

Prime Wetland Mapping and Evaluation

Town of Plaistow

Prepared by



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1. Introduction

West Environmental, Inc. (WEI) has prepared this report to provide documentation to support the designation of prime wetlands in the Town of Plaistow, New Hampshire. This project was based a Wetland Inventory that included mapping and wetland functional assessment of 37 individual wetlands that met the requirements of RSA 482-A:15 and Chapter Wt 700 of the NHDES Wetlands Bureau Administrative Rules. WEI worked closely with the Plaistow Conservation Commission to review the technical criteria for Prime Wetland Designation.

RSA 482-A:15 defines “Prime Wetlands” as jurisdictional wetlands that “because of their size, unspoiled character, fragile condition or other relevant factors, make them of substantial significance.” Env-Wt 701.03 Applicable Statutory Standards
Requirements established for a prime wetlands

1. To be at least 2 acres in size;
2. To not consist of a water body only;
3. To have at least 4 primary wetland functions, one of which must be wildlife habitat;
4. and to be at least 50 feet wide at its narrowest point

The regulation further indicate that the prime wetland candidates shall be evaluated as follows:

- a. For non-tidal wetlands, the “Method for Inventorying and Evaluating Wetlands in New Hampshire” dated 2015

The proposed Prime Wetland Candidates identified in Section 3 of this report meet all qualifications for Prime Wetland status.

2. Methodology

WEI worked with Saddleback Mountain Forestry and Environmental Consulting LLC to complete both the field work and the map preparation. Field work was started in the Spring of 2020 but the Plaistow Conservation Commission decided to work on their existing Wetland Ordinance and the wetland inventory work was paused until 2021. Field work continued until the end of 2021. In 2022 and 2023 the final inspections and edits to the wetland mapping were completed.

Wetland Mapping

Wetland mapping was performed reviewing 2015 and 2018 color ortho photos and 2019 LiDAR Maps. Field verification was completed from public access locations in and around the wetlands. This included field verification of locations where the wetland narrowed to less than 50 feet wide. It should be noted that the prime wetland mapping represents the most accurate information available but does not constitute an on-the-ground wetland delineation. It is to be used as a guide to the limits of a wetland resource area.

Twenty-one (21) of the thirty seven (37) wetlands that were mapped and evaluated were chosen by the Commission for Prime Wetland Designation. Some of the data that was collected includes:

- Soils verification
- Wetland classification
- Wetland boundary verification
- Land use in the 300-foot wetland buffer
- Existing and potential water quality impacts
- Invasive species
- Information on rare plants and wildlife
- NHDES Priority Resource Area wetlands

Wetland Functional Assessment

The NH Method data forms were completed on all of the 37 wetlands mapped and inventoried. The wetlands were then compared in a table to determine which wetland ranked highest in wetland functions. Wetland size was also considered in the choice of Prime Wetland candidates. The functions evaluated include the following:

1. Ecological Integrity
2. Wildlife Habitat
3. Fish and Aquatic Habitat
4. Scenic Quality
5. Educational Potential
6. Wetland Recreation
7. Flood Water Storage
8. Groundwater Recharge
9. Sediment Trapping
10. Nutrient Trapping, Retention and Transformation
11. Shoreland Anchoring
12. Noteworthiness

3. Prime Wetland Candidates

Twenty-one proposed prime wetland candidates represent the largest and highest functioning wetlands within the Town of Plaistow. These wetlands total 386 acres: Eight of the twenty-one wetlands are over 20 acres in size and nine of the wetlands are over 10 acres. In addition to their top twenty-one ranking, these wetlands comprise some of the most diverse and critical wetland wildlife habitat in Plaistow. Together, they will provide crucial links between habitats in the form of undisturbed wildlife corridors. Most of these wetlands are within the Little River watershed which includes most of the Town of Plaistow.

Prime Wetland Sizes

Wetland ID	Acres
2	4.7
4	18.6
5	17.4
7	17.1
9a	18.3
9b	21.2
11	12.3
19	9.2
22	28.7
24	51.8
25a	33.4
25b	20.2
28	21.4
30	24.5
32a	10.3
32b	12.6
34	10.5
35	4.1
38	11.3
43	3.5
44	34.8
Total	385.9

Appendix A includes the a comparison chart of all of the thirty-seven wetlands evaluated through the NH Method. Appendix B includes the wetland plant community, hydrology and photo documentation information. Appendix C is the townwide Prime Wetland Map. Appendix D includes a townwide aquifer transmissivity map, a soils map and a wildlife action plan top tier habitat map. Appendix E is the NH Natural Heritage Inventory Data for Plaistow.

Wetland Number	Size (acres)	1 Ecological Integrity	2 Wetland-Dependent Wildlife Habitat	3 Fish & Aquatic Habitat	4 Scenic Quality	5 Educational Potential	6 Wetland-based Recreation	7 Floodwater Storage	8 Groundwater	9 Sediment Trapping	10 Nutrient Transformation	11 Shoreline Anchoring	12 Noteworthiness
1a	3.5	5.4	2.7	3.5	1.7	1.8	0.9	1.8	6.2	6.8	5.9	5.5	10
2	4.7	8.5	4.9	NA	2.5	2.1	1.2	2.7	5.4	8.2	6.4	NA	10
3	4.5/7.2	6.3	5	3.5	4.5	3	3.3	3.4	3.6	8.3	7.3	7.8	10
4a	11	5.9	4	2.4	1.7	1.8	0.8	4.5	3.4	8.5	7.6	5.5	10
5	17.4	6.3	3.7	3.5	3.2	2.7	1.3	3.8	4.2	7.7	7.3	5.8	10
6	6.8	6.3	5.4	1.9	3.7	2.4	2.5	2.2	5.2	8.2	7.1	7.8	10
7	17.22	6.3	4.6	2.8	1.7	2.6	1.4	5.2	5.2	7.9	7.6	6.5	10
8	5.8	6.4	3.3	NA	1.7	1.6	1	3	5.2	9	7.4	NA	10
9a+b	32	5	4.9	2.8	1	2.8	1.2	3.8	4.4	6.9	5.9	7.8	10
10	5.3	5.4	4.1	NA	2.3	1.7	1.2	2.3	5.2	6.2	6.7	NA	10
11	12.7	6.3	4.1	NA	1	1.6	1	3.1	4.2	7.6	7.1	NA	10
13	6.9	5.9	4.2	2.7	3.2	2.2	1.6	2.5	6.2	5.6	6.6	7.8	10
14	3.1	5.5	3.7	NA	1.7	2	1.1	4	5.2	9.1	7.6	NA	10
17	3.1	5.9	4.2	1.3	1.7	2.3	1.3	2	5.2	6.7	6.8	7.8	20
18	8.09	5.3	4.3	2.7	3	2.9	1.4	3.3	3.4	7.6	6.2	6.3	0
19	10.2	5.4	4.5	3.5	2.3	2.6	1.5	2.8	5.2	5.7	6.7	7.8	10
20	2.66	4.4	3.9	1.8	0.8	1.3	1	1.5	4.2	8.1	5.9	6.5	0
22	27.16	6.7	6.3	4.9	4	2.5	2.7	2.3	5.2	7.6	7	8.8	0
23	7.76	6.3	4.3	0.9	2.5	1.8	1.1	2.4	5.2	7.6	7	6.5	10
24	44.24	4.1	3.5	2.7	1.7	1.9	1.2	4.4	4.4	5.9	8.1	7	20
25a	38.56	5.4	5.3	3.2	2.5	5.2	1.6	3.9	5.2	7	7.2	7.8	10
25b	32.34	5	4.5	3.2	1.7	2.4	1.2	4.4	5.2	7.1	7.3	7.8	10
26	3.41	5	4.9	2.7	4.3	2.1	1.7	2	4.2	6.7	6.7	8.8	0
27b	9.4	5	4.5	3.5	1.7	5.5	3	2.9	4.4	5.6	6.7	7.8	10
28	17.3	4.5	4.4	2.4	5	3.6	2.7	3.5	5.2	7.6	7.2	7.8	10
29	5.6	5.9	3.3	NA	1	1.5	0.7	2	4.4	6.7	6.7	NA	10
30	28.9	4.9	4.4	2.9	1.7	2.4	1.3	3.9	5.2	7	7.2	7.8	10
31a	4.5	7.6	4.8	NA	1.7	2	1.2	2.7	2.6	8.2	7.2	NA	10
32a+b	31.84	5.6	7.1	5.5	5.2	4	4	4.3	6	5.8	6	6.5	10
34	10.9	5	4.1	2.9	3.2	2.1	1.5	2.2	4.4	6.3	6.7	7.8	10
35	4.3	4.5	3.2	3.2	2.5	1.9	1.3	1.8	4.4	6.3	6.6	7.8	10
36	4	5.4	3.6	3.5	3.2	2.6	1.3	2	6.2	6.7	6.7	6.5	10
37	5.7	4	3.4	1.5	2.8	2.5	2.2	2.5	4.2	6.6	5.5	6.5	0
38	9.1	5	2.7	3.6	1.7	1.9	0.9	2.6	4.4	6.8	6.9	6.5	10
42	3.05	3.6	1.7	0.9	0.8	0.9	0.6	1.5	0.8	8.8	8.1	5.5	0
43	4.22	9.5	6.4	4.8	3.8	5.1	3.4	2	0.8	4.6	5.5	7.8	0
44	43.76	4.8	5.3	4.3	5.2	3.6	3.1	4.3	7	7.8	6.4	7.8	10

Wetland 2 – (PFO1E) Red maple swamp with soil poorly drained, hummock topography and no defined stream, wetland size, 4.7 acres with a 21-acre watershed. Wetland 2 is not connected to a stream or another wetland and is a basin.

Canopy: red maple (dominant), American elm

Shrub: speckled alder (dominant), highbush blueberry, maleberry meadowsweet, winterberry holly, poison sumac

Herbaceous: royal fern (dominant), marsh fern, jewelweed, tussock sedge, fringed willowherb, beggarticks, *purple loosestrife*



Wetland 2. Red maple forest canopy with an understory of speckled alder and royal fern.



Wetland 2. Hummock topography.



Wetland 2. Royal fern herbaceous layer.

Wetland 4 – (PFO1E) Red maple swamp with very poorly drained soil (muck) and hummock topography, includes a 1st order intermittent stream, 12” depth, 40” width, with a mud bottom. Wetland size of 18.6 acres within a 97-acre watershed. Wetland 6 flows into Wetland 4, then into a 1st order stream that connects to the Little River.

Canopy: red maple (dominant), eastern white pine, red oak

Shrub: sweet pepperbush (dominant), highbush blueberry (dominant), spicebush, poison sumac, arrow-wood, speckled alder, winterberry holly, *glossy buckthorn*

Herbaceous: cinnamon fern (dominant), blue flag iris, jewelweed, tall meadow rue, jack-in-the-pulpit, strawstem beggarticks, fringed willowherb, northern water horehound, tufted beggarticks, sensitive fern, royal fern, marsh fern

Wildlife: white-tailed deer, catbird



Wetland 4. Canopy of red maple with a diverse shrub layer dominated by sweet pepperbush and highbush blueberry, and herbaceous layer of cinnamon fern.



Wetland 4. Cinnamon fern herbaceous layer.



Wetland 4. Mud bottom of intermittent stream.

Wetland 5 – (PFO1/SS1/EM1Eb) Red maple swamp with areas of shrub and emergent vegetation on very poorly drained soil that includes a 1st order stream, channel width 2', 4-6 inches deep, with a bed of mud and sand. Inflow from Wetland 7, outflow into a 1st order tributary of Snows Brook. Beaver activity indicated. Wetland 5 is 17.4 acres within a watershed of 109 acres.

Canopy: red maple (dominant), yellow birch, speckled alder

Shrub: winterberry holly (dominant), poison sumac, American elm, highbush blueberry, white pine, witherod viburnum, speckled alder, silky dogwood, chokeberry, pussy willow, *glossy buckthorn*, *multiflora rose*, *honeysuckle* *bittersweet vine*

Herbaceous: tussock sedge (dominant), boneset (dominant), cinnamon fern (dominant), swamp dewberry (dominant), cattail (dominant), Virginia creeper (dominant), bluejoint grass (dominant), bristly dewberry, blue flag iris, rattlesnake grass, soft rush, royal fern, jewel weed, roundleaf greenbrier, eastern bur reed, Allegheny monkey-flower, skunk cabbage, common arrow arum purple loosestrife, eastern marsh fern, sensitive fern, goldenrod, bedstraw, false nettle, *oriental bittersweet*, *bittersweet nightshade*,

Floating Aquatic Plants: pondweed (dominant), wild celery (dominant), duckweed

Wildlife: Song sparrow, cardinal, green frog, eastern wood peewee, red bellied woodpecker, cat bird, red winged blackbird, cavity trees, beaver indicated



Wetland 5. Red maple canopy with diverse shrub and herbaceous layers.



Wetland 5. Stream channel with mud bottom and rooted aquatic pondweeds.

Wetland 7 – (PFO1/SS1E) Red maple swamp and shrub layer with poorly to very poorly drained soil. Wetland includes a 2-10 foot width of ponded surface water with a depth of 6-10 inches. A 1st order stream flows into this wetland, then flows out of Wetland 7 into Wetland 5. Wetland size, 17.1 acres within a 110-acre watershed.

Canopy: red maple (dominant), white pine

Shrub: poison sumac, American elm, red maple, *glossy buckthorn* (invasive and dominant), *Japanese knotweed* (near road)

Herbaceous: jewelweed (dominant), poison ivy (dominant), tussock sedge, fringed sedge, sensitive fern, goldenrod, northern arrow-wood, cattail, grass species, *purple loosestrife*

Wildlife: grackle, amphibians with ponded areas – additional man-made pond adjacent to wetland on private land



Wetland 7. Red maple forest with small ponded area.

Wetland 9a&b – (PF01/SS1/EM1E) Red maple swamp associates with the Little River poorly and very poorly drained soils. This wetland was evaluated as one system but was found to have an old bridge crossing which narrows to under 50-feet. This wetland contains a perennial stream, 2 – 4 ft in width and 12+ inches in depth. Wetland size, 18.3 and 21.234.9 acres within 20.67 square miles the largest watershed in Plaistow. Flow connections into this wetland from Wetland 13 into W9 through the Little River, Wetland 25 into W9 through Bryant Brook, Wetland 4 flows into W9 through the Little River. Stream orders associated with this wetland are Little River (stream order 4), Bryant Book (stream order 3), Foote Brook (stream order 2).

Canopy: red maple (dominant), quaking aspen, paper birch, American elm, and red oak.

Shrub: speckled alder (dominant), huckleberry (dominant), silky dogwood (dominant), witch hazel (dominant), winterberry holly, speckled alder, red-osier dogwood, shadbush, arrowhead, boneset, grape, red maple, eastern white pine, poison sumac, *honeysuckle*, and *glossy buckthorn*, and *Japanese knotweed* along *Birch Street*

Herbaceous: sensitive fern (dominant), swamp buttercup (dominant), jewelweed (dominant), jack-in-the pulpit, arrowhead/duck potato, blue vervain, cattail, tussock sedge, sensitive fern, bur-reed, arrow arum, *common reed*, *nightshade*, and *oriental bittersweet*

Areas adjacent to shopping areas are heavily littered and have a higher invasive component.

Wildlife: Deer, American robin, tufted titmouse, and other songbirds present



Wetland 9. Red maple forest canopy with shrub layer and sensitive fern typical of the northern portion of the wetland.



Wetland 9. Red maple forest and shrub in the northern portion of Wetland 9 near Walmart.



Wetland 9. Red maple forest near Birch Street, in the southern portion of Wetland 9.

Wetland 11 – (PF01/SS1E) Red maple swamp seasonally flooded with somewhat poorly drained soil and contains a 1st order stream. Wetland size, 12.3 acres within a 27-acre watershed, with flow into Seaver Brook.

Canopy: red maple (dominant), red pine, white pine

Shrubs: high bush blueberry (dominant), sweet pepperbush, plus trees of shrub size also in this layer include red maple (dominant), green ash, and black gum

Herbaceous: sphagnum moss (dominant), cinnamon fern (dominant) high bush blueberry, and sensitive fern

Wildlife: white tail deer, songbirds present.

Note: *Common reed grass* (invasive) present in powerline area within the wetland.



Wetland 11. Palustrine forest, shrub and herbaceous strata, showing areas of stained leaves where seasonal flooding typically occurs.



Wetland 11. Hummock topography covered with mosses.



Wetland 11. Invasive common reed grass is present in powerline easement of the wetland.

Wetland 19 – (PFO1/SS1/EM1E) Red maple forest along the wetland edge, transitioning to shrub of arrow-wood and dogwood, with a diverse emergent herbaceous layer, with poorly drained to very poorly drained soil. 2nd and 4th order streams are within the wetland, 2’-30’, width during flood 40’, mud bottom substrate, muck 12”, 18” water depth. Wetland size, 9.2 acres within a 9,612-acre watershed. Seaver Brook (stream order 2) flows into Wetland 19 and connects within Wetland 19 to the Little River (stream order 4), which flows into Wetland 13.

Canopy: red maple (dominant), eastern white pine, quaking aspen, white oak, black cherry
Shrub: arrow-wood (dominant), silky dogwood (dominant), red osier dogwood (dominant), northern swamp dogwood, *honeysuckle*, *Japanese knotweed*, *multiflora rose*, *European alder*
Herbaceous: jewelweed (dominant), cattail, goldenrod, false nettle, grape, groundnut, cardinal flower, spotted joe pye weed, purple joe pye weed, pickerelweed, cinnamon fern, royal fern, sensitive fern, goldenrod, sedge, jack-in the-pulpit, *common reed*, *bittersweet nightshade*, *climbing bittersweet*
Wildlife: racoon, white-tailed deer, songbirds



Wetland 19. Red maple overstory and arrow-wood and dogwood shrub.



Wetland 19. Wide portion of the river surrounded by a diverse herbaceous layer that includes pickerelweed and cattail.



Wetland 19. Pickerelweed in bloom.

Wetland 22 - This 28.5-acre wooded swamp has been colonized by beavers creating shallow marsh habitat with very poorly drained soils. This wetland is associated with a 1st order stream with a 22,215SF watershed. This wetland system includes scrub-shrub, forested and emergent wetlands. There are also areas of standing dead trees from beaver impoundments. This wetland drains southeast into Haverhill, MA.

Trees: Red maple, white pine, white ash. Shrubs: speckled alder, silky dogwood, buttonbush, northern arrowwood, highbush blueberry and winterberry. Herbs: broad-leaved cattail, tussock sedge, sensitive fern, cinnamon fern, and *phragmites*.

Wildlife: Beaver, coyote, song sparrow, wood duck, red-winged blackbird and green frog.



Looking west into Wetland 22 at the scrub-shrub portion (background) from Newton Road.



Wetland 22 Beaver impoundment.



Wetland 22 forested swamp portion

Wetland 24 – (PSS1/AB3Hb) Dogwood-alder shrub wetland with poorly drained soil, 4th and 1st order streams, 3-15' width, bottom substrate mud, open water in wider areas of stream, stream width at high water 6'-18', associated with the Little River. Wetland size, 51.8 acres within a 12.87 square mile watershed. Wetland 25 flows into Wetland 24 through an intermittent stream, Wetland 17 flows into Wetland 24 through a 1st order stream, which flows into the Little River (4th order) flowing through the center of Wetland 24. This is the largest wetland in Plaistow.

Canopy: red maple (dominant, sparsely distributed), American hornbeam, shagbark hickory

Shrub: silky dogwood (dominant), speckled alder (dominant), arrow-wood, sweet gale, meadowsweet, spicebush, buttonbush, *multiflora rose*, *honeysuckle*

Herbaceous: cattail (dominant), *purple loosestrife* (dominant) jewelweed, soft-stem bulrush, tall meadow rue, swamp candle, arrowhead, joe pye weed, pickerelweed, pondweed, yellow pond lily, swamp milkweed, tussock sedge, marsh skullcap, cinnamon fern, royal fern, lady fern, sensitive fern, goldenrod, *reed canary grass*, *common reed*

Wildlife: songbirds, beaver, bullfrog



Wetland 24. Dogwood and alder shrub with invasive loosestrife dominant in many areas.



Wetland 24. Buttonbush in bloom.



Wetland 24. Little River flowing through a dogwood-alder shrub wetland.



Wetland 24. Beaver dam in the center of the photo.

Wetland 25a – (PEM1/PFO1/PSS1E/PEM5) This is a large complex of several wetland types, poorly to very poorly drained soils, which contains 2nd and 3rd order streams, wetland size, 33.4 acres within a 7.1 square mile watershed. Wetland 27 connects with Wetland 25 through Bryant Brook (2nd and 3rd order stream), and Line Brook (2nd order stream) flows into Wetland 25. Wetland 25a flows out through Bryant Brook into Wetland 25b.

Forested portion Canopy: red maple, black willow Shrubs: silky dogwood (dominant), speckled alder (dominant), buttonbush, elderberry Herbaceous: *common reed grass* (dominant), blue flag iris, cattail, swamp milkweed, blunt spikerush, arrow-leaved tearthumb, false nettle, *purple loosestrife*

Emergent Portion

Shrubs: arrow-wood (dominant), winterberry holly, swamp rose Aquatic: coontail, duckweed Herbaceous: cattail (dominant), arrowhead, jewelweed, boneset, bur-reed, bittersweet nightshade, soft-stem bulrush, rice cutgrass, bearded sedge, cinnamon fern, royal fen, silvery glade fern, marsh fern, poison ivy, *common reed grass*, *climbing bittersweet*, *purple loosestrife*

Wildlife: songbirds

Occasional scattered garbage



Wetland 25 – Cattail swamp.



Wetland portion dominated by invasive reed canary grass scattered speckled alder shrub.

Dogwood-alder swamp (PSS1E) perennial stream present, 6" depth, 6' width, with mud bottom, very poorly drained soil.

Canopy: red maple, black willow Shrubs: silky dogwood (dominant), speckled alder (dominant), buttonbush, elderberry Herbaceous: *common reed grass (dominant)*, blue flag iris, cattail, swamp milkweed, blunt spikerush, arrow-leaved tearthumb, false nettle, *purple loosestrife*

Wildlife: whirligig beetle



Wetland 25, Viewpoint 3. Dogwood-alder shrub with herbaceous layer of common reed grass mixed with a variety of other herbaceous species.



Wetland 25, Viewpoint 3. Stream flowing through wetland.

Wetland 25b - *This wetland complex borders Atkinson and is a 20.2-acre marsh classified as PEM1Eb with poorly drained soil. This wetland borders Bryant Brook a 3rd order stream and provides important water quality and flood storage functions. This wetland has a 9.6 square mile watershed.*

Canopy: red maple Shrubs: speckled alder, silky dogwood and buttonbush Herbaceous: *common reed grass (dominant), reed canary grass (dominant), cattail, purple loosestrife, and sedges. Bittersweet.*

Wildlife: Swamp sparrow, red-winged blackbird, Tree swallow, bull frog, green frog, and muskrat.



Wetland 25 Common reed grass and reed canary grass marsh.



Wetland 25b PFO1/EM1E and A view of the cattail marsh portion of the wetland.

Wetland 28 – (PFO1/EM1E) This is a 21.4-acre red maple swamp in the northeast portion of Plaistow. It extends into the Town of Newton where it transitions into a cattail swamp. The forested portion has a canopy of red maple and gray birch, Shrub layer winterberry, highbush blueberry, sweet pepperbush and glossy buckthorn with an herbaceous layer of cinnamon fern, sensitive fern, cinnamon fern and sedges.



Wetland 28 - Two views of this red maple swamp.

Wetland 30 – (PFO1/SS1/EM1Eb) Red maple swamp, very poorly drained soil, associated with Kelly Brook, perennial stream, 2-12' width up to 15 during flooding, water depth 1-3", mud bottom with muck 3-10". Wetland size, 24.5 acres with a 3,205-acre watershed. Wetland 34 flows through Kelly Brook (3rd order stream) into Wetland 30. Wetland 30 flows out through Kelly Brook into the Little River (4th order stream).

Canopy: red maple (dominant), red oak, white pine, white birch, black willow

Shrub: silky dogwood (dominant), sweet pepperbush (dominant), speckled alder (dominant), winterberry holly (dominant), arrow-wood, highbush blueberry, meadowsweet, witch hazel, steplebush, northern wild raisin, *autumn olive*, *honeysuckle*

Herbaceous: cattail (dominant), jewelweed (dominant), *reed canary grass* (dominant), cinnamon fern (dominant), sensitive fern (dominant), lady fern, New York fern, marsh fern, goldenrod, swamp candle, arrow arum, tall meadow rue, bur-reed, joe pye weed, swamp milkweed, tussock sedge, swamp rose, bedstraw, lurid sedge, false nettle, water parsnip, beggar ticks, Canada mayflower, Virginia creeper, poison ivy, grape, *purple loosestrife*, *bittersweet*

Wildlife: red-winged blackbird, songbirds, deer, damselflies, bullfrog, beaver



Wetland 30 Shrub, cattail and loosestrife in Wetland 30.



Wetland 30 Red maple swamp with stream flowing through herbaceous layer.



Wetland 30 Kelly Brook flowing through the wetland.

Wetland 32a and b (PFO1C and PEM1Eb) This 22.9-acre wetland with a 11.1 square mile watershed is associated with the Little River and includes forested floodplain wetlands and shallow and deep marsh habitat. This wetland was evaluated as one system as it is connected just east of the Town line with Newton. The forested portion has a canopy of red maple and white pine. The shrub layer includes silky dogwood, winterberry, glossy *buckthorn*, and speckled alder. The herb layer includes sensitive and cinnamon fern, sedges, false nettle, white hellebore, and skunk cabbage. Wildlife observed included gray catbird, green frog and yellowthroat. There was limited access to this wetland system.



Wetland 32a Looking upstream at the Little River at Kingston Road where it exists the wetland.



Wetland 32b Looking downstream from Crane Crossing Road with the wetland in the background where the Little River enters the wetland.

Wetland 34 – (PFO1/SS1/EM1Eb/AB3) Red maple swamp with shrub and ponded areas, very poorly drained soil. Includes Kelly Brook, a 3rd order perennial stream, water depth 0-3”, 2’ width, bottom substrate mud, muck 6-8” deep, open water/pond present. Wetland size, 10.5 acres within a 3,013-acre watershed. Wetland 35 flows into Wetland 34 through Kelly Brook.

Canopy: red maple (dominant), red oak

Shrub: speckled alder (dominant), silky dogwood, arrow-wood, elderberry, honeysuckle, buttonbush, winterberry, northern wild raisin, *Japanese knotweed*

Herbaceous: jewelweed (dominant), false nettle, beggar’s ticks, swamp candle, meadowsweet, bur-reed, spotted joe pye weed, pickerelweed, arrow arum, cattail, tussock sedge, wintergreen, royal fern cinnamon fern, marsh fern, sensitive fern, pondweeds, duckweed, Virginia creeper, poison ivy, grape, *bittersweet nightshade*, *purple loosestrife*, *reed canary grass*

Wildlife: songbirds, beaver, dragonflies



Wetland 34. Ponded area with pondweeds, duckweed, and pickerel weed.



Wetland 34, Viewpoint 2. Red maple swamp with shrub

Wetland 35 – (PFO1,4/SS1/EM1E) Red maple swamp with dogwood shrubs and emergent wetland, poorly drained soil. Includes Kelly Brook, a 3rd order stream, 5’ width, water depth 8”, width during flood 12’, mud bottom. Wetland size, 4.1 acres within a 319-acre watershed. Kelly Brook flows into Wetland 35, which flows into Wetland 34.

Canopy: red maple (dominant), eastern white pine, American elm

Shrub: silky dogwood (dominant), arrow-wood, highbush blueberry, buttonbush, speckled alder, winterberry, poison sumac, *barberry*

Herbaceous: jewelweed, soft-stem bulrush, bur-reed, bittersweet nightshade, poison ivy, grape, swamp candle, beggar’s ticks, swamp milkweed, water parsnip, cinnamon fern, royal fern, sensitive fern, *purple loosestrife (dominant)*, *climbing bittersweet*

Wildlife: songbirds, blue jay, bull frog, water beetles, racoon



Wetland 35. Kelly Brook.

Wetland 38 – (PFO1/SS1E) Red maple swamp, poorly drained soil with a ponded area in center, 8” depth, includes a 2nd order stream, Wetland 36 flows into Wetland 38 that flows into the Little River. Wetland size, 11.3 acres within a 2,588-acre watershed.

Canopy: red maple (dominant)

Shrub: speckled alder (dominant), highbush blueberry, winterberry holly, meadowsweet, *multiflora rose*

Herbaceous: duckweed (dominant), sensitive fern (dominant), bur-reed, swamp milkweed, swamp candle, Virginia water horehound, boneset, royal fern, beggar’s ticks, false water pepper, Pennsylvania smartweed, spike rush, black bindweed, *purple loosestrife (dominant)*, *bedstraw*, *climbing bittersweet*

Wildlife: bullfrog, water snake



Wetland 38. Ponded area in the center of the wetland.



Wetland 38. Swamp milkweed.



Wetland 38. Red maple canopy, with sensitive fern herbaceous layer.

Wetland 34 (PFO1E) this forested swamp is associated with an intermittent stream that is a tributary to Kelley Brook and is in an undeveloped portion of Plaistow. At 3,5 acres it is the smallest prime wetland candidate, and it has a 320-acre watershed. The canopy includes red maple and white pine. The shrub layer includes ironwood, winterberry, and highbush blueberry. The herbs include cinnamon fern, Canada mayflower, and sedges. The stream channel is 5'-8' wide and the wetland ranges from 60 to 120 feet wide.



Wetland 34 is the location of a proposed nature trail crossing on Town-owned land.

Wetland 44 (PEM1FB-PSS1/EM1Eb-PFO1/4E) This 34.8-acre wetland is the second largest in Plaistow and is located along the northern Town line with Kingston where the Little River enters the Town. It has a 6.8 square mile watershed. The cattail marsh wetland system includes an herb layer of cattail, tussock sedge, *purple loosestrife* and stands of *common reed*. The scrub-shrub/emergent system includes a red maple and white pine dominated edge with a shrub layer of highbush blueberry, meadowsweet, leatherleaf, steeplebush, and sweet pepperbush. The diverse herb layer includes tussock sedge, bluejoint grass, fringed sedge, hop sedge, cinnamon fern, royal fern, bugleweed, eastern burred, soft rush, woolgrass, cattail, soft stem bullrush, water lilly, and spatterdock. The Forested portion in the eastern part of the wetland is a peatland and has a canopy of red maple, gray birch and white pine. The thick shrub layer includes sweet pepperbush, winterberry, highbush blueberry, poison sumac, silky dogwood, and speckled alder. The herb layer is dominated by cinnamon fern, royal fern, and sedges. Wildlife: Raven, coopers hawk, bald eagle, crow, wood duck, mallard, black duck, great blue heron, tree swallow, song sparrow, yellowthroat, painted turtle, snapping turtle, green frog, beaver, muskrat, and white-tailed deer.



Wetland 44 western portion of the wetland.



Wetland 44 The Little River separates the sedge wetland with the cattail marsh on the right.



Wetland 44 Looking north at the cattail marsh plant community.



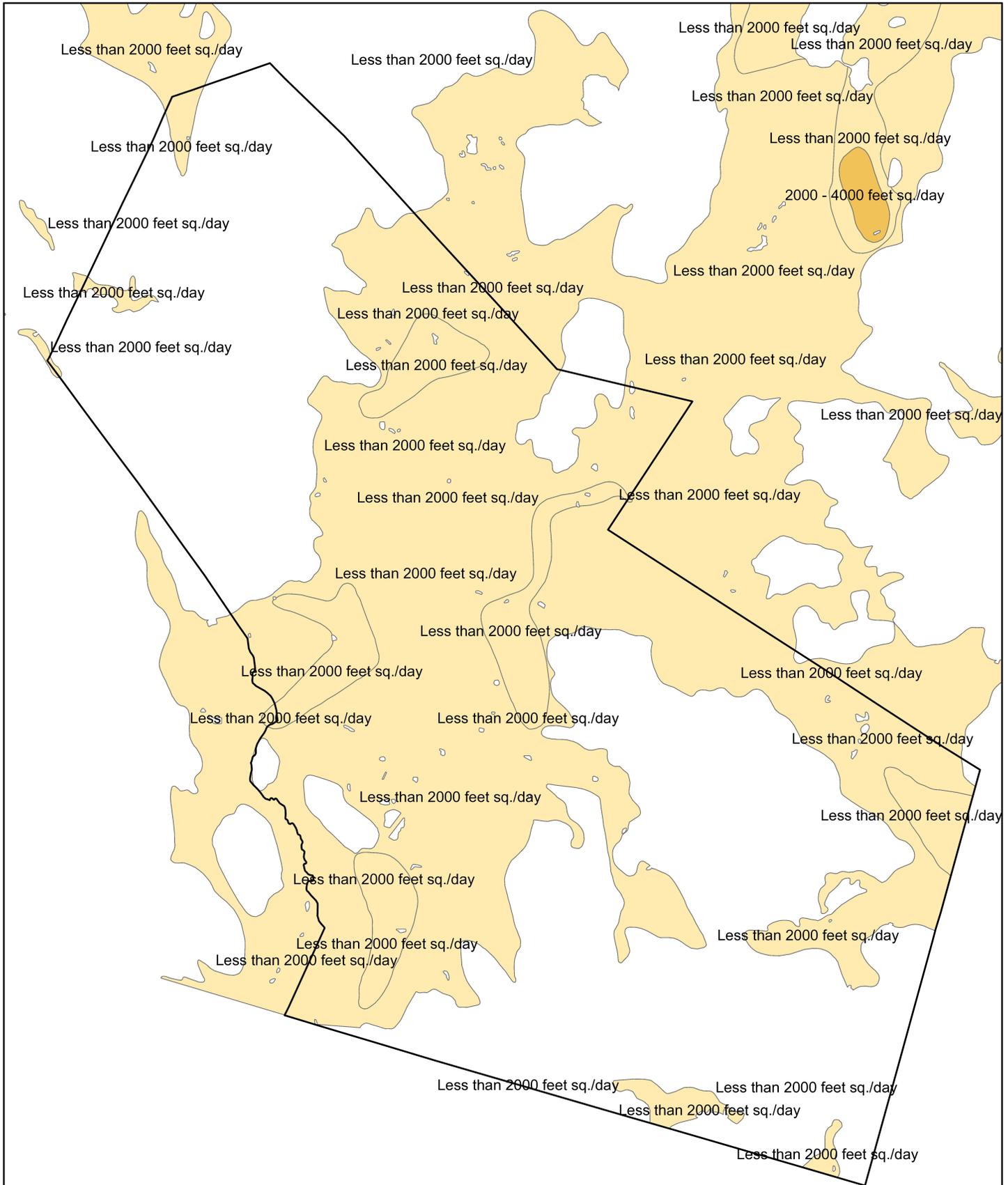
Wetland 44 looking north at the industrial site north of the Little River.



Wetland 44 Looking west upstream from Route 125 where the river drains the wetland.



Wetland 44 This is a view of the dense forested portion of the wetland close to Route 125.



Data Sources: NH GRANIT, Political Boundaries (12/5/2006); GRANIT View, Aquifer Transmissivity (8/26/2021).

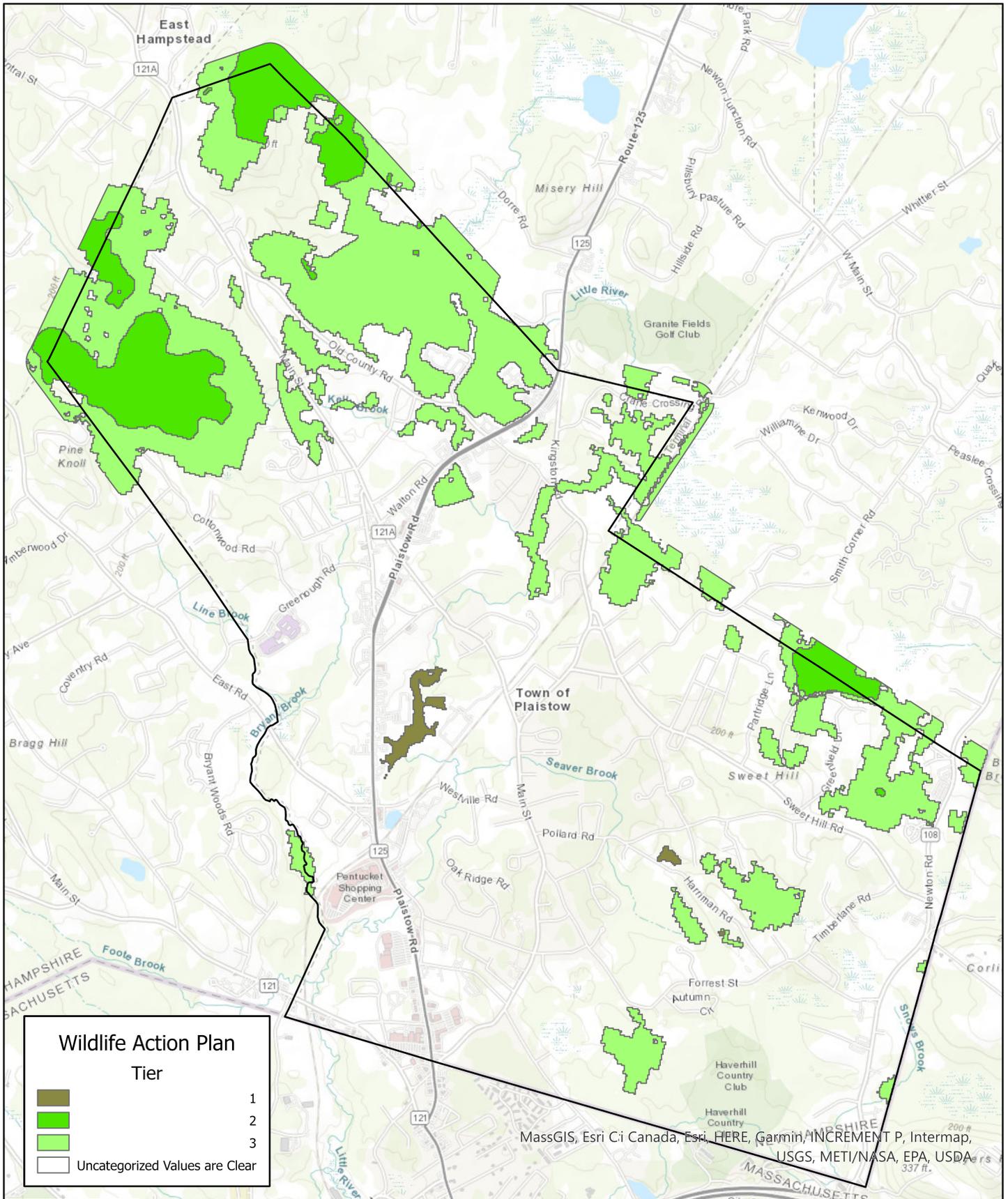
Prepared By: Tyler Romano, Forestry Technician, Saddleback Mountain Forestry and Environmental Consulting, LLC (8/26/2021)



Wetlands of Plaistow, NH

Aquifer Transmissivity Map





Data Sources: NH GRANIT; Wildlife Action Plan Tiers (11/27/2020), Political Boundaries (12/5/2006)

Prepared By: Tyler Romano, Forestry Technician, Saddleback Mountain Forestry and Environmental Consulting, LLC (8/26/2021)



Wetlands of Plaistow, NH

Wildlife Action Plan Tier Map



MassGIS, Esri Ci Canada, Esri, HERE, Garmin, INCREMENT P, Intermap, USGS, METI/NASA, EPA, USDA