildlife habitat (Explain below).

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

EDUCATIONAL, SCIENTIFIC & RECREATION VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.		X
Wildlife habitat is a principal function of the wetland		X
Direct access is available to a perennial watercourse (e.g., stream pond or lake)	X	
Wetland is part of a recreation area, park, forest, or refuge.		X
Hunting and/or fishing is available within or from the wetland.		X
Hiking occurs or has the potential to occur in the wetland		X
Off-road public parking available at or near the wetland or watercourse.	X	
Wetland is within a short drive or safe walk from highly populated public and private areas.	X	
Wetland currently used for educational or scientific purposes.		X
Access to water is available at this potential recreation site for boating, canoeing, or fishing.		X

No known safety hazards exist (If not, explain below).

Other evidence educational, scientific or recreation value (Explain below).

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland #21
Date: 7/14/2016 Weather: Overcast, 80◦F Photographs Taken? Yes / No

UNIQUENESS & HERITAGE VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.		X
Wetland identified as a whole or in part as an exemplary natural community (Explain below)		X
Wetland considered a locally and/or regionally significant (Explain below)		X

Other evidence of uniqueness or heritage values (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

SUMMARY OF FUNCTIONS & VALUES

Function/Value	**Principal Function**	**Secondary Function**
Groundwater Recharge & Discharge	X	
Floodflow Alteration		X
Sediment, Pollutant & Nutrient Removal	X	
Finfish Habitat (Ponds & Lakes)		X
Finfish Habitat (Streams & Rivers)	N/A	N/A
Production Export	X	
Wildlife Habitat		X
Educational, Scientific & Recreation Value		X
Uniqueness & Heritage		X

MISCELLANEOUS NOTES & COMMENTS:
Surrounded by residential neighborhoods, train tracks and agricultural fields.

Inspector:_____

WETLAND FUNCTION & VALUE ASSESSMENT FIELD FORM

This form has been developed to streamline the function and value assessment process of wetlands and watercourses in the field. The form has largely been developed using the procedure outlined in the U.S. Army Corps of Engineers "Highway Methodology Work Book: Supplement. Wetland Functions and Values: A Descriptive Approach" (1995, NAEEP-360-1-30a). This methodology is a descriptive approach and does not rely upon semi-quantitative numerical models to identify principal functions and values of wetlands and watercourse.

Many of the criteria used as "considerations and qualifiers" are drawn directly from the U.S. Army Corps of Engineers methodology. However, other assessment methods were considered (e.g. Wisc. DNR, 1992, "Rapid Assessment Methodology for Evaluating Wetland functions and Values." and Ammann, et al., 1996,"Method for the Evaluation of Inland Wetlands in Connecticut.") as well professional experience. Each criteria listed is an indicator of that function or value . An affirmative response, therefore, supports the assumptions of a given function or value. Generally, a majority of affirmative responses will indicate that the given function or value is a "principal" function or value. However, the criteria are not weighted and thus it is incumbent upon the inspector to use his or her best professional judgment when identify "principal" functions or values.

Groundwater Recharge & Discharge
The capacity or potential for a wetland to interact with groundwater such that water moves from surface water to ground water (Recharge) or from ground water to surface water (Discharge)

Floodflow Alteration
The storage of inflowing water from storm or flooding events, resulting in detention and retention of water on the wetland surface

Finfish Habitat (Ponds & Lakes)
Considers the quality of the aquatic habitat of a pond or lake, and its capacity to support finfish.

Finfish Habitat (Streams & Rivers)
Considers the quality of the aquatic habitat of a perennial watercourse, and its capacity to support finfish.

Sediment, Pollutant & Nutrient Removal
The capacity of a wetland to remove dissolved, suspended and floatable material from storm water runoff and prevents degradation of water quality.

Production Export
The capacity of a wetland to produce wildlife food sources, or to export biomass that sustains downstream ecosystems and local wildlife populations.

Wildlife Habitat
The capacity of a wetland to support a diverse and abundant wildlife community typically associated with wetland and wetland edges.

Educational, Scientific & Recreation Value
The suitability of a wetland for classroom field trips or scientific research, or to support various recreation activities (e.g., hiking, canoeing, boating, fishing, hunting, bird watching).

Uniqueness & Heritage
The degree to which a wetland is considered a locally or regionally unique natural resource.

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:2011470.B10
Wetland Assessment Area: Wetland #22
Date: 7/15/2016 Weather: Sunny, 80°F Photographs Taken? Yes / No

GROUNDWATER RECHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is underlain by stratified drift, gravel or sandy soils.	X	
Wetland is *not* underlain by hardpan, impervious soils (e.g., clays and silts) or bedrock	X	
Wetland is associated with a perennial or intermittent watercourse	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%)	X	
Wetland is associated with a watercourse but lacks a defined outlet or contains a constricted outlet		X
Other evidence of groundwater recharge is present (i.e., local water supplies piezometer data, etc.)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

GROUNDWATER DISCHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is *not* underlain by stratified drift, gravel or sandy soils.		X
Wetland is underlain by hardpan; impervious, tight grained soils (high clay and/or silt content); or bedrock		X
Wetland formed as a result of seeps or springs		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)	X	
Wetland is associated with a watercourse and contains only an outlet, no defined inlet		X
Other evidence of groundwater discharge are present (i.e., water temperature, piezometer data, etc.)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:2011470.B10
Wetland Assessment Area: Wetland #22
Date: 7/15/2016 Weather: Sunny, 80°F Photographs Taken? Yes / No

FLOODFLOW ALTERATION

Considerations/Qualifiers	**Yes**	**No**
Area of this wetland is large relative to its watershed		X
Wetland occurs in the upper portions of its watershed and the effective flood storage is small or non-existent upslope of or above the wetland		X
Wetland watershed contains a high percent of impervious surfaces		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography) or ponding (e.g. sediment deposits or lines)	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%).	X	
Wetland located in a floodplain of an adjacent watercourse.	X	
Wetland has a constricted outlet.		X
Wetland contains hydric soils which are able to absorb and detain water.	X	
Watershed has a history of economic loss due to flooding.		X
Associated watercourse, if present, is sinuous or diffuse.	X	
Other evidence of floodflow alteration (Explain below)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

SEDIMENT, POLLUTANT & NUTRIENT REMOVAL

Considerations/Qualifiers	**Yes**	**No**
Wetland saturated for most of the season.	X	
Ponded water (including deep water or open water habitat) is present in the wetland.	X	
Wetland edge is broad and intermittently aerobic.	X	
Deep organic/sediment deposits are present	X	
Slowly drained fine grained mineral or organic soils are present.	X	
Alluvial soils present in or immediately adjacent to wetland.	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%).	X	
Water retention/detention time in this wetland is increased by constricted outlet.		X
Water retention/detention time in this wetland is increased by thick vegetation.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)	X	
Other evidence of sediment, pollutant and nutrient removal (Explain below)		

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:2011470.B10

Wetland Assessment Area: Wetland #22

Date: 7/15/2016 Weather: Sunny, 80°F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (PONDS & LAKES)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to pond or lake dominated by forest, shrub and/or meadow community	X	
Shallow littoral zone with emergent vegetation present	X	
Pond or lake is ate least 10 feet deep		X*
Pond or lake is covered by more than 15 but less than 40 percent submerged or emergent vegetation		X
Direct stormwater discharge(s) are few to none and , if present, originate from smaller culverts/outfalls		X
Sand bars or evidence of stormwater runoff at inlet is absent		X
Water transparency is high		X
Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent		X
Pond or lake is greater than 0.5 acre	X	
Dense algal blooms, nuisance aquatic vegetation or duckweed are not or have not historically been observed		X
Other evidence of finfish habitat (Explain below)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:
*Estimated due to presence of pond lilies and other rooted vegetation on pond surface

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to stream or river dominated by forest, shrub and/or meadow community		
Channel is shaded by riparian trees or shrubs		
Bank is predominantly vegetated with high cover (e.g. trees and shrubs)		
Barriers to anadromous fish (i.e. dams, including beaver dams, waterfalls, road crossings, etc.) are absent from the stream reach associated with this wetland.		
Dominant bottom substrate is gravel and/or cobbles		
Bottom substrate is embedded with minimal sand and silt		
Diversity of instream habitat (e.g. riffles, runs, shallow pools and deep pools) is high		
Channel alteration (i.e. channelization, islands, point bars, etc.) are few to absent		
Bank is stabilized; Little to no evidence of scour or erosion is present		
Stream or river contains common to many cover objects (i.e, fallen logs, boulders, undercut banks)		

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:2011470.B10
Wetland Assessment Area: Wetland #22
Date: 7/15/2016 Weather: Sunny, 80°F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS) (cont'd)

Stream or river is predominantly buffered from other land uses by a vegetated zone greater than 20 feet in width

Direct stormwater discharge(s) are few to none, and, if present, originate from smaller culverts/outfalls

Sand bars or evidence of stormwater runoff at inlet is absent

Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent

Quality of the watercourse associated with this wetland is able to support healthy fish/shellfish

Other evidence of finfish habitat (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

PRODUCTION EXPORT

Considerations/Qualifiers	**Yes**	**No**
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland exhibits high degree of plant community structure/species diversity	X	
Evidence of wildlife use found within this wetland.	X	
Fish or shellfish develop or occur in this wetland.		X
Nutrients exported or "flushed" from wetlands to watercourses (permanent outlet present).	X	

Other evidence of production export (Explain below)

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

WILDLIFE HABITAT

Considerations/Qualifiers	**Yes**	**No**
Wetland is not degraded or fragmented by human activity.	X	
Wildlife overland access to other wetlands is present and relatively unfragmented or unimpeded.	X	
More than 40% of this wetland edge is bordered by upland wildlife habitat (e.g., shrub thicket, woodland, farmland, or idle land) at least 500 feet in width.	X	
Wetland is contiguous with other wetland systems connected by a watercourse or lake.	X	
Water quality of the watercourse, pond, or lake associated with this wetland meets or exceeds Class A or B standards.		

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:2011470.B10
Wetland Assessment Area: Wetland #22
Date: 7/15/2016 Weather: Sunny, 80°F Photographs Taken? Yes / No

WILDLIFE HABITAT (cont'd)

Dominant wetland class includes deep or shallow marsh or wooded swamp.	X	
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Wetland exhibits a high degree of interspersion of vegetation classes (e.g. forest, shrub, emergent marsh, wet meadow, open water).	X	
Two or more islands or inclusions of upland within the wetland are present.		X
Wetland exhibits a high degree of diversity in plant community structure (e.g., tree/shrub/vine/grasses/mosses).	X	
Wetland or watercourse contains numerous and diverse habitat features (e.g., snags, downed woody debris, rocks, seeps/springs, well drained sandy soils).	X	
Evidence of obligate or facultative vernal pool species have been observed in or near the wetland.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography).	X	
Dominant vegetation cover type is not composed of invasive or noxious species.	X	

Other evidence wildlife habitat (Explain below).

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

EDUCATIONAL, SCIENTIFIC & RECREATION VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.	X*	
Wildlife habitat is a principal function of the wetland	X	
Direct access is available to a perennial watercourse (e.g., stream pond or lake)	X	
Wetland is part of a recreation area, park, forest, or refuge.	X	
Hunting and/or fishing is available within or from the wetland.	X	
Hiking occurs or has the potential to occur in the wetland	X	
Off-road public parking available at or near the wetland or watercourse.		X
Wetland is within a short drive or safe walk from highly populated public and private areas.		X
Wetland currently used for educational or scientific purposes.		X
Access to water is available at this potential recreation site for boating, canoeing, or fishing.		X

No known safety hazards exist (If not, explain below).

Other evidence educational, scientific or recreation value (Explain below).

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:2011470.B10
Wetland Assessment Area: Wetland #22
Date: 7/15/2016 Weather: Sunny, 80°F Photographs Taken? Yes / No
*Wetland is located within a Natural Heritage Area according to RIGIS

UNIQUENESS & HERITAGE VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.	X*	
Wetland identified as a whole or in part as an exemplary natural community (Explain below)		X
Wetland considered a locally and/or regionally significant (Explain below)	X	

Other evidence of uniqueness or heritage values (Explain below)

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:
*Wetland is located within a Natural Heritage Area according to RIGIS. Wetland is located in a regulated hunting area.

SUMMARY OF FUNCTIONS & VALUES

Function/Value	**Principal Function**	**Secondary Function**
Groundwater Recharge & Discharge		X
Floodflow Alteration		X
Sediment, Pollutant & Nutrient Removal	X	
Finfish Habitat (Ponds & Lakes)		X
Finfish Habitat (Streams & Rivers)	N/A	N/A
Production Export	X	
Wildlife Habitat	X	
Educational, Scientific & Recreation Value	X	
Uniqueness & Heritage	X	

MISCELLANEOUS NOTES & COMMENTS:
Surrounded by forest. May be able to expend open water area to south/southwest.

Inspector:_____

WETLAND FUNCTION & VALUE ASSESSMENT FIELD FORM

This form has been developed to streamline the function and value assessment process of wetlands and watercourses in the field. The form has largely been developed using the procedure outlined in the U.S. Army Corps of Engineers "Highway Methodology Work Book: Supplement. Wetland Functions and Values: A Descriptive Approach" (1995, NAEEP-360-1-30a). This methodology is a descriptive approach and does not rely upon semi-quantitative numerical models to identify principal functions and values of wetlands and watercourse.

Many of the criteria used as "considerations and qualifiers" are drawn directly from the U.S. Army Corps of Engineers methodology. However, other assessment methods were considered (e.g. Wisc. DNR, 1992, "Rapid Assessment Methodology for Evaluating Wetland functions and Values." and Ammann, et al., 1996,"Method for the Evaluation of Inland Wetlands in Connecticut.") as well professional experience. Each criteria listed is an indicator of that function or value . An affirmative response, therefore, supports the assumptions of a given function or value. Generally, a majority of affirmative responses will indicate that the given function or value is a "principal" function or value. However, the criteria are not weighted and thus it is incumbent upon the inspector to use his or her best professional judgment when identify "principal" functions or values.

Groundwater Recharge & Discharge
The capacity or potential for a wetland to interact with groundwater such that water moves from surface water to ground water (Recharge) or from ground water to surface water (Discharge)

Floodflow Alteration
The storage of inflowing water from storm or flooding events, resulting in detention and retention of water on the wetland surface

Finfish Habitat (Ponds & Lakes)
Considers the quality of the aquatic habitat of a pond or lake, and its capacity to support finfish.

Finfish Habitat (Streams & Rivers)
Considers the quality of the aquatic habitat of a perennial watercourse, and its capacity to support finfish.

Sediment, Pollutant & Nutrient Removal
The capacity of a wetland to remove dissolved, suspended and floatable material from storm water runoff and prevents degradation of water quality.

Production Export
The capacity of a wetland to produce wildlife food sources, or to export biomass that sustains downstream ecosystems and local wildlife populations.

Wildlife Habitat
The capacity of a wetland to support a diverse and abundant wildlife community typically associated with wetland and wetland edges.

Educational, Scientific & Recreation Value
The suitability of a wetland for classroom field trips or scientific research, or to support various recreation activities (e.g., hiking, canoeing, boating, fishing, hunting, bird watching).

Uniqueness & Heritage
The degree to which a wetland is considered a locally or regionally unique natural resource.

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10
Wetland Assessment Area: Wetland #23
Date: 7/14/2016 Weather: Overcast, 80◦F Photographs Taken? Yes / No

GROUNDWATER RECHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is underlain by stratified drift, gravel or sandy soils.	X	
Wetland is ***not*** underlain by hardpan, impervious soils (e.g., clays and silts) or bedrock	X	
Wetland is associated with a perennial or intermittent watercourse		X
Wetland formed on relatively gentle slopes (e.g., less than 3%)	X	
Wetland is associated with a watercourse but lacks a defined outlet or contains a constricted outlet		X
Other evidence of groundwater recharge is present (i.e., local water supplies piezometer data, etc.)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

GROUNDWATER DISCHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is ***not*** underlain by stratified drift, gravel or sandy soils.		X
Wetland is underlain by hardpan; impervious, tight grained soils (high clay and/or silt content); or bedrock		X
Wetland formed as a result of seeps or springs		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)		X
Wetland is associated with a watercourse and contains only an outlet, no defined inlet		X
Other evidence of groundwater discharge are present (i.e., water temperature, piezometer data, etc.)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10

Wetland Assessment Area: Wetland #23

Date: 7/14/2016 Weather: Overcast, 80◦F Photographs Taken? Yes / No

FLOODFLOW ALTERATION

Considerations/Qualifiers	**Yes**	**No**
Area of this wetland is large relative to its watershed		X
Wetland occurs in the upper portions of its watershed and the effective flood storage is small or non-existent upslope of or above the wetland		X
Wetland watershed contains a high percent of impervious surfaces		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography) or ponding (e.g. sediment deposits or lines)		X
Wetland formed on relatively gentle slopes (e.g., less than 3%).	X	
Wetland located in a floodplain of an adjacent watercourse.	X	
Wetland has a constricted outlet.		X
Wetland contains hydric soils which are able to absorb and detain water.	X	
Watershed has a history of economic loss due to flooding.		X
Associated watercourse, if present, is sinuous or diffuse.		X

Other evidence of floodflow alteration (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

SEDIMENT, POLLUTANT & NUTRIENT REMOVAL

Considerations/Qualifiers	**Yes**	**No**
Wetland saturated for most of the season.	X	
Ponded water (including deep water or open water habitat) is present in the wetland.	X	
Wetland edge is broad and intermittently aerobic.		X
Deep organic/sediment deposits are present	X	
Slowly drained fine grained mineral or organic soils are present.	X	
Alluvial soils present in or immediately adjacent to wetland.	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%).	X	
Water retention/detention time in this wetland is increased by constricted outlet.		X
Water retention/detention time in this wetland is increased by thick vegetation.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)		X

Other evidence of sediment, pollutant and nutrient removal (Explain below)

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10
Wetland Assessment Area: Wetland #23
Date: 7/14/2016 Weather: Overcast, 80◦F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (PONDS & LAKES)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to pond or lake dominated by forest, shrub and/or meadow community	X	
Shallow littoral zone with emergent vegetation present	X	
Pond or lake is ate least 10 feet deep	X*	
Pond or lake is covered by more than 15 but less than 40 percent submerged or emergent vegetation	X	
Direct stormwater discharge(s) are few to none and , if present, originate from smaller culverts/outfalls		X
Sand bars or evidence of stormwater runoff at inlet is absent		X
Water transparency is high		X
Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent		X
Pond or lake is greater than 0.5 acre	X	
Dense algal blooms, nuisance aquatic vegetation or duckweed are not or have not historically been observed		X
Other evidence of finfish habitat (Explain below)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:
*Estimated due to lack of pond lilies/other rooted aquatic plants visible on majority of pond surface

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to stream or river dominated by forest, shrub and/or meadow community		
Channel is shaded by riparian trees or shrubs		
Bank is predominantly vegetated with high cover (e.g. trees and shrubs)		
Barriers to anadromous fish (i.e. dams, including beaver dams, waterfalls, road crossings, etc.) are absent from the stream reach associated with this wetland.		
Dominant bottom substrate is gravel and/or cobbles		
Bottom substrate is embedded with minimal sand and silt		
Diversity of instream habitat (e.g. riffles, runs, shallow pools and deep pools) is high		
Channel alteration (i.e. channelization, islands, point bars, etc.) are few to absent		
Bank is stabilized; Little to no evidence of scour or erosion is present		
Stream or river contains common to many cover objects (i.e, fallen logs, boulders, undercut banks)		

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10
Wetland Assessment Area: Wetland #23
Date: 7/14/2016 Weather: Overcast, 80◦F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS) (cont'd)

Stream or river is predominantly buffered from other land uses by a vegetated zone greater than 20 feet in width

Direct stormwater discharge(s) are few to none, and, if present, originate from smaller culverts/outfalls

Sand bars or evidence of stormwater runoff at inlet is absent

Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent

Quality of the watercourse associated with this wetland is able to support healthy fish/shellfish

Other evidence of finfish habitat (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

PRODUCTION EXPORT

Considerations/Qualifiers	**Yes**	**No**
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland exhibits high degree of plant community structure/species diversity	X	
Evidence of wildlife use found within this wetland.	X	
Fish or shellfish develop or occur in this wetland.	X	
Nutrients exported or "flushed" from wetlands to watercourses (permanent outlet present).	X	

Other evidence of production export (Explain below)

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

WILDLIFE HABITAT

Considerations/Qualifiers	**Yes**	**No**
Wetland is not degraded or fragmented by human activity.	X	
Wildlife overland access to other wetlands is present and relatively unfragmented or unimpeded.		X
More than 40% of this wetland edge is bordered by upland wildlife habitat (e.g., shrub thicket, woodland, farmland, or idle land) at least 500 feet in width.	X	
Wetland is contiguous with other wetland systems connected by a watercourse or lake.	X	
Water quality of the watercourse, pond, or lake associated with this wetland meets or exceeds Class A or B standards.		

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10
Wetland Assessment Area: Wetland #23
Date: 7/14/2016 Weather: Overcast, 80◦F Photographs Taken? Yes / No

WILDLIFE HABITAT (cont'd)

Dominant wetland class includes deep or shallow marsh or wooded swamp.	X	
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Wetland exhibits a high degree of interspersion of vegetation classes (e.g. forest, shrub, emergent marsh, wet meadow, open water).	X	
Two or more islands or inclusions of upland within the wetland are present.		X
Wetland exhibits a high degree of diversity in plant community structure (e.g., tree/shrub/vine/grasses/mosses).	X	
Wetland or watercourse contains numerous and diverse habitat features (e.g., snags, downed woody debris, rocks, seeps/springs, well drained sandy soils).		X
Evidence of obligate or facultative vernal pool species have been observed in or near the wetland.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography).		X
Dominant vegetation cover type is not composed of invasive or noxious species.	X	

Other evidence wildlife habitat (Explain below).

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

EDUCATIONAL, SCIENTIFIC & RECREATION VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.	X*	
Wildlife habitat is a principal function of the wetland	X	
Direct access is available to a perennial watercourse (e.g., stream pond or lake)	X	
Wetland is part of a recreation area, park, forest, or refuge.		X
Hunting and/or fishing is available within or from the wetland.		X
Hiking occurs or has the potential to occur in the wetland		X
Off-road public parking available at or near the wetland or watercourse.	X	
Wetland is within a short drive or safe walk from highly populated public and private areas.	X	
Wetland currently used for educational or scientific purposes.	X	
Access to water is available at this potential recreation site for boating, canoeing, or fishing.	X	

No known safety hazards exist (If not, explain below).

Other evidence educational, scientific or recreation value (Explain below).

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:
*Natural heritage areas located within a mile to the northeast and within half a mile to the south; movement of listed species to and through wetland is plausible. Wetland is located near University of Rhode Island

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10
Wetland Assessment Area: Wetland #23
Date: 7/14/2016 Weather: Overcast, 80◦F Photographs Taken? Yes / No

UNIQUENESS & HERITAGE VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.	X*	
Wetland identified as a whole or in part as an exemplary natural community (Explain below)		
Wetland considered a locally and/or regionally significant (Explain below)		
Other evidence of uniqueness or heritage values (Explain below)		

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:
*Natural heritage areas located within a mile to the northeast and within half a mile to the south; movement of listed species to and through wetland is plausible.

SUMMARY OF FUNCTIONS & VALUES

Function/Value	**Principal Function**	**Secondary Function**
Groundwater Recharge & Discharge		X
Floodflow Alteration		X
Sediment, Pollutant & Nutrient Removal	X	
Finfish Habitat (Ponds & Lakes)		X
Finfish Habitat (Streams & Rivers)	N/A	N/A
Production Export	X	
Wildlife Habitat	X	
Educational, Scientific & Recreation Value	X	
Uniqueness & Heritage	X	

MISCELLANEOUS NOTES & COMMENTS:
Surrounded by train tracks, turf research center (URI), agriculture fields and roads.

Inspector:_____

WETLAND FUNCTION & VALUE ASSESSMENT FIELD FORM

This form has been developed to streamline the function and value assessment process of wetlands and watercourses in the field. The form has largely been developed using the procedure outlined in the U.S. Army Corps of Engineers "Highway Methodology Work Book: Supplement. Wetland Functions and Values: A Descriptive Approach" (1995, NAEEP-360-1-30a). This methodology is a descriptive approach and does not rely upon semi-quantitative numerical models to identify principal functions and values of wetlands and watercourse.

Many of the criteria used as "considerations and qualifiers" are drawn directly from the U.S. Army Corps of Engineers methodology. However, other assessment methods were considered (e.g. Wisc. DNR, 1992, "Rapid Assessment Methodology for Evaluating Wetland functions and Values." and Ammann, et al., 1996,"Method for the Evaluation of Inland Wetlands in Connecticut.") as well professional experience. Each criteria listed is an indicator of that function or value . An affirmative response, therefore, supports the assumptions of a given function or value. Generally, a majority of affirmative responses will indicate that the given function or value is a "principal" function or value. However, the criteria are not weighted and thus it is incumbent upon the inspector to use his or her best professional judgment when identify "principal" functions or values.

Groundwater Recharge & Discharge
The capacity or potential for a wetland to interact with groundwater such that water moves from surface water to ground water (Recharge) or from ground water to surface water (Discharge)

Floodflow Alteration
The storage of inflowing water from storm or flooding events, resulting in detention and retention of water on the wetland surface

Finfish Habitat (Ponds & Lakes)
Considers the quality of the aquatic habitat of a pond or lake, and its capacity to support finfish.

Finfish Habitat (Streams & Rivers)
Considers the quality of the aquatic habitat of a perennial watercourse, and its capacity to support finfish.

Sediment, Pollutant & Nutrient Removal
The capacity of a wetland to remove dissolved, suspended and floatable material from storm water runoff and prevents degradation of water quality.

Production Export
The capacity of a wetland to produce wildlife food sources, or to export biomass that sustains downstream ecosystems and local wildlife populations.

Wildlife Habitat
The capacity of a wetland to support a diverse and abundant wildlife community typically associated with wetland and wetland edges.

Educational, Scientific & Recreation Value
The suitability of a wetland for classroom field trips or scientific research, or to support various recreation activities (e.g., hiking, canoeing, boating, fishing, hunting, bird watching).

Uniqueness & Heritage
The degree to which a wetland is considered a locally or regionally unique natural resource.

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10

Wetland Assessment Area: Wetland # 24

Date: 7/15/2016 Weather: Overcast, 90◦F Photographs Taken? Yes / No

GROUNDWATER RECHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is underlain by stratified drift, gravel or sandy soils.	X	
Wetland is ***not*** underlain by hardpan, impervious soils (e.g., clays and silts) or bedrock	X	
Wetland is associated with a perennial or intermittent watercourse	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%)	X	
Wetland is associated with a watercourse but lacks a defined outlet or contains a constricted outlet		X
Other evidence of groundwater recharge is present (i.e., local water supplies piezometer data, etc.)		

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

GROUNDWATER DISCHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is ***not*** underlain by stratified drift, gravel or sandy soils.		X
Wetland is underlain by hardpan; impervious, tight grained soils (high clay and/or silt content); or bedrock		X
Wetland formed as a result of seeps or springs		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)		X
Wetland is associated with a watercourse and contains only an outlet, no defined inlet		X
Other evidence of groundwater discharge are present (i.e., water temperature, piezometer data, etc.)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10

Wetland Assessment Area: Wetland # 24

Date: 7/15/2016 Weather: Overcast, 90◦F Photographs Taken? Yes / No

FLOODFLOW ALTERATION

Considerations/Qualifiers	**Yes**	**No**
Area of this wetland is large relative to its watershed		X
Wetland occurs in the upper portions of its watershed and the effective flood storage is small or non-existent upslope of or above the wetland		X
Wetland watershed contains a high percent of impervious surfaces		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography) or ponding (e.g. sediment deposits or lines)		X
Wetland formed on relatively gentle slopes (e.g., less than 3%).	X	
Wetland located in a floodplain of an adjacent watercourse.		X
Wetland has a constricted outlet.	X	
Wetland contains hydric soils which are able to absorb and detain water.	X	
Watershed has a history of economic loss due to flooding.		X
Associated watercourse, if present, is sinuous or diffuse.		X
Other evidence of floodflow alteration (Explain below)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

SEDIMENT, POLLUTANT & NUTRIENT REMOVAL

Considerations/Qualifiers	**Yes**	**No**
Wetland saturated for most of the season.	X	
Ponded water (including deep water or open water habitat) is present in the wetland.	X	
Wetland edge is broad and intermittently aerobic.		X
Deep organic/sediment deposits are present	X	
Slowly drained fine grained mineral or organic soils are present.	X	
Alluvial soils present in or immediately adjacent to wetland.		
Wetland formed on relatively gentle slopes (e.g., less than 3%).	X	
Water retention/detention time in this wetland is increased by constricted outlet.		X
Water retention/detention time in this wetland is increased by thick vegetation.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)		X
Other evidence of sediment, pollutant and nutrient removal (Explain below)		

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10

Wetland Assessment Area: Wetland # 24

Date: 7/15/2016 Weather: Overcast, 90◦F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (PONDS & LAKES)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to pond or lake dominated by forest, shrub and/or meadow community	X	
Shallow littoral zone with emergent vegetation present	X	
Pond or lake is ate least 10 feet deep		X*
Pond or lake is covered by more than 15 but less than 40 percent submerged or emergent vegetation	X	
Direct stormwater discharge(s) are few to none and , if present, originate from smaller culverts/outfalls	X	
Sand bars or evidence of stormwater runoff at inlet is absent		X
Water transparency is high		X
Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent		X
Pond or lake is greater than 0.5 acre	X	
Dense algal blooms, nuisance aquatic vegetation or duckweed are not or have not historically been observed	X	
Other evidence of finfish habitat (Explain below)		

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:
*Estimated due to presence of water lily on pond surface.

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to stream or river dominated by forest, shrub and/or meadow community		
Channel is shaded by riparian trees or shrubs		
Bank is predominantly vegetated with high cover (e.g. trees and shrubs)		
Barriers to anadromous fish (i.e. dams, including beaver dams, waterfalls, road crossings, etc.) are absent from the stream reach associated with this wetland.		
Dominant bottom substrate is gravel and/or cobbles		
Bottom substrate is embedded with minimal sand and silt		
Diversity of instream habitat (e.g. riffles, runs, shallow pools and deep pools) is high		
Channel alteration (i.e. channelization, islands, point bars, etc.) are few to absent		
Bank is stabilized; Little to no evidence of scour or erosion is present		
Stream or river contains common to many cover objects (i.e, fallen logs, boulders, undercut banks)		

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10
Wetland Assessment Area: Wetland # 24
Date: 7/15/2016 Weather: Overcast, 90◦F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS) (cont'd)

Stream or river is predominantly buffered from other land uses by a vegetated zone greater than 20 feet in width

Direct stormwater discharge(s) are few to none, and, if present, originate from smaller culverts/outfalls

Sand bars or evidence of stormwater runoff at inlet is absent

Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent

Quality of the watercourse associated with this wetland is able to support healthy fish/shellfish

Other evidence of finfish habitat (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

PRODUCTION EXPORT

Considerations/Qualifiers	**Yes**	**No**
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland exhibits high degree of plant community structure/species diversity	X	
Evidence of wildlife use found within this wetland.	X	
Fish or shellfish develop or occur in this wetland.		X
Nutrients exported or "flushed" from wetlands to watercourses (permanent outlet present).	X	

Other evidence of production export (Explain below)

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

WILDLIFE HABITAT

Considerations/Qualifiers	**Yes**	**No**
Wetland is not degraded or fragmented by human activity.		
Wildlife overland access to other wetlands is present and relatively unfragmented or unimpeded.	X	
More than 40% of this wetland edge is bordered by upland wildlife habitat (e.g., shrub thicket, woodland, farmland, or idle land) at least 500 feet in width.	X	
Wetland is contiguous with other wetland systems connected by a watercourse or lake.	X	
Water quality of the watercourse, pond, or lake associated with this wetland meets or exceeds Class A or B standards.		

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10
Wetland Assessment Area: Wetland # 24
Date: 7/15/2016 Weather: Overcast, 90◦F Photographs Taken? Yes / No

WILDLIFE HABITAT (cont'd)

Dominant wetland class includes deep or shallow marsh or wooded swamp.	X	
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Wetland exhibits a high degree of interspersion of vegetation classes (e.g. forest, shrub, emergent marsh, wet meadow, open water).	X	
Two or more islands or inclusions of upland within the wetland are present.		X
Wetland exhibits a high degree of diversity in plant community structure (e.g., tree/shrub/vine/grasses/mosses).	X	
Wetland or watercourse contains numerous and diverse habitat features (e.g., snags, downed woody debris, rocks, seeps/springs, well drained sandy soils).	X	
Evidence of obligate or facultative vernal pool species have been observed in or near the wetland.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography).		X
Dominant vegetation cover type is not composed of invasive or noxious species.	X	

Other evidence wildlife habitat (Explain below).

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

EDUCATIONAL, SCIENTIFIC & RECREATION VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.		X
Wildlife habitat is a principal function of the wetland	X	
Direct access is available to a perennial watercourse (e.g., stream pond or lake)	X	
Wetland is part of a recreation area, park, forest, or refuge.		X
Hunting and/or fishing is available within or from the wetland.		
Hiking occurs or has the potential to occur in the wetland		X
Off-road public parking available at or near the wetland or watercourse.		X
Wetland is within a short drive or safe walk from highly populated public and private areas.	X	
Wetland currently used for educational or scientific purposes.		X
Access to water is available at this potential recreation site for boating, canoeing, or fishing.		X
No known safety hazards exist (If not, explain below).		X

Other evidence educational, scientific or recreation value (Explain below).

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #: 20111470.B10
Wetland Assessment Area: Wetland # 24
Date: 7/15/2016 Weather: Overcast, 90◦F Photographs Taken? Yes / No

UNIQUENESS & HERITAGE VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.		X
Wetland identified as a whole or in part as an exemplary natural community (Explain below)		X
Wetland considered a locally and/or regionally significant (Explain below)		X

Other evidence of uniqueness or heritage values (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

SUMMARY OF FUNCTIONS & VALUES

Function/Value	**Principal Function**	**Secondary Function**
Groundwater Recharge & Discharge	X	
Floodflow Alteration		X
Sediment, Pollutant & Nutrient Removal	X	
Finfish Habitat (Ponds & Lakes)	X	
Finfish Habitat (Streams & Rivers)	N/A	N/A
Production Export	X	
Wildlife Habitat	X	
Educational, Scientific & Recreation Value		X
Uniqueness & Heritage		X

MISCELLANEOUS NOTES & COMMENTS:
Dam located between north and south portion of wetland, as well as many rocks/boulders and fill. Surrounded by forest.

Inspector:_____

WETLAND FUNCTION & VALUE ASSESSMENT FIELD FORM

This form has been developed to streamline the function and value assessment process of wetlands and watercourses in the field. The form has largely been developed using the procedure outlined in the U.S. Army Corps of Engineers "Highway Methodology Work Book: Supplement. Wetland Functions and Values: A Descriptive Approach" (1995, NAEEP-360-1-30a). This methodology is a descriptive approach and does not rely upon semi-quantitative numerical models to identify principal functions and values of wetlands and watercourse.

Many of the criteria used as "considerations and qualifiers" are drawn directly from the U.S. Army Corps of Engineers methodology. However, other assessment methods were considered (e.g. Wisc. DNR, 1992, "Rapid Assessment Methodology for Evaluating Wetland functions and Values." and Ammann, et al., 1996,"Method for the Evaluation of Inland Wetlands in Connecticut.") as well professional experience. Each criteria listed is an indicator of that function or value . An affirmative response, therefore, supports the assumptions of a given function or value. Generally, a majority of affirmative responses will indicate that the given function or value is a "principal" function or value. However, the criteria are not weighted and thus it is incumbent upon the inspector to use his or her best professional judgment when identify "principal" functions or values.

Groundwater Recharge & Discharge
The capacity or potential for a wetland to interact with groundwater such that water moves from surface water to ground water (Recharge) or from ground water to surface water (Discharge)

Floodflow Alteration
The storage of inflowing water from storm or flooding events, resulting in detention and retention of water on the wetland surface

Finfish Habitat (Ponds & Lakes)
Considers the quality of the aquatic habitat of a pond or lake, and its capacity to support finfish.

Finfish Habitat (Streams & Rivers)
Considers the quality of the aquatic habitat of a perennial watercourse, and its capacity to support finfish.

Sediment, Pollutant & Nutrient Removal
The capacity of a wetland to remove dissolved, suspended and floatable material from storm water runoff and prevents degradation of water quality.

Production Export
The capacity of a wetland to produce wildlife food sources, or to export biomass that sustains downstream ecosystems and local wildlife populations.

Wildlife Habitat
The capacity of a wetland to support a diverse and abundant wildlife community typically associated with wetland and wetland edges.

Educational, Scientific & Recreation Value
The suitability of a wetland for classroom field trips or scientific research, or to support various recreation activities (e.g., hiking, canoeing, boating, fishing, hunting, bird watching).

Uniqueness & Heritage
The degree to which a wetland is considered a locally or regionally unique natural resource.

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10

Wetland Assessment Area: Wetland # 25

Date: 7/15/2016 Weather: Clear, 90°F Photographs Taken? Yes / No

GROUNDWATER RECHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is underlain by stratified drift, gravel or sandy soils.	X	
Wetland is *not* underlain by hardpan, impervious soils (e.g., clays and silts) or bedrock	X	
Wetland is associated with a perennial or intermittent watercourse		
Wetland formed on relatively gentle slopes (e.g., less than 3%)	X	
Wetland is associated with a watercourse but lacks a defined outlet or contains a constricted outlet	X	
Other evidence of groundwater recharge is present (i.e., local water supplies piezometer data, etc.)		

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

GROUNDWATER DISCHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is *not* underlain by stratified drift, gravel or sandy soils.		X
Wetland is underlain by hardpan; impervious, tight grained soils (high clay and/or silt content); or bedrock		X
Wetland formed as a result of seeps or springs		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)		X
Wetland is associated with a watercourse and contains only an outlet, no defined inlet		X
Other evidence of groundwater discharge are present (i.e., water temperature, piezometer data, etc.)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10

Wetland Assessment Area: Wetland # 25

Date: 7/15/2016 Weather: Clear, 90°F Photographs Taken? Yes / No

FLOODFLOW ALTERATION

Considerations/Qualifiers	**Yes**	**No**
Area of this wetland is large relative to its watershed		X
Wetland occurs in the upper portions of its watershed and the effective flood storage is small or non-existent upslope of or above the wetland		X
Wetland watershed contains a high percent of impervious surfaces		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography) or ponding (e.g. sediment deposits or lines)	X	
Wetland formed on relatively gentle slopes (e.g., less than 3%).	X	
Wetland located in a floodplain of an adjacent watercourse.		
Wetland has a constricted outlet.	X	
Wetland contains hydric soils which are able to absorb and detain water.	X	
Watershed has a history of economic loss due to flooding.		X
Associated watercourse, if present, is sinuous or diffuse.		X
Other evidence of floodflow alteration (Explain below)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

SEDIMENT, POLLUTANT & NUTRIENT REMOVAL

Considerations/Qualifiers	**Yes**	**No**
Wetland saturated for most of the season.	X	
Ponded water (including deep water or open water habitat) is present in the wetland.	X	
Wetland edge is broad and intermittently aerobic.		
Deep organic/sediment deposits are present	X	
Slowly drained fine grained mineral or organic soils are present.	X	
Alluvial soils present in or immediately adjacent to wetland.		
Wetland formed on relatively gentle slopes (e.g., less than 3%).	X	
Water retention/detention time in this wetland is increased by constricted outlet.	X	
Water retention/detention time in this wetland is increased by thick vegetation.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)		X
Other evidence of sediment, pollutant and nutrient removal (Explain below)		

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland # 25
Date: 7/15/2016 Weather: Clear, 90°F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (PONDS & LAKES)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to pond or lake dominated by forest, shrub and/or meadow community	X	
Shallow littoral zone with emergent vegetation present	X	
Pond or lake is ate least 10 feet deep		X*
Pond or lake is covered by more than 15 but less than 40 percent submerged or emergent vegetation		X
Direct stormwater discharge(s) are few to none and , if present, originate from smaller culverts/outfalls	X	
Sand bars or evidence of stormwater runoff at inlet is absent		X
Water transparency is high		X
Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent	X	
Pond or lake is greater than 0.5 acre	X	
Dense algal blooms, nuisance aquatic vegetation or duckweed are not or have not historically been observed		X
Other evidence of finfish habitat (Explain below)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:
*Estimated due to presence of water lily on pond surface.

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to stream or river dominated by forest, shrub and/or meadow community		
Channel is shaded by riparian trees or shrubs		
Bank is predominantly vegetated with high cover (e.g. trees and shrubs)		
Barriers to anadromous fish (i.e. dams, including beaver dams, waterfalls, road crossings, etc.) are absent from the stream reach associated with this wetland.		
Dominant bottom substrate is gravel and/or cobbles		
Bottom substrate is embedded with minimal sand and silt		
Diversity of instream habitat (e.g. riffles, runs, shallow pools and deep pools) is high		
Channel alteration (i.e. channelization, islands, point bars, etc.) are few to absent		
Bank is stabilized; Little to no evidence of scour or erosion is present		
Stream or river contains common to many cover objects (i.e, fallen logs, boulders, undercut banks)		

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland # 25
Date: 7/15/2016 Weather: Clear, 90°F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS) (cont'd)

Stream or river is predominantly buffered from other land uses by a vegetated zone greater than 20 feet in width

Direct stormwater discharge(s) are few to none, and, if present, originate from smaller culverts/outfalls

Sand bars or evidence of stormwater runoff at inlet is absent

Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent

Quality of the watercourse associated with this wetland is able to support healthy fish/shellfish

Other evidence of finfish habitat (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

PRODUCTION EXPORT

Considerations/Qualifiers	**Yes**	**No**
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland exhibits high degree of plant community structure/species diversity	X	
Evidence of wildlife use found within this wetland.	X	
Fish or shellfish develop or occur in this wetland.	X	
Nutrients exported or "flushed" from wetlands to watercourses (permanent outlet present).	X	

Other evidence of production export (Explain below)

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

WILDLIFE HABITAT

Considerations/Qualifiers	**Yes**	**No**
Wetland is not degraded or fragmented by human activity.		X
Wildlife overland access to other wetlands is present and relatively unfragmented or unimpeded.	X	
More than 40% of this wetland edge is bordered by upland wildlife habitat (e.g., shrub thicket, woodland, farmland, or idle land) at least 500 feet in width.	X	
Wetland is contiguous with other wetland systems connected by a watercourse or lake.	X	
Water quality of the watercourse, pond, or lake associated with this wetland meets or exceeds Class A or B standards.		

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland # 25
Date: 7/15/2016 Weather: Clear, 90°F Photographs Taken? Yes / No

WILDLIFE HABITAT (cont'd)

Dominant wetland class includes deep or shallow marsh or wooded swamp.	X	
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Wetland exhibits a high degree of interspersion of vegetation classes (e.g. forest, shrub, emergent marsh, wet meadow, open water).	X	
Two or more islands or inclusions of upland within the wetland are present.		X
Wetland exhibits a high degree of diversity in plant community structure (e.g., tree/shrub/vine/grasses/mosses).	X	
Wetland or watercourse contains numerous and diverse habitat features (e.g., snags, downed woody debris, rocks, seeps/springs, well drained sandy soils).		X
Evidence of obligate or facultative vernal pool species have been observed in or near the wetland.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography).		X
Dominant vegetation cover type is not composed of invasive or noxious species.	X	

Other evidence wildlife habitat (Explain below).

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

EDUCATIONAL, SCIENTIFIC & RECREATION VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.		X
Wildlife habitat is a principal function of the wetland	X	
Direct access is available to a perennial watercourse (e.g., stream pond or lake)	X	
Wetland is part of a recreation area, park, forest, or refuge.		X
Hunting and/or fishing is available within or from the wetland.		
Hiking occurs or has the potential to occur in the wetland		X
Off-road public parking available at or near the wetland or watercourse.		X
Wetland is within a short drive or safe walk from highly populated public and private areas.		X
Wetland currently used for educational or scientific purposes.		X
Access to water is available at this potential recreation site for boating, canoeing, or fishing.		X
No known safety hazards exist (If not, explain below).	X	

Other evidence educational, scientific or recreation value (Explain below).

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland # 25
Date: 7/15/2016 Weather: Clear, 90°F Photographs Taken? Yes / No

UNIQUENESS & HERITAGE VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.		X
Wetland identified as a whole or in part as an exemplary natural community (Explain below)		X
Wetland considered a locally and/or regionally significant (Explain below)		X

Other evidence of uniqueness or heritage values (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

SUMMARY OF FUNCTIONS & VALUES

Function/Value	**Principal Function**	**Secondary Function**
Groundwater Recharge & Discharge	X	
Floodflow Alteration		X
Sediment, Pollutant & Nutrient Removal	X	
Finfish Habitat (Ponds & Lakes)		X
Finfish Habitat (Streams & Rivers)	N/A	N/A
Production Export	X	
Wildlife Habitat	X	
Educational, Scientific & Recreation Value		X
Uniqueness & Heritage		X

MISCELLANEOUS NOTES & COMMENTS:
Dam located between north and south portion of wetland, as well as many rocks/boulders and fill. Surrounded by forest.

Inspector:_____

WETLAND FUNCTION & VALUE ASSESSMENT FIELD FORM

This form has been developed to streamline the function and value assessment process of wetlands and watercourses in the field. The form has largely been developed using the procedure outlined in the U.S. Army Corps of Engineers "Highway Methodology Work Book: Supplement. Wetland Functions and Values: A Descriptive Approach" (1995, NAEEP-360-1-30a). This methodology is a descriptive approach and does not rely upon semi-quantitative numerical models to identify principal functions and values of wetlands and watercourse.

Many of the criteria used as "considerations and qualifiers" are drawn directly from the U.S. Army Corps of Engineers methodology. However, other assessment methods were considered (e.g. Wisc. DNR, 1992, "Rapid Assessment Methodology for Evaluating Wetland functions and Values." and Ammann, et al., 1996,"Method for the Evaluation of Inland Wetlands in Connecticut.") as well professional experience. Each criteria listed is an indicator of that function or value . An affirmative response, therefore, supports the assumptions of a given function or value. Generally, a majority of affirmative responses will indicate that the given function or value is a "principal" function or value. However, the criteria are not weighted and thus it is incumbent upon the inspector to use his or her best professional judgment when identify "principal" functions or values.

Groundwater Recharge & Discharge
The capacity or potential for a wetland to interact with groundwater such that water moves from surface water to ground water (Recharge) or from ground water to surface water (Discharge)

Floodflow Alteration
The storage of inflowing water from storm or flooding events, resulting in detention and retention of water on the wetland surface

Finfish Habitat (Ponds & Lakes)
Considers the quality of the aquatic habitat of a pond or lake, and its capacity to support finfish.

Finfish Habitat (Streams & Rivers)
Considers the quality of the aquatic habitat of a perennial watercourse, and its capacity to support finfish.

Sediment, Pollutant & Nutrient Removal
The capacity of a wetland to remove dissolved, suspended and floatable material from storm water runoff and prevents degradation of water quality.

Production Export
The capacity of a wetland to produce wildlife food sources, or to export biomass that sustains downstream ecosystems and local wildlife populations.

Wildlife Habitat
The capacity of a wetland to support a diverse and abundant wildlife community typically associated with wetland and wetland edges.

Educational, Scientific & Recreation Value
The suitability of a wetland for classroom field trips or scientific research, or to support various recreation activities (e.g., hiking, canoeing, boating, fishing, hunting, bird watching).

Uniqueness & Heritage
The degree to which a wetland is considered a locally or regionally unique natural resource.

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland # 26
Date: 7/18/2016 Weather: Clear, 85◦F Photographs Taken? Yes / No

GROUNDWATER RECHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is underlain by stratified drift, gravel or sandy soils.	X	
Wetland is ***not*** underlain by hardpan, impervious soils (e.g., clays and silts) or bedrock	X	
Wetland is associated with a perennial or intermittent watercourse		X
Wetland formed on relatively gentle slopes (e.g., less than 3%)	X	
Wetland is associated with a watercourse but lacks a defined outlet or contains a constricted outlet		X
Other evidence of groundwater recharge is present (i.e., local water supplies piezometer data, etc.)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

GROUNDWATER DISCHARGE

Considerations/Qualifiers	**Yes**	**No**
Wetland is ***not*** underlain by stratified drift, gravel or sandy soils.	X	
Wetland is underlain by hardpan; impervious, tight grained soils (high clay and/or silt content); or bedrock		X
Wetland formed as a result of seeps or springs	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)		X
Wetland is associated with a watercourse and contains only an outlet, no defined inlet	X	
Other evidence of groundwater discharge are present (i.e., water temperature, piezometer data, etc.)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10

Wetland Assessment Area: Wetland # 26

Date: 7/18/2016 Weather: Clear, 85◦F Photographs Taken? Yes / No

FLOODFLOW ALTERATION

Considerations/Qualifiers	**Yes**	**No**
Area of this wetland is large relative to its watershed		X
Wetland occurs in the upper portions of its watershed and the effective flood storage is small or non-existent upslope of or above the wetland	X	
Wetland watershed contains a high percent of impervious surfaces		X
Wetland shows strong signs of variable water levels (e.g., well developed microtopography) or ponding (e.g. sediment deposits or lines)		X
Wetland formed on relatively gentle slopes (e.g., less than 3%).	X	
Wetland located in a floodplain of an adjacent watercourse.	X	
Wetland has a constricted outlet.	X	
Wetland contains hydric soils which are able to absorb and detain water.	X	
Watershed has a history of economic loss due to flooding.		
Associated watercourse, if present, is sinuous or diffuse.		X
Other evidence of floodflow alteration (Explain below)		

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

SEDIMENT, POLLUTANT & NUTRIENT REMOVAL

Considerations/Qualifiers	**Yes**	**No**
Wetland saturated for most of the season.	X	
Ponded water (including deep water or open water habitat) is present in the wetland.	X	
Wetland edge is broad and intermittently aerobic.	X	
Deep organic/sediment deposits are present	X	
Slowly drained fine grained mineral or organic soils are present.	X	
Alluvial soils present in or immediately adjacent to wetland.		
Wetland formed on relatively gentle slopes (e.g., less than 3%).	X	
Water retention/detention time in this wetland is increased by constricted outlet.		X
Water retention/detention time in this wetland is increased by thick vegetation.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography)		X
Other evidence of sediment, pollutant and nutrient removal (Explain below)		

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10

Wetland Assessment Area: Wetland # 26

Date: 7/18/2016 Weather: Clear, 85◦F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (PONDS & LAKES)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to pond or lake dominated by forest, shrub and/or meadow community	X	
Shallow littoral zone with emergent vegetation present	X	
Pond or lake is ate least 10 feet deep		X*
Pond or lake is covered by more than 15 but less than 40 percent submerged or emergent vegetation		X
Direct stormwater discharge(s) are few to none and , if present, originate from smaller culverts/outfalls	X	
Sand bars or evidence of stormwater runoff at inlet is absent		X
Water transparency is high		X
Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent	X	
Pond or lake is greater than 0.5 acre	X	
Dense algal blooms, nuisance aquatic vegetation or duckweed are not or have not historically been observed	X	

Other evidence of finfish habitat (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☒ **SECONDARY FUNCTION?**

Comments:

*****Estimated based on presence of water lily over more than half of the open water surface

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS)

Considerations/Qualifiers	**Yes**	**No**
Land use adjacent to stream or river dominated by forest, shrub and/or meadow community		
Channel is shaded by riparian trees or shrubs		
Bank is predominantly vegetated with high cover (e.g. trees and shrubs)		
Barriers to anadromous fish (i.e. dams, including beaver dams, waterfalls, road crossings, etc.) are absent from the stream reach associated with this wetland.		
Dominant bottom substrate is gravel and/or cobbles		
Bottom substrate is embedded with minimal sand and silt		
Diversity of instream habitat (e.g. riffles, runs, shallow pools and deep pools) is high		
Channel alteration (i.e. channelization, islands, point bars, etc.) are few to absent		
Bank is stabilized; Little to no evidence of scour or erosion is present		
Stream or river contains common to many cover objects (i.e, fallen logs, boulders, undercut banks)		

Inspector:_____

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland # 26
Date: 7/18/2016 Weather: Clear, 85◦F Photographs Taken? Yes / No

FISH AND SHELLFISH HABITAT (STREAMS & RIVERS) (cont'd)

Stream or river is predominantly buffered from other land uses by a vegetated zone greater than 20 feet in width

Direct stormwater discharge(s) are few to none, and, if present, originate from smaller culverts/outfalls

Sand bars or evidence of stormwater runoff at inlet is absent

Significant sources of nutrient sources (e.g. fertilizers, over-abundant waterfowl) are absent

Quality of the watercourse associated with this wetland is able to support healthy fish/shellfish

Other evidence of finfish habitat (Explain below)

☐ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

PRODUCTION EXPORT

Considerations/Qualifiers	**Yes**	**No**
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Emergent vegetation and/or dense woody stems are dominant.	X	
Wetland exhibits high degree of plant community structure/species diversity	X	
Evidence of wildlife use found within this wetland.	X	
Fish or shellfish develop or occur in this wetland.	X	
Nutrients exported or "flushed" from wetlands to watercourses (permanent outlet present).	X	

Other evidence of production export (Explain below)

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

WILDLIFE HABITAT

Considerations/Qualifiers	**Yes**	**No**
Wetland is not degraded or fragmented by human activity.	X*	
Wildlife overland access to other wetlands is present and relatively unfragmented or unimpeded.	X	
More than 40% of this wetland edge is bordered by upland wildlife habitat (e.g., shrub thicket, woodland, farmland, or idle land) at least 500 feet in width.	X	
Wetland is contiguous with other wetland systems connected by a watercourse or lake.	X	
Water quality of the watercourse, pond, or lake associated with this wetland meets or exceeds Class A or B standards.		

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10
Wetland Assessment Area: Wetland # 26
Date: 7/18/2016 Weather: Clear, 85◦F Photographs Taken? Yes / No

WILDLIFE HABITAT (cont'd)

Dominant wetland class includes deep or shallow marsh or wooded swamp.	X	
Wildlife food sources growing within this wetland are abundant and diverse.	X	
Wetland exhibits a high degree of interspersion of vegetation classes (e.g. forest, shrub, emergent marsh, wet meadow, open water).	X	
Two or more islands or inclusions of upland within the wetland are present.		X
Wetland exhibits a high degree of diversity in plant community structure (e.g., tree/shrub/vine/grasses/mosses).	X	
Wetland or watercourse contains numerous and diverse habitat features (e.g., snags, downed woody debris, rocks, seeps/springs, well drained sandy soils).	X	
Evidence of obligate or facultative vernal pool species have been observed in or near the wetland.	X	
Wetland shows strong signs of variable water levels (e.g., well developed microtopography).		X
Dominant vegetation cover type is not composed of invasive or noxious species.	X	

Other evidence wildlife habitat (Explain below).

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:
*Wetland is located in a refuge, with a paved road separating this water body from a larger pond. Road is not heavily traveled and no designated parking areas exist nearby.

EDUCATIONAL, SCIENTIFIC & RECREATION VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.	X*	
Wildlife habitat is a principal function of the wetland	X	
Direct access is available to a perennial watercourse (e.g., stream pond or lake)		X
Wetland is part of a recreation area, park, forest, or refuge.	X	
Hunting and/or fishing is available within or from the wetland.		X
Hiking occurs or has the potential to occur in the wetland	X	
Off-road public parking available at or near the wetland or watercourse.		X
Wetland is within a short drive or safe walk from highly populated public and private areas.		X
Wetland currently used for educational or scientific purposes.	X	
Access to water is available at this potential recreation site for boating, canoeing, or fishing.		X
No known safety hazards exist (If not, explain below).	X	

Other evidence educational, scientific or recreation value (Explain below).

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

Project Name: Wood Pawcatuck Watershed Wetland Assessment Project #:20111470.B10

Wetland Assessment Area: Wetland # 26

Date: 7/18/2016 Weather: Clear, 85◦F Photographs Taken? Yes / No

*Available RIGIS data not specific regarding species or communities. Wetland is located in a refuge with a sign located adjacent stating that the waters are "research waters".

UNIQUENESS & HERITAGE VALUE

Considerations/Qualifiers	**Yes**	**No**
Wetland contains state or federal listed species.	X	
Wetland identified as a whole or in part as an exemplary natural community (Explain below)	X*	
Wetland considered a locally and/or regionally significant (Explain below)	X	

Other evidence of uniqueness or heritage values (Explain below)

☒ **PRINCIPAL FUNCTION** **or** ☐ **SECONDARY FUNCTION?**

Comments:

*Available RIGIS data not specific regarding species or communities. Wetland is located in a refuge with a sign located adjacent stating that the waters are "research waters".

SUMMARY OF FUNCTIONS & VALUES

Function/Value	**Principal Function**	**Secondary Function**
Groundwater Recharge & Discharge		X
Floodflow Alteration		X
Sediment, Pollutant & Nutrient Removal	X	
Finfish Habitat (Ponds & Lakes)		X
Finfish Habitat (Streams & Rivers)	N/A	N/A
Production Export	X	
Wildlife Habitat	X	
Educational, Scientific & Recreation Value	X	
Uniqueness & Heritage	X	

MISCELLANEOUS NOTES & COMMENTS:

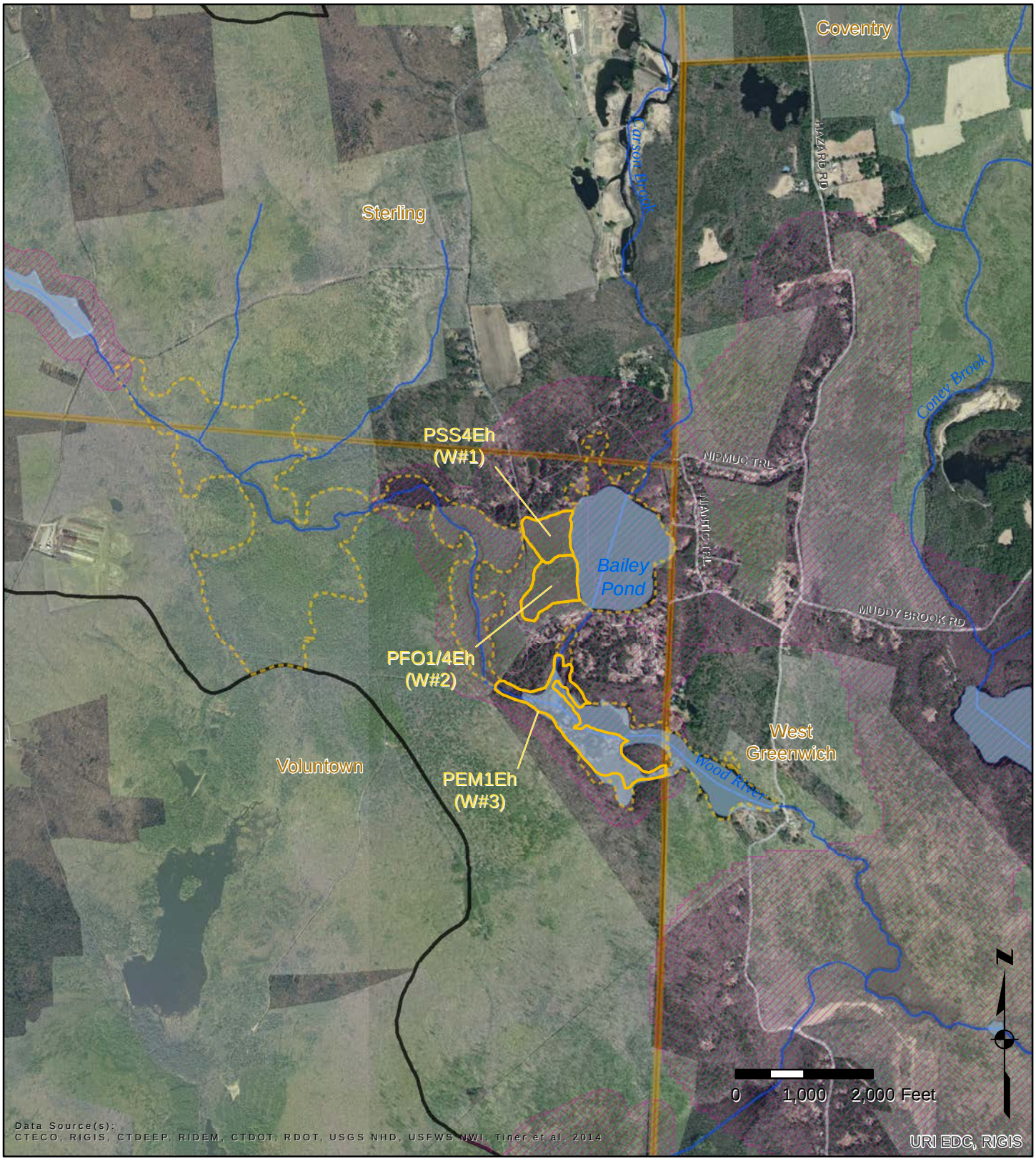
Not much potential for mitigation. Nature preserve – not connected to pond on opposite side of street. URI research waters.

Inspector:_____

FUSS & O'NEILL

Attachment 2

Detailed Mapping of Assessed Wetlands



Location Map

NWI+ Detailed Wetlands (Field ID)
NWI+ Wetlands Complexes
Lakes and Ponds
Rivers and Streams
RINHS/CTNDDB Areas
HUC 8 Watershed Boundary
Conservation & Protected Open Space

Disclaimer: This map is not the product of a Professional Land Survey. It was created by Fuss & O'Neill, Inc. for general reference, informational, planning and guidance use, and is not a legally authoratative source as to location of natural or manmade features. Proper interpretation of this map may require the assistance of appropriate professional services. Fuss & O'Neill, Inc. makes no warrantee, express or implied, related to the spatial accuracy, reliability, completeness, or currentness of this map.

WETLAND ASSESSMENT

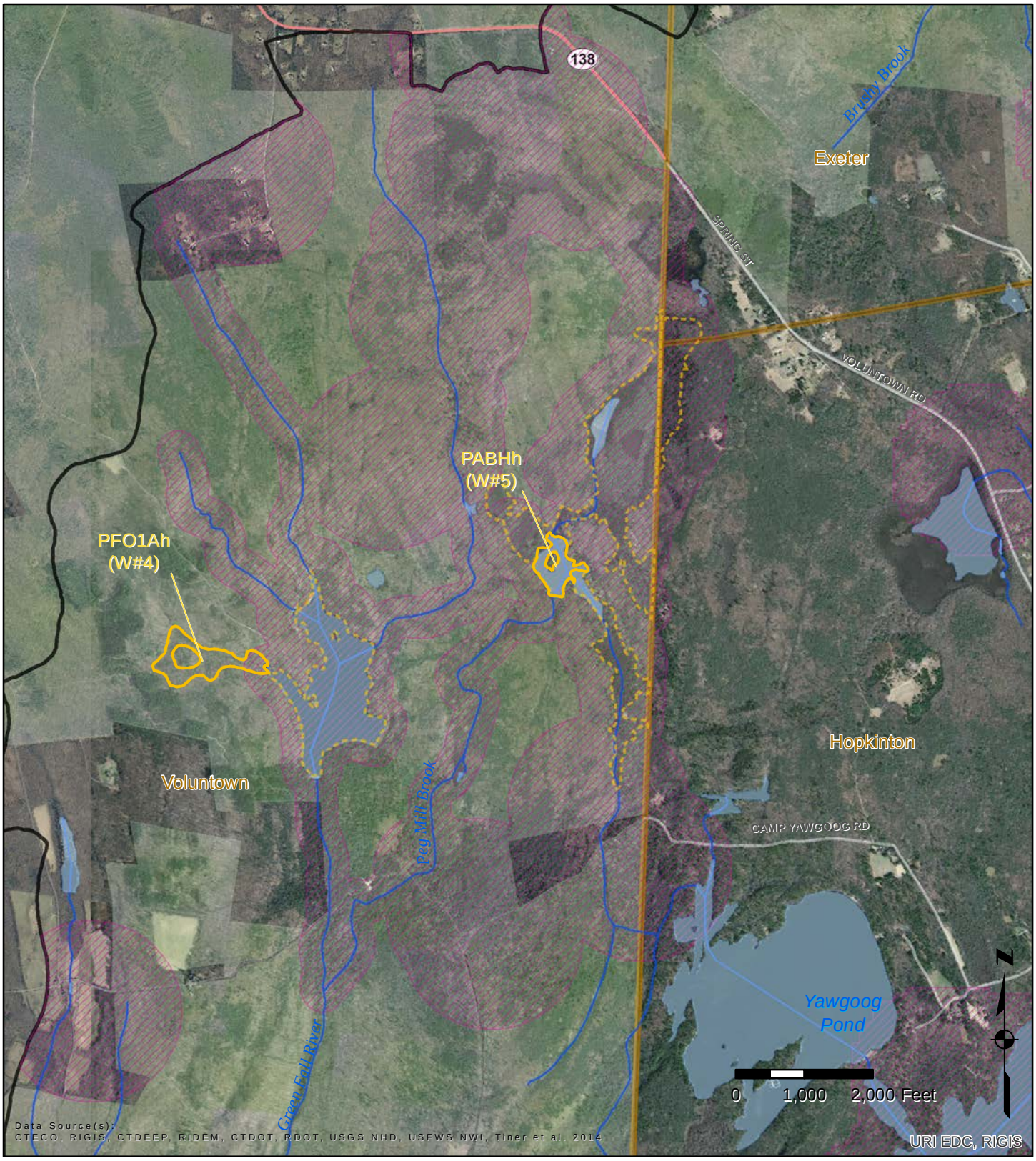
Wood-Pawcatuck Flood Resiliency Management Plan

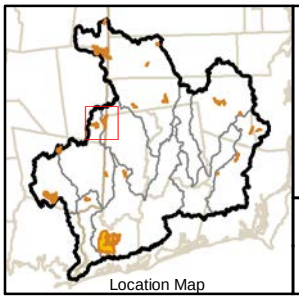
Connecticut Rhode Island

FUSS & O'NEILL
317 Iron Horse Way
Providence, RI 02908
401.861.3070 | www.fando.com

Figure WA-1

K:\P2011\1470\B10\MXD\Wetland_Assessment\MemoFigures_20160926.mxd





NWI+ Detailed Wetlands (Field ID)
NWI+ Wetlands Complexes
Lakes and Ponds
Rivers and Streams
RINHS/CTNDDB Areas
HUC 8 Watershed Boundary
Conservation & Protected Open Space

Disclaimer: This map is not the product of a Professional Land Survey. It was created by Fuss & O'Neill, Inc. for general reference, informational, planning and guidance use, and is not a legally authoratative source as to location of natural or manmade features. Proper interpretation of this map may require the assistance of appropriate professional services. Fuss & O'Neill, Inc. makes no warrantee, express or implied, related to the spatial accuracy, reliability, completeness, or currentness of this map.

WETLAND ASSESSMENT

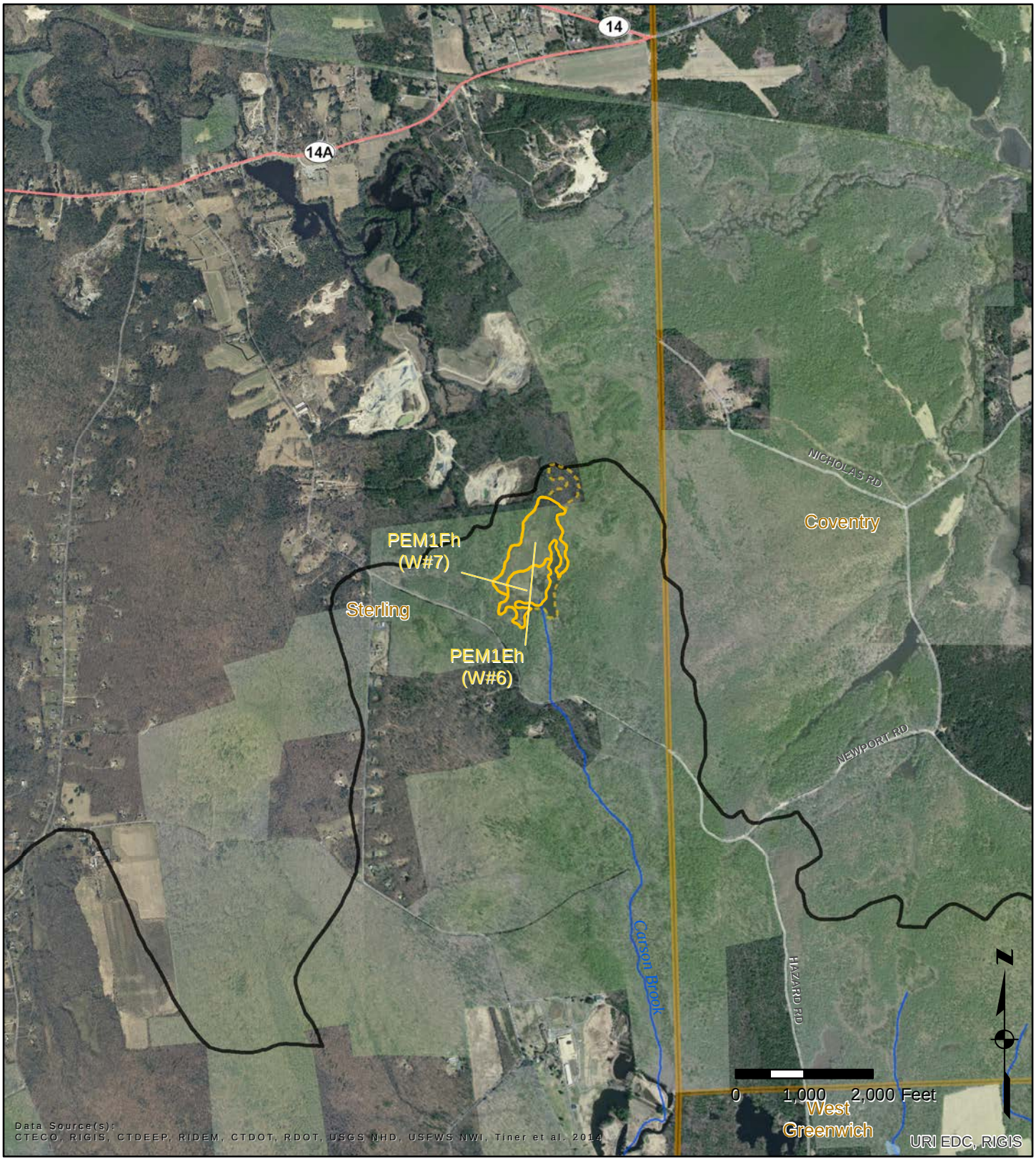
Wood-Pawcatuck Flood Resiliency Management Plan

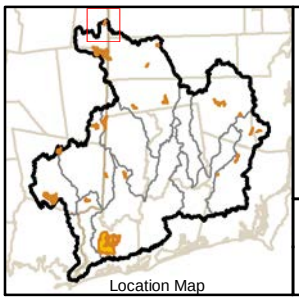
Connecticut Rhode Island

FUSS & O'NEILL
317 Iron Horse Way
Providence, RI 02908
401.861.3070 | www.fando.com

Figure WA-2

K:\P2011\1470\B10\MXD\Wetland_Assessment\MemoFigures_20160926.mxd





NWI+ Detailed Wetlands (Field ID)
NWI+ Wetlands Complexes
Lakes and Ponds
Rivers and Streams
RINHS/CTNDDB Areas
HUC 8 Watershed Boundary
Conservation & Protected Open Space

Disclaimer: This map is not the product of a Professional Land Survey. It was created by Fuss & O'Neill, Inc. for general reference, informational, planning and guidance use, and is not a legally authoratative source as to location of natural or manmade features. Proper interpretation of this map may require the assistance of appropriate professional services. Fuss & O'Neill, Inc. makes no warrantee, express or implied, related to the spatial accuracy, reliability, completeness, or currentness of this map.

WETLAND ASSESSMENT

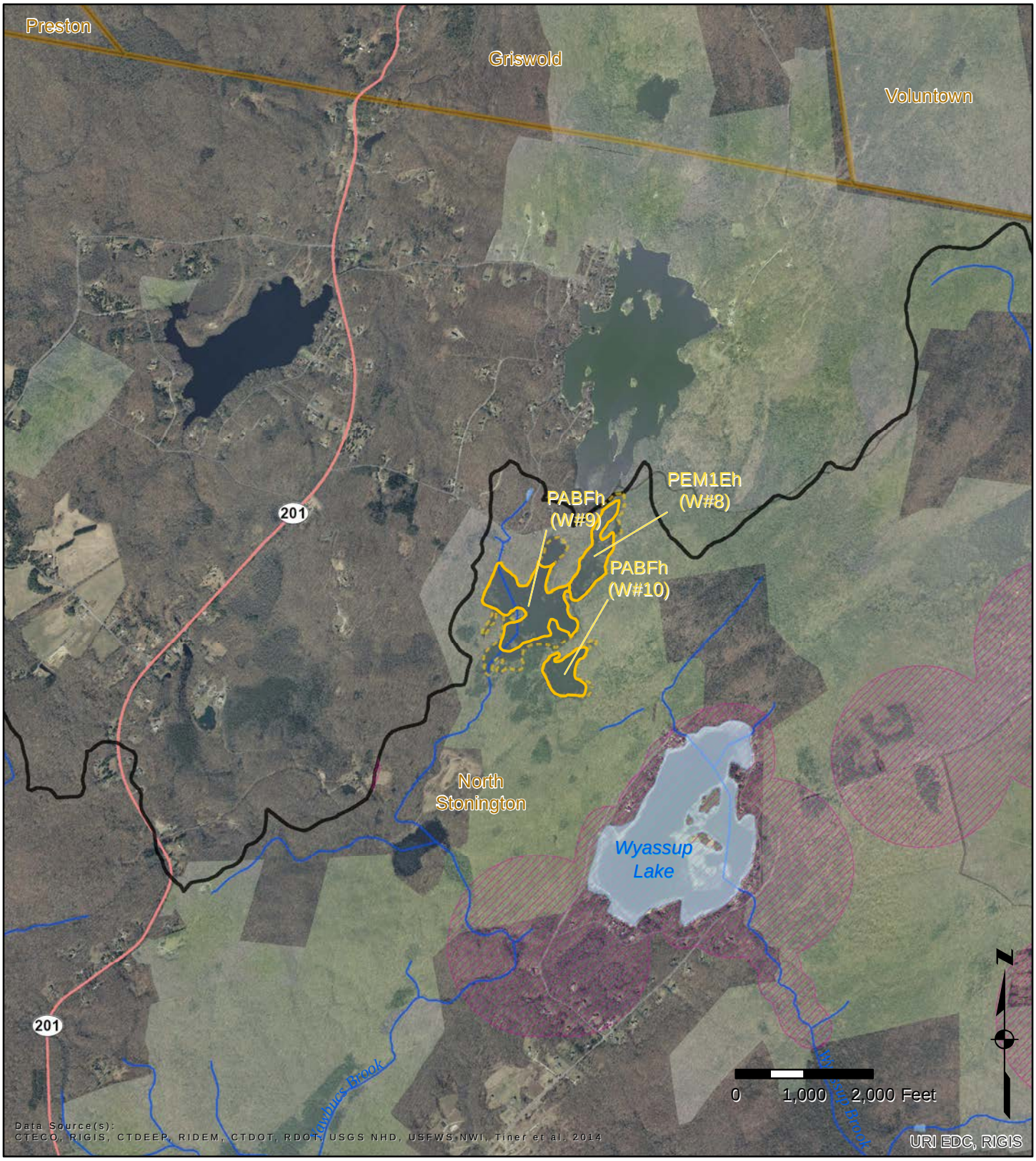
Wood-Pawcatuck Flood Resiliency Management Plan

Connecticut Rhode Island

FUSS & O'NEILL
317 Iron Horse Way
Providence, RI 02908
401.861.3070 | www.fando.com

Figure WA-3

K:\P2011\1470\B10\MXD\Wetland_Assessment\MemoFigures_20160926.mxd



NWI+ Detailed Wetlands (Field ID)
NWI+ Wetlands Complexes
Lakes and Ponds
Rivers and Streams
RINHS/CTNDDB Areas
HUC 8 Watershed Boundary
Conservation & Protected Open Space

Disclaimer: This map is not the product of a Professional Land Survey. It was created by Fuss & O'Neill, Inc. for general reference, informational, planning and guidance use, and is not a legally authoratative source as to location of natural or manmade features. Proper interpretation of this map may require the assistance of appropriate professional services. Fuss & O'Neill, Inc. makes no warrantee, express or implied, related to the spatial accuracy, reliability, completeness, or currentness of this map.

WETLAND ASSESSMENT

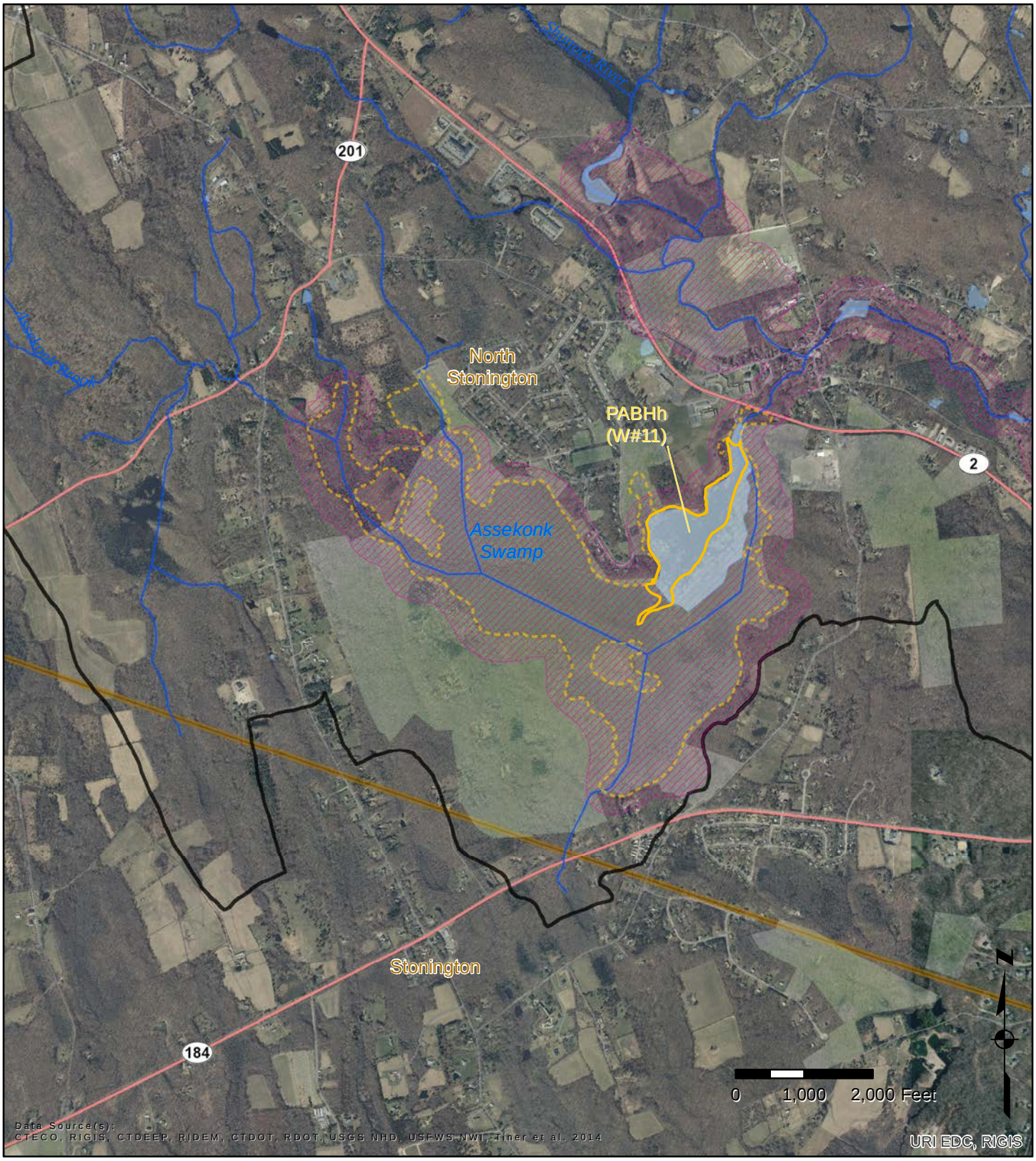
Wood-Pawcatuck Flood Resiliency Management Plan

Connecticut Rhode Island

FUSS & O'NEILL
317 Iron Horse Way
Providence, RI 02908
401.861.3070 | www.fando.com

Figure WA-4

K:\P2011\1470\B10\MXD\Wetland_Assessment\MemoFigures_20160926.mxd



NWI+ Detailed Wetlands (Field ID)
NWI+ Wetlands Complexes
Lakes and Ponds
Rivers and Streams
RINHS/CTNDDB Areas
HUC 8 Watershed Boundary
Conservation & Protected Open Space

Disclaimer: This map is not the product of a Professional Land Survey. It was created by Fuss & O'Neill, Inc. for general reference, informational, planning and guidance use, and is not a legally authoratative source as to location of natural or manmade features. Proper interpretation of this map may require the assistance of appropriate professional services. Fuss & O'Neill, Inc. makes no warrantee, express or implied, related to the spatial accuracy, reliability, completeness, or currentness of this map.

WETLAND ASSESSMENT

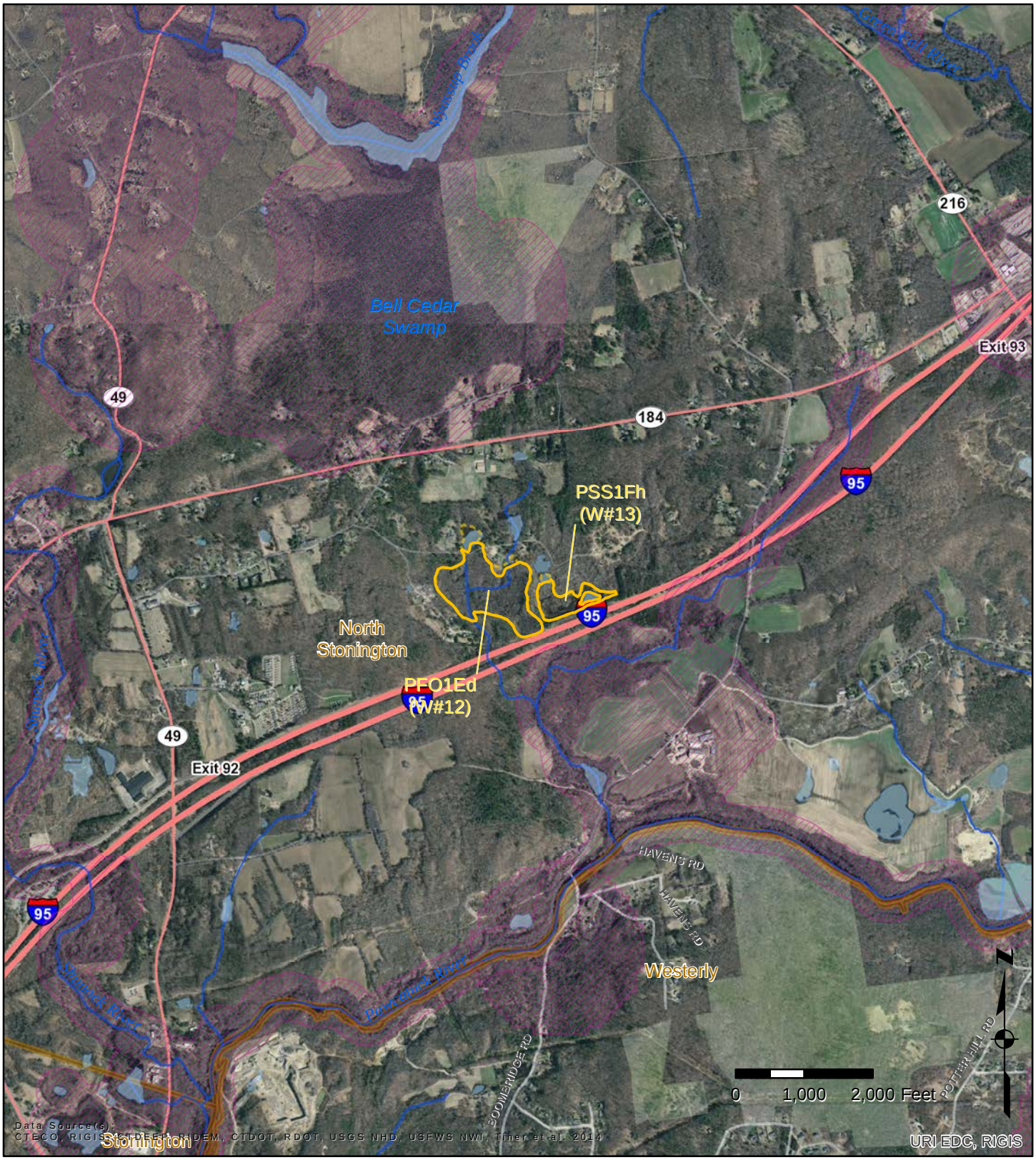
Wood-Pawcatuck Flood Resiliency Management Plan

Connecticut Rhode Island

FUSS & O'NEILL
317 Iron Horse Way
Providence, RI 02908
401.861.3070 | www.fando.com

Figure WA-5

K:\P2011\1470\B10\MXD\Wetland_Assessment\MemoFigures_20160926.mxd



NWI+ Detailed Wetlands (Field ID)
NWI+ Wetlands Complexes
Lakes and Ponds
Rivers and Streams
RINHS/CTNDDB Areas
HUC 8 Watershed Boundary
Conservation & Protected Open Space

WETLAND ASSESSMENT

Wood-Pawcatuck Flood Resiliency Management Plan

Connecticut Rhode Island

FUSS & O'NEILL
317 Iron Horse Way
Providence, RI 02908
401.861.3070 | www.fando.com

Figure WA-6

K:\P2011\1470\B10\MXD\Wetland_Assessment\MemoFigures_20160926.mxd

NWI+ Detailed Wetlands (Field ID)
NWI+ Wetlands Complexes
Lakes and Ponds
Rivers and Streams
RINHS/CTNDDB Areas
HUC 8 Watershed Boundary
Conservation & Protected Open Space

WETLAND ASSESSMENT

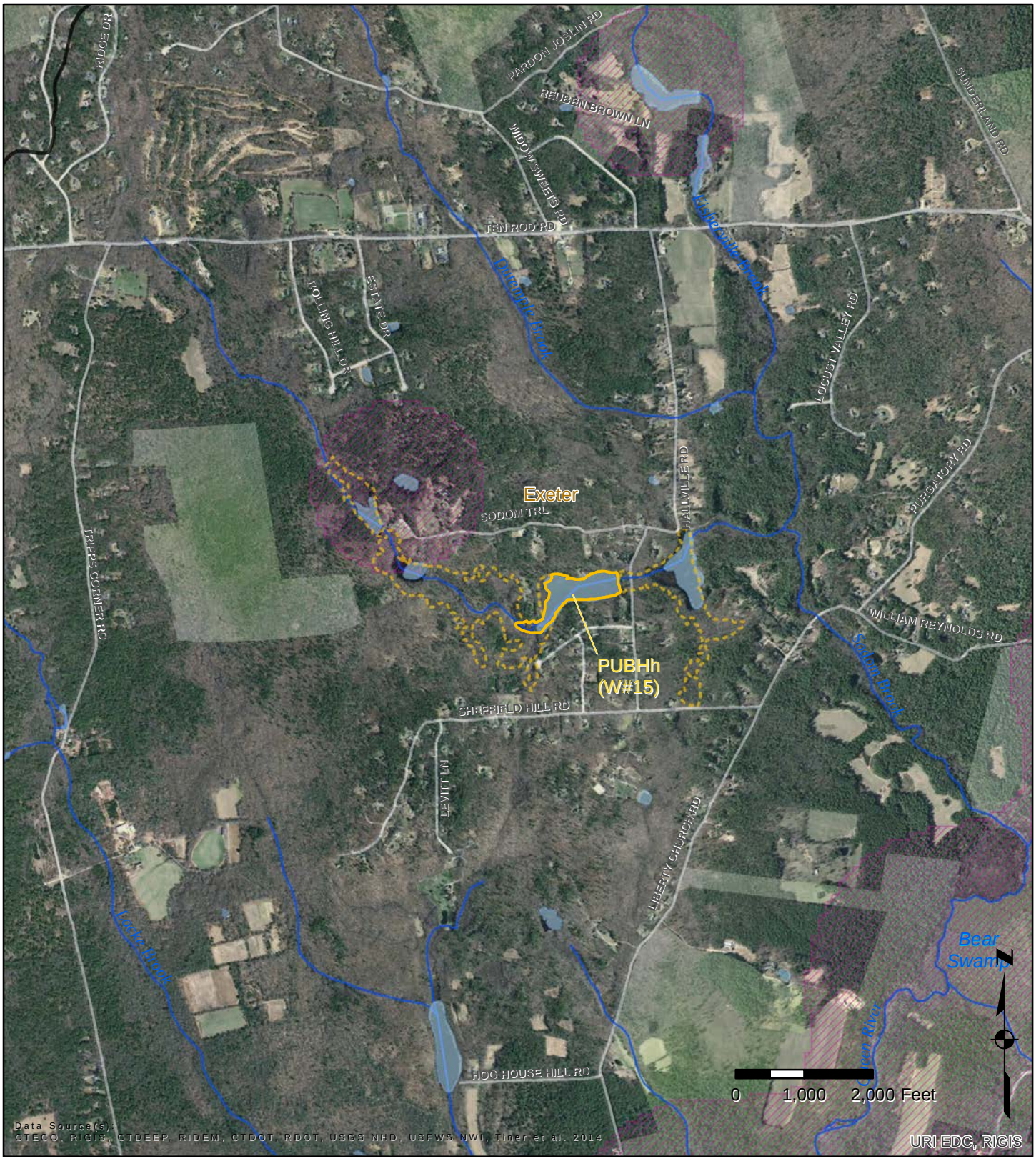
Wood-Pawcatuck Flood Resiliency Management Plan

Connecticut Rhode Island

FUSS & O'NEILL
317 Iron Horse Way
Providence, RI 02908
401.861.3070 | www.fando.com

Figure WA-7

K:\P2011\1470\B10\MXD\Wetland_Assessment\MemoFigures_20160926.mxd



NWI+ Detailed Wetlands (Field ID)
NWI+ Wetlands Complexes
Lakes and Ponds
Rivers and Streams
RINHS/CTNDDB Areas
HUC 8 Watershed Boundary
Conservation & Protected Open Space

WETLAND ASSESSMENT

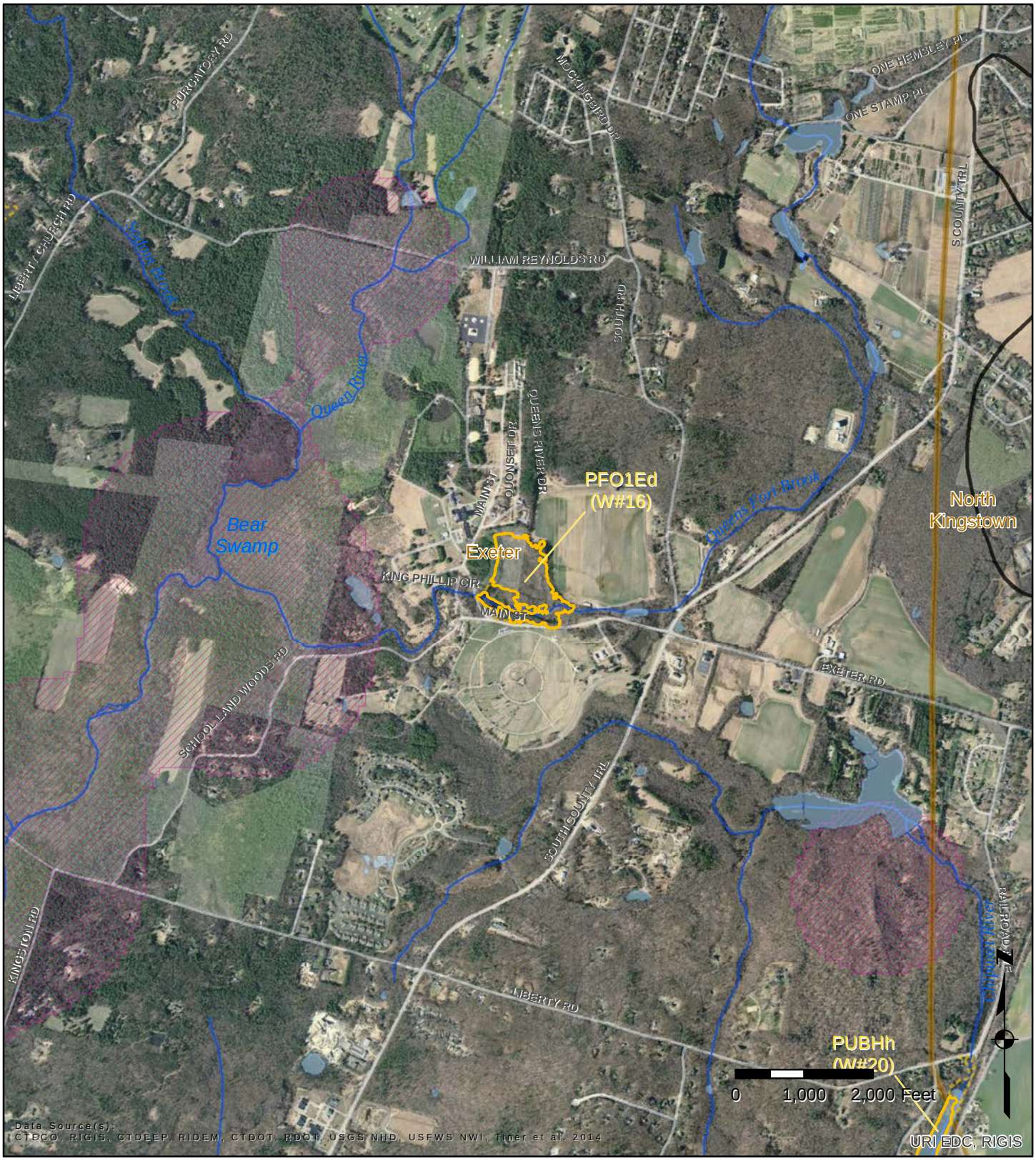
Wood-Pawcatuck Flood Resiliency Management Plan

Connecticut Rhode Island

FUSS & O'NEILL
317 Iron Horse Way
Providence, RI 02908
401.861.3070 | www.fando.com

Figure WA-8

K:\P2011\1470\B10\MXD\Wetland_Assessment\MemoFigures_20160926.mxd



NWI+ Detailed Wetlands (Field ID)
NWI+ Wetlands Complexes
Lakes and Ponds
Rivers and Streams
RINHS/CTNDDB Areas
HUC 8 Watershed Boundary
Conservation & Protected Open Space

Disclaimer: This map is not the product of a Professional Land Survey. It was created by Fuss & O'Neill, Inc. for general reference, informational, planning and guidance use, and is not a legally authoratative source as to location of natural or manmade features. Proper interpretation of this map may require the assistance of appropriate professional services. Fuss & O'Neill, Inc. makes no warrantee, express or implied, related to the spatial accuracy, reliability, completeness, or currentness of this map.

WETLAND ASSESSMENT

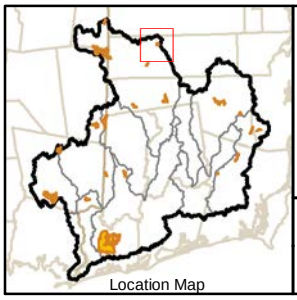
Wood-Pawcatuck Flood Resiliency Management Plan

Connecticut Rhode Island

FUSS & O'NEILL
317 Iron Horse Way
Providence, RI 02908
401.861.3070 | www.fando.com

Figure WA-9

K:\P2011\1470\B10\MXD\Wetland_Assessment\MemoFigures_20160926.mxd



NWI+ Detailed Wetlands (Field ID)
NWI+ Wetlands Complexes
Lakes and Ponds
Rivers and Streams
RINHS/CTNDDB Areas
HUC 8 Watershed Boundary
Conservation & Protected Open Space

WETLAND ASSESSMENT

Wood-Pawcatuck Flood Resiliency Management Plan

Connecticut Rhode Island

FUSS & O'NEILL
317 Iron Horse Way
Providence, RI 02908
401.861.3070 | www.fando.com

Figure WA-10

K:\P2011\1470\B10\MXD\Wetland_Assessment\MemoFigures_20160926.mxd

NWI+ Detailed Wetlands (Field ID)
NWI+ Wetlands Complexes
Lakes and Ponds
Rivers and Streams
RINHS/CTNDDB Areas
HUC 8 Watershed Boundary
Conservation & Protected Open Space

WETLAND ASSESSMENT

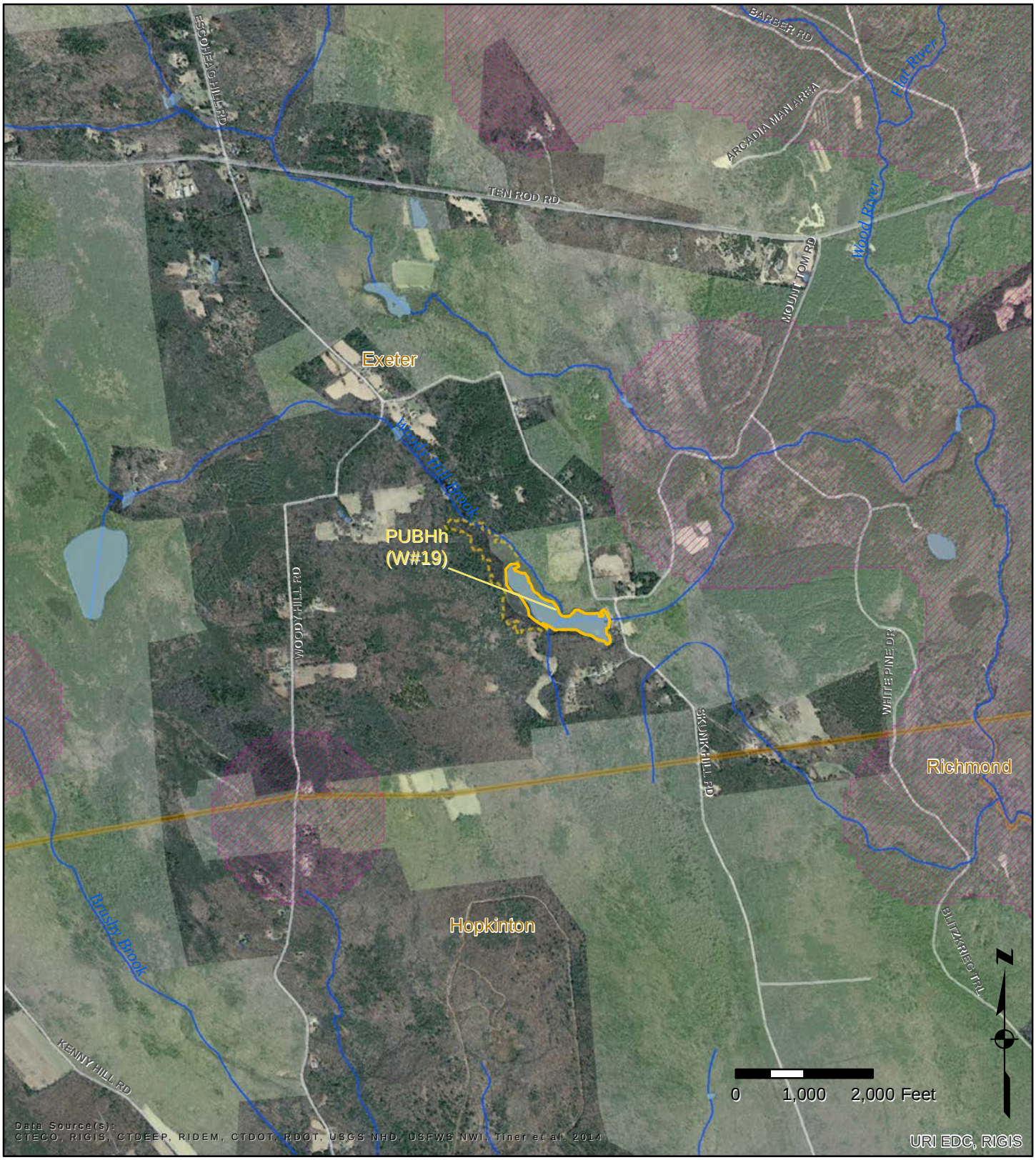
Wood-Pawcatuck Flood Resiliency Management Plan

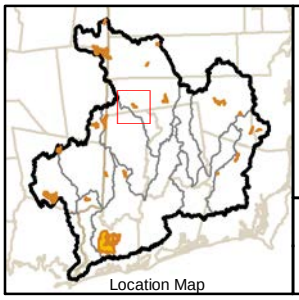
Connecticut Rhode Island

FUSS & O'NEILL
317 Iron Horse Way
Providence, RI 02908
401.861.3070 | www.fando.com

Figure WA-11

K:\P2011\1470\B10\MXD\Wetland_Assessment\MemoFigures_20160926.mxd





NWI+ Detailed Wetlands (Field ID)
NWI+ Wetlands Complexes
Lakes and Ponds
Rivers and Streams
RINHS/CTNDDB Areas
HUC 8 Watershed Boundary
Conservation & Protected Open Space

WETLAND ASSESSMENT

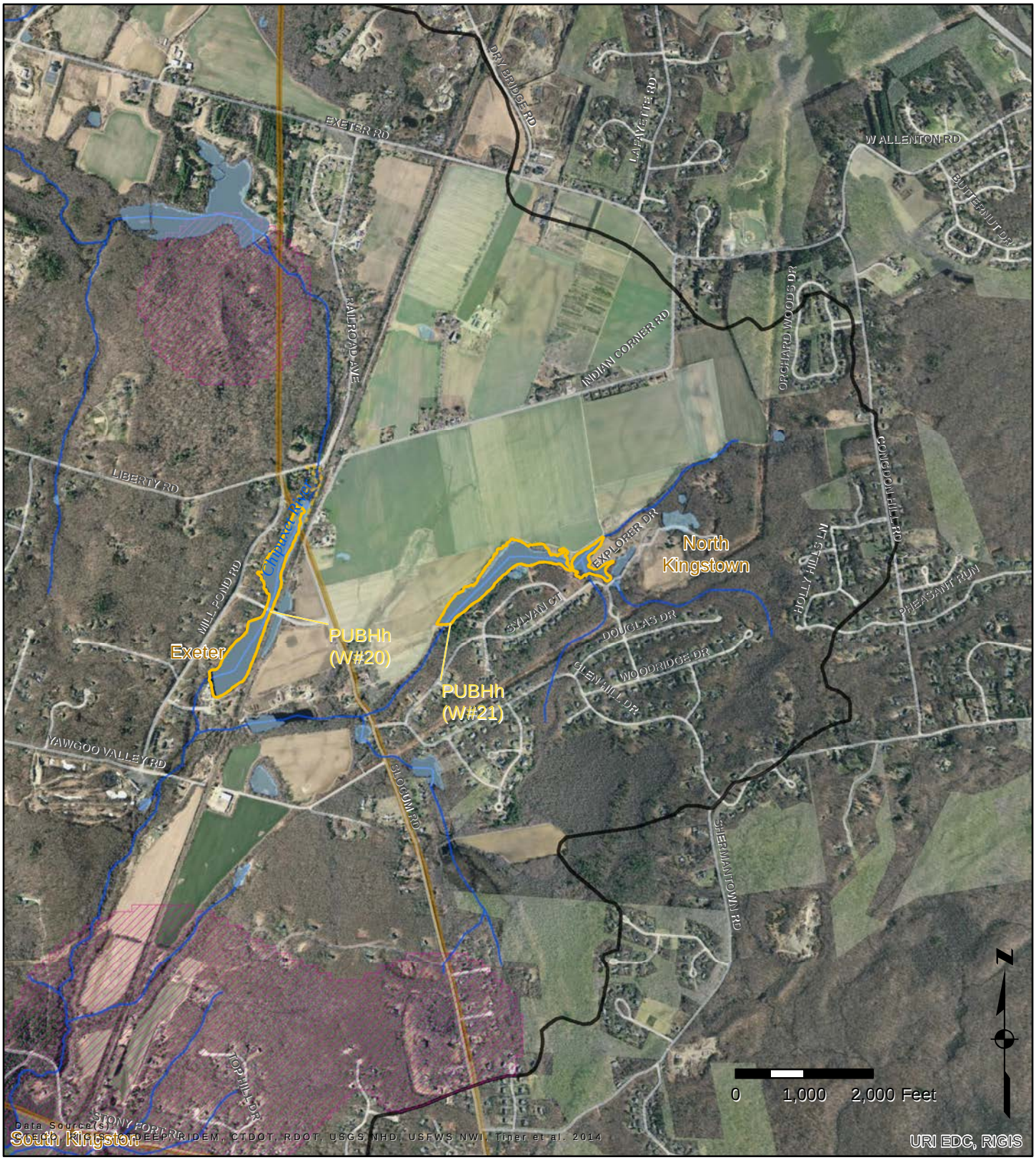
Wood-Pawcatuck Flood Resiliency Management Plan

Connecticut Rhode Island

FUSS & O'NEILL
317 Iron Horse Way
Providence, RI 02908
401.861.3070 | www.fando.com

Figure WA-12

K:\P2011\1470\B10\MXD\Wetland_Assessment\MemoFigures_20160926.mxd



NWI+ Detailed Wetlands (Field ID)
NWI+ Wetlands Complexes
Lakes and Ponds
Rivers and Streams
RINHS/CTNDDB Areas
HUC 8 Watershed Boundary
Conservation & Protected Open Space

Disclaimer: This map is not the product of a Professional Land Survey. It was created by Fuss & O'Neill, Inc. for general reference, informational, planning and guidance use, and is not a legally authoratative source as to location of natural or manmade features. Proper interpretation of this map may require the assistance of appropriate professional services. Fuss & O'Neill, Inc. makes no warrantee, express or implied, related to the spatial accuracy, reliability, completeness, or currentness of this map.

WETLAND ASSESSMENT

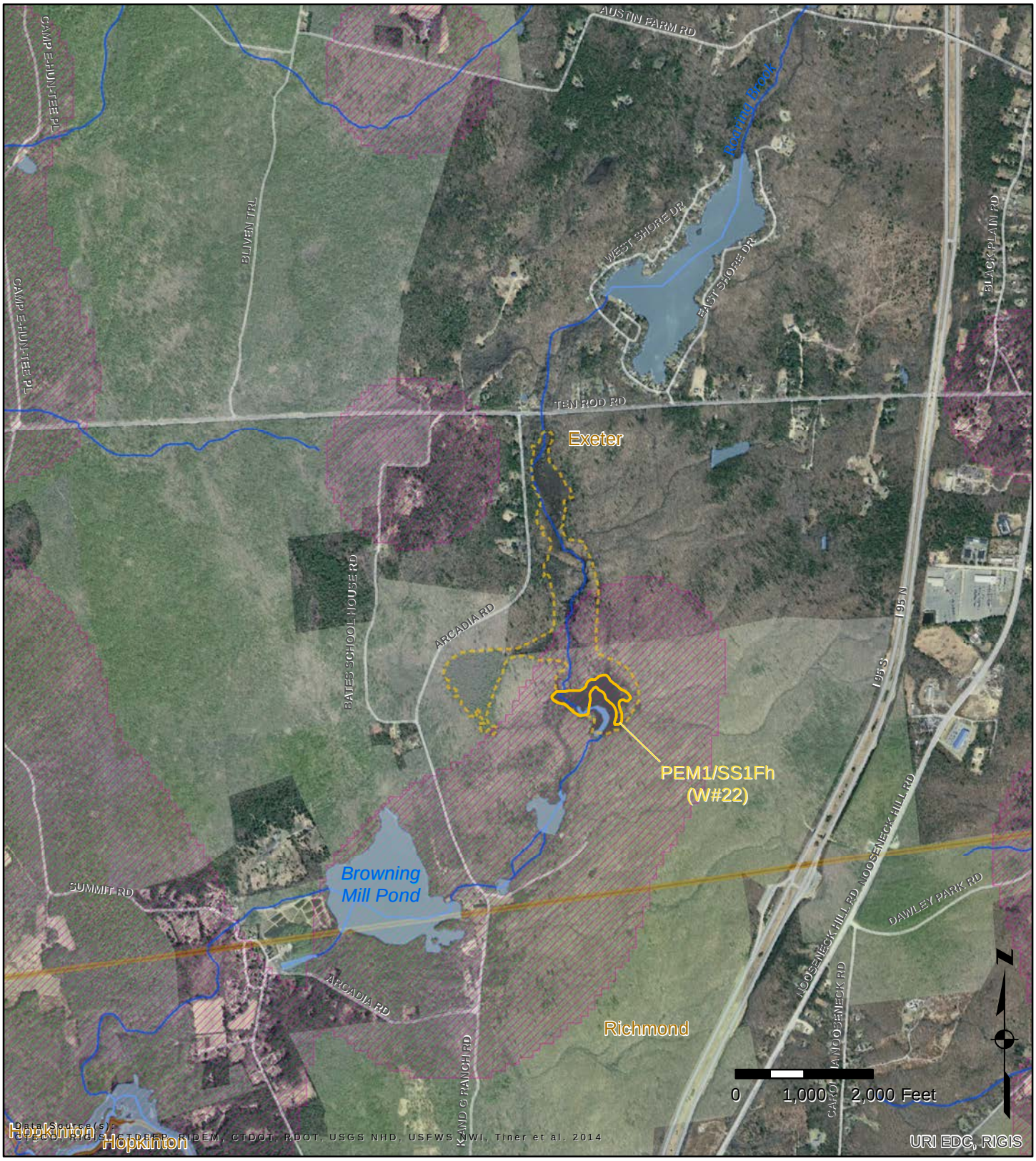
Wood-Pawcatuck Flood Resiliency Management Plan

Connecticut Rhode Island

FUSS & O'NEILL
317 Iron Horse Way
Providence, RI 02908
401.861.3070 | www.fando.com

Figure WA-13

K:\P2011\1470\B10\MXD\Wetland_Assessment\MemoFigures_20160926.mxd



NWI+ Detailed Wetlands (Field ID)
NWI+ Wetlands Complexes
Lakes and Ponds
Rivers and Streams
RINHS/CTNDDB Areas
HUC 8 Watershed Boundary
Conservation & Protected Open Space

WETLAND ASSESSMENT

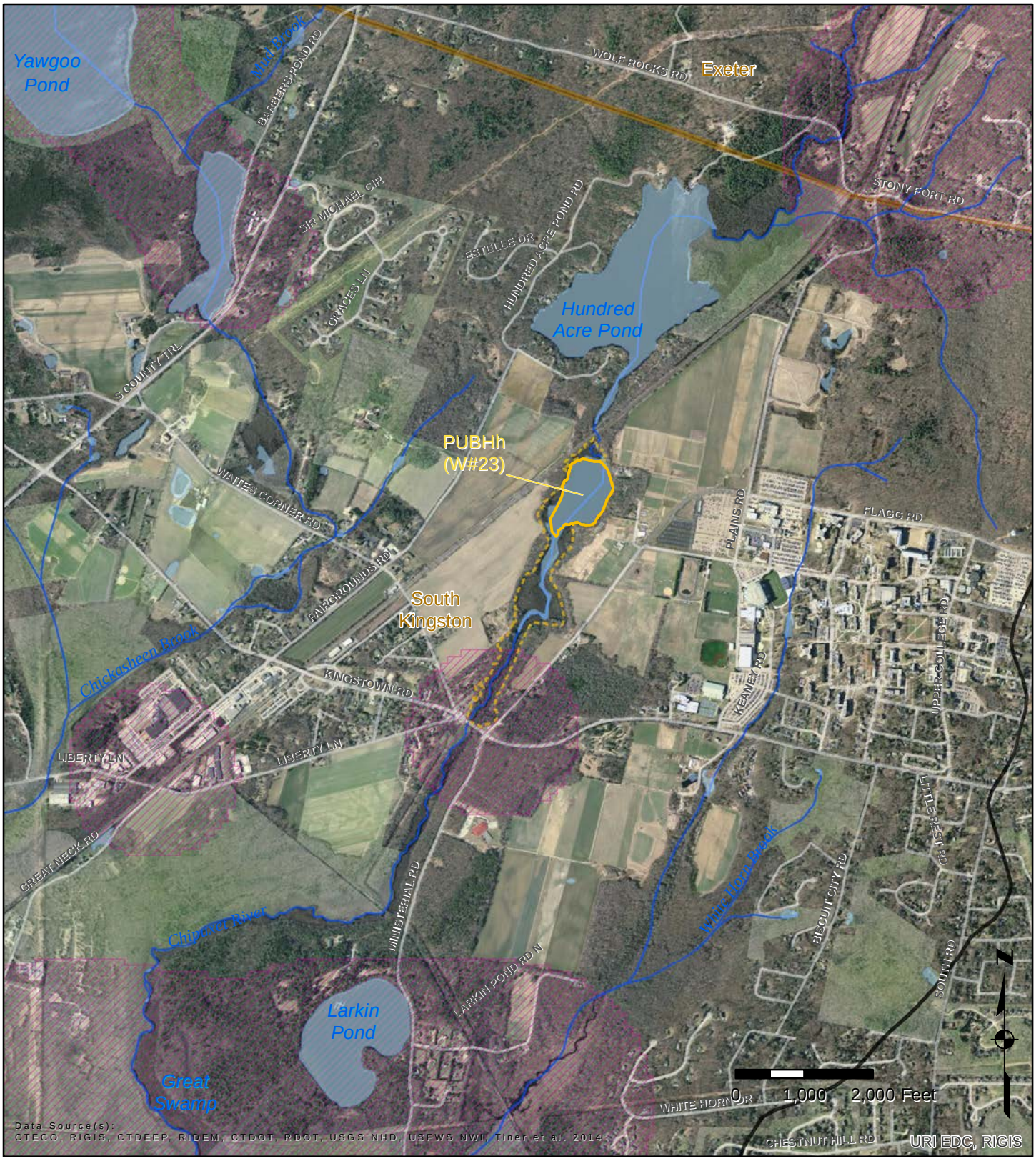
Wood-Pawcatuck Flood Resiliency Management Plan

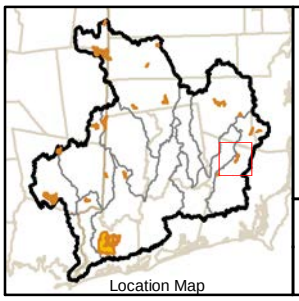
Connecticut Rhode Island

FUSS & O'NEILL
317 Iron Horse Way
Providence, RI 02908
401.861.3070 | www.fando.com

Figure WA-14

K:\P2011\1470\B10\MXD\Wetland_Assessment\MemoFigures_20160926.mxd





NWI+ Detailed Wetlands (Field ID)
NWI+ Wetlands Complexes
Lakes and Ponds
Rivers and Streams
RINHS/CTNDDB Areas
HUC 8 Watershed Boundary
Conservation & Protected Open Space

WETLAND ASSESSMENT

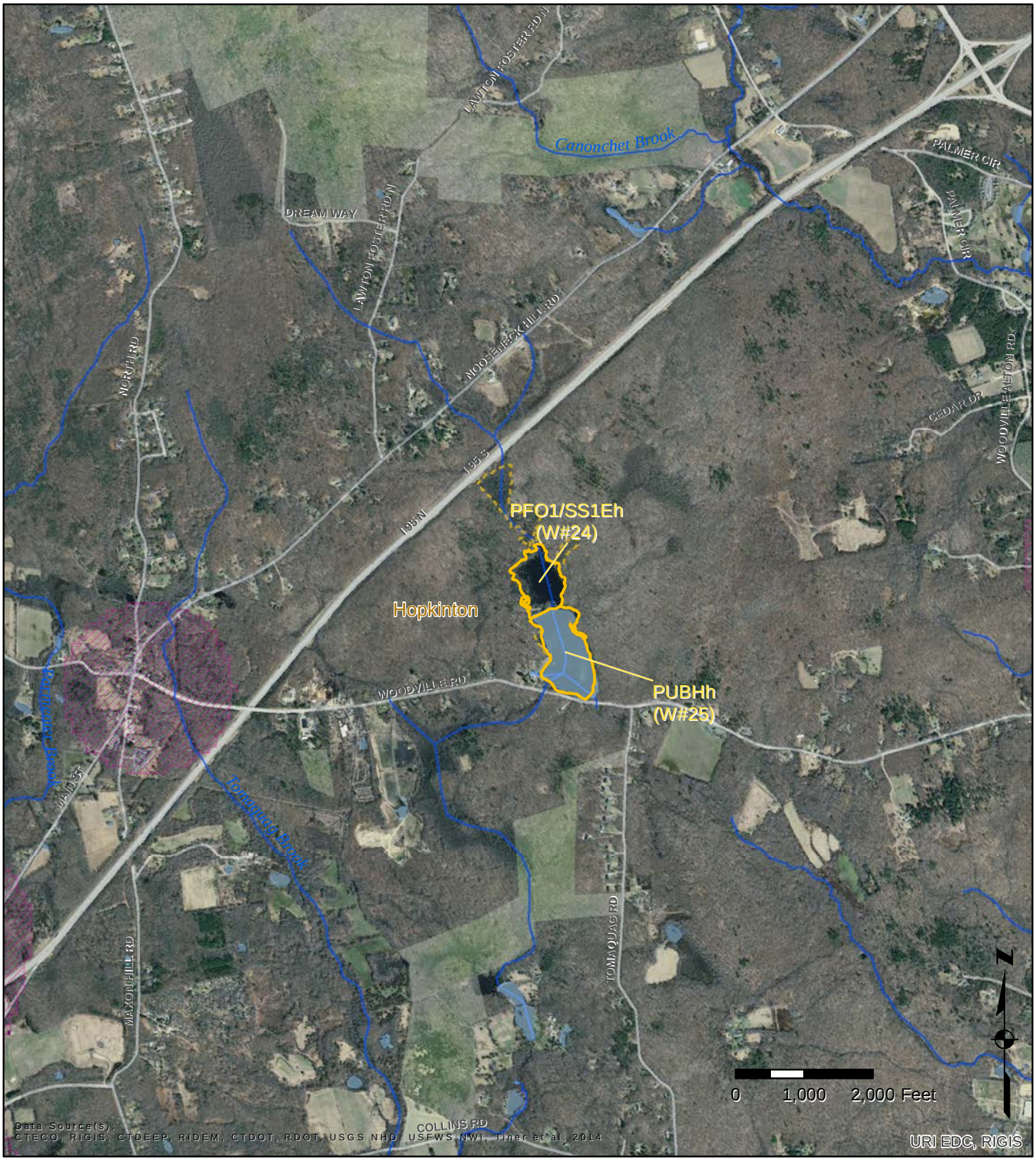
Wood-Pawcatuck Flood Resiliency Management Plan

Connecticut Rhode Island

FUSS & O'NEILL
317 Iron Horse Way
Providence, RI 02908
401.861.3070 | www.fando.com

Figure WA-15

K:\P2011\1470\B10\MXD\Wetland_Assessment\MemoFigures_20160926.mxd



NWI+ Detailed Wetlands (Field ID)
NWI+ Wetlands Complexes
Lakes and Ponds
Rivers and Streams
RINHS/CTNDDB Areas
HUC 8 Watershed Boundary
Conservation & Protected Open Space

WETLAND ASSESSMENT

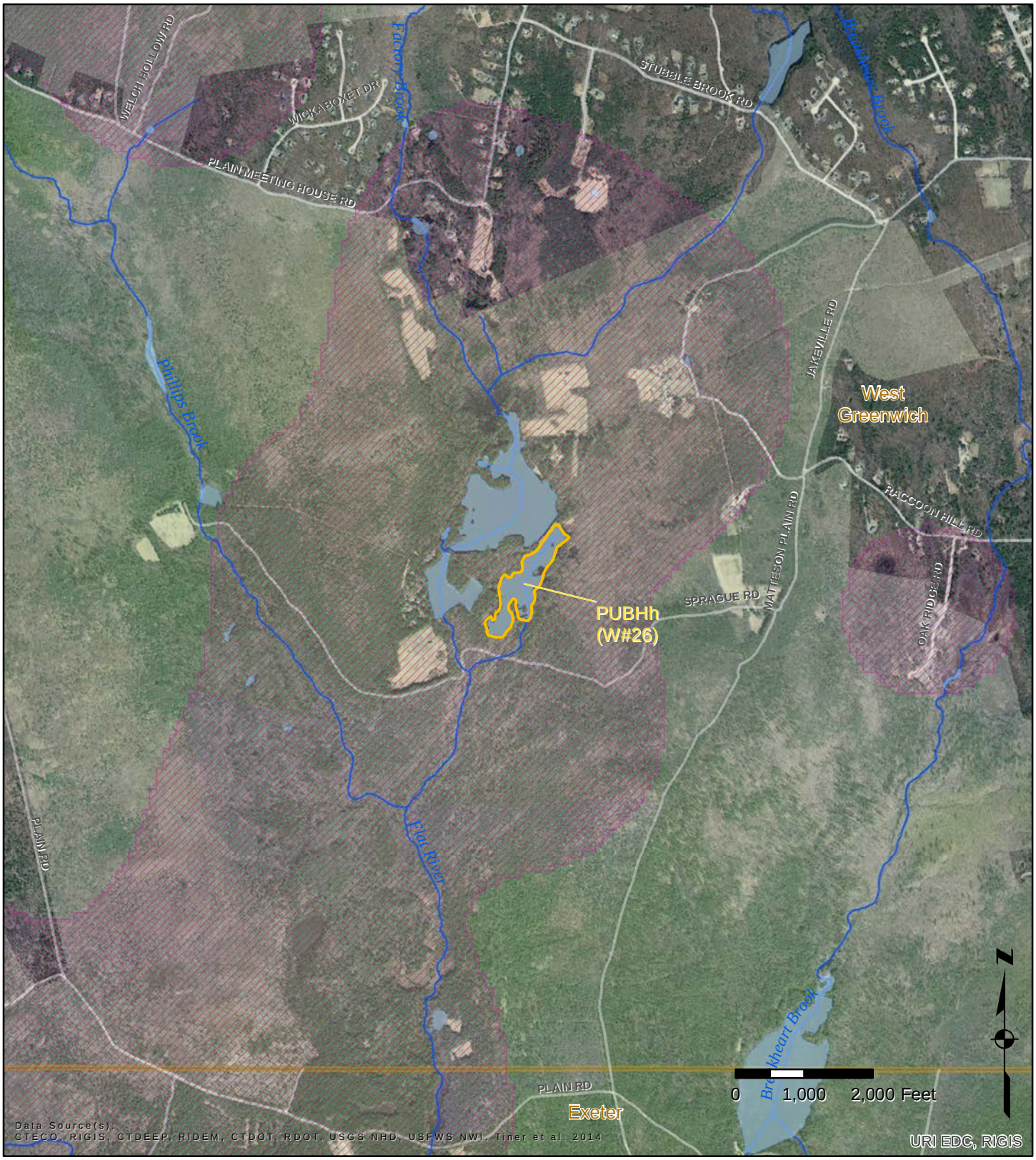
Wood-Pawcatuck Flood Resiliency Management Plan

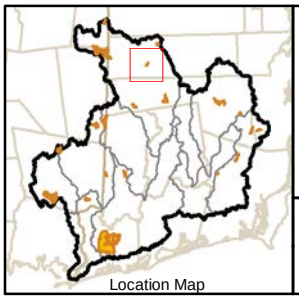
Connecticut Rhode Island

FUSS & O'NEILL
317 Iron Horse Way
Providence, RI 02908
401.861.3070 | www.fando.com

Figure WA-16

K:\P2011\1470\B10\MXD\Wetland_Assessment\MemoFigures_20160926.mxd





NWI+ Detailed Wetlands (Field ID)
NWI+ Wetlands Complexes
Lakes and Ponds
Rivers and Streams
RINHS/CTNDDB Areas
HUC 8 Watershed Boundary
Conservation & Protected Open Space

Disclaimer: This map is not the product of a Professional Land Survey. It was created by Fuss & O'Neill, Inc. for general reference, informational, planning and guidance use, and is not a legally authoratative source as to location of natural or manmade features. Proper interpretation of this map may require the assistance of appropriate professional services. Fuss & O'Neill, Inc. makes no warrantee, express or implied, related to the spatial accuracy, reliability, completeness, or currentness of this map.

WETLAND ASSESSMENT

Wood-Pawcatuck Flood Resiliency Management Plan

Connecticut Rhode Island

FUSS & O'NEILL
317 Iron Horse Way
Providence, RI 02908
401.861.3070 | www.fando.com

Figure WA-17

K:\P2011\1470\B10\MXD\Wetland_Assessment\MemoFigures_20160926.mxd

FUSS & O'NEILL

Attachment 3

Cowardin Classification System for Littoral and Palustrine Wetlands

Cowardin System of

WETLANDS AND DEEPWATER HABITATS CLASSIFICATION

System: L - Lacustrine

Subsystem: 1 - Limnetic

Class	Subclass
RB – Rock Bottom	1 Bedrock 2 Rubble
UB – Unconsolidated Bottom	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic
AB – Aquatic Bed	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular

Subsystem: 2 - Littoral

Class	Subclass
RB – Rock Bottom	1 Bedrock 2 Rubble
UB – Unconsolidated Bottom	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic
AB – Aquatic Bed	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular
RS – Rocky Shore	1 Bedrock 2 Rubble
US – Unconsolidated Shore	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic 5 Vegetated
EM – Emergent	2 Nonpersistent

System: P - Palustrine

Class	Subclass
RB – Rock Bottom	1 Bedrock 2 Rubble
UB – Unconsolidated Bottom	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic
AB – Aquatic Bed	1 Algal 2 Aquatic Moss 3 Rooted Vascular 4 Floating Vascular
US – Unconsolidated Shore	1 Cobble-Gravel 2 Sand 3 Mud 4 Organic 5 Vegetated
ML – Moss-Lichen	1 Moss 2 Lichen
EM – Emergent	1 Persistent 2 Nonpersistent 5 *Phragmites australis*
SS – Scrub-Shrub	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6 Deciduous 7 Evergreen
FO – Forested	1 Broad-Leaved Deciduous 2 Needle-Leaved Deciduous 3 Broad-Leaved Evergreen 4 Needle-Leaved Evergreen 5 Dead 6 Deciduous 7 Evergreen

MODIFIERS

In order to more adequately describe the wetland and deepwater habitats, one or more of the water regime, water chemistry, soil, or special modifiers may be applied at the class or lower level in the hierarchy. The farmed modifier may also be applied to the ecological system.

Water Regime			Special Modifiers	Water Chemistry			Soil
Nontidal	**Saltwater Tidal**	**Freshwater Tidal**		**Coastal Halinity**	**Inland Salinity**	**pH Modifiers for all Fresh Water**	
A Temporarily Flooded	L Subtidal	S Temporarily Flooded-Tidal	b Beaver	1 Hyperhaline	7 Hypersaline	a Acid	g Organic
B Saturated	M Irregularly Exposed	R Seasonally Flooded-Tidal	d Partly Drained/Ditched	2 Euhaline	8 Eusaline	t Circumneutral	n Mineral
C Seasonally Flooded	N Regularly Flooded	T Semipermanently Flooded-Tidal	f Farmed	3 Mixohaline (Brackish)	9 Mixosaline	l Alkaline	
E Seasonally Flooded/ Saturated	P Irregularly Flooded	V Permanently Flooded-Tidal	h Diked/Impounded	4 Polyhaline	0 Fresh		
F Semipermanently Flooded			r Artificial	5 Mesohaline			
G Intermittently Exposed			s Spoil	6 Oligohaline			
H Permanently Flooded			x Excavated	0 Fresh			
J Intermittently Flooded							
K Artificially Flooded							