A Wetland Mitigation Plan for the

Mud Creek Preserve

Hudson, NY

A site in the TWT NY Hudson River
Wetland Mitigation Umbrella Bank's
Mid-Hudson Service Area
HUA 02020006

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Submitted to:
United States Army Corps of Engineers
New York and Buffalo District's
Interagency Review Team

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1. Introduction and Objectives

The Wetland Trust (TWT) NY Hudson River Wetland Umbrella Mitigation Bank Instrument (HRUMBI) provides for multiple sites to maximize each service area's mitigation services. The HRUMBI was approved on 4 January 2021 and activated when the Hudson-Wappinger Service Area (HWSA) as accepted on 14 January 2021 by the District Engineer (DE) acting in consultation with the Interagency Review Team (IRT). The Mud Creek Preserve Mitigation Plan (plan, Mitigation Plan) is submitted for a site located in the Town of Claverack, Columbia County, NY in the Mid-Hudson Service Area (MHSA or SA), and will activate that SA upon approval. The plan provides all necessary site descriptions and actions to be taken as required by Federal Register Volume 73, Number 70, Part 332.4.

The TWT Mud Creek Preserve (MCP) is relatively open, with topography and hydrology lending itself to palustrine forested (PFO) and palustrine scrub shrub (PSS) wetland habitats. Its large size provides for adequate buffering. This plan will have wetland re-establishment, rehabilitation, and preservation components developed for mitigation credits.

The objectives of this plan are to:

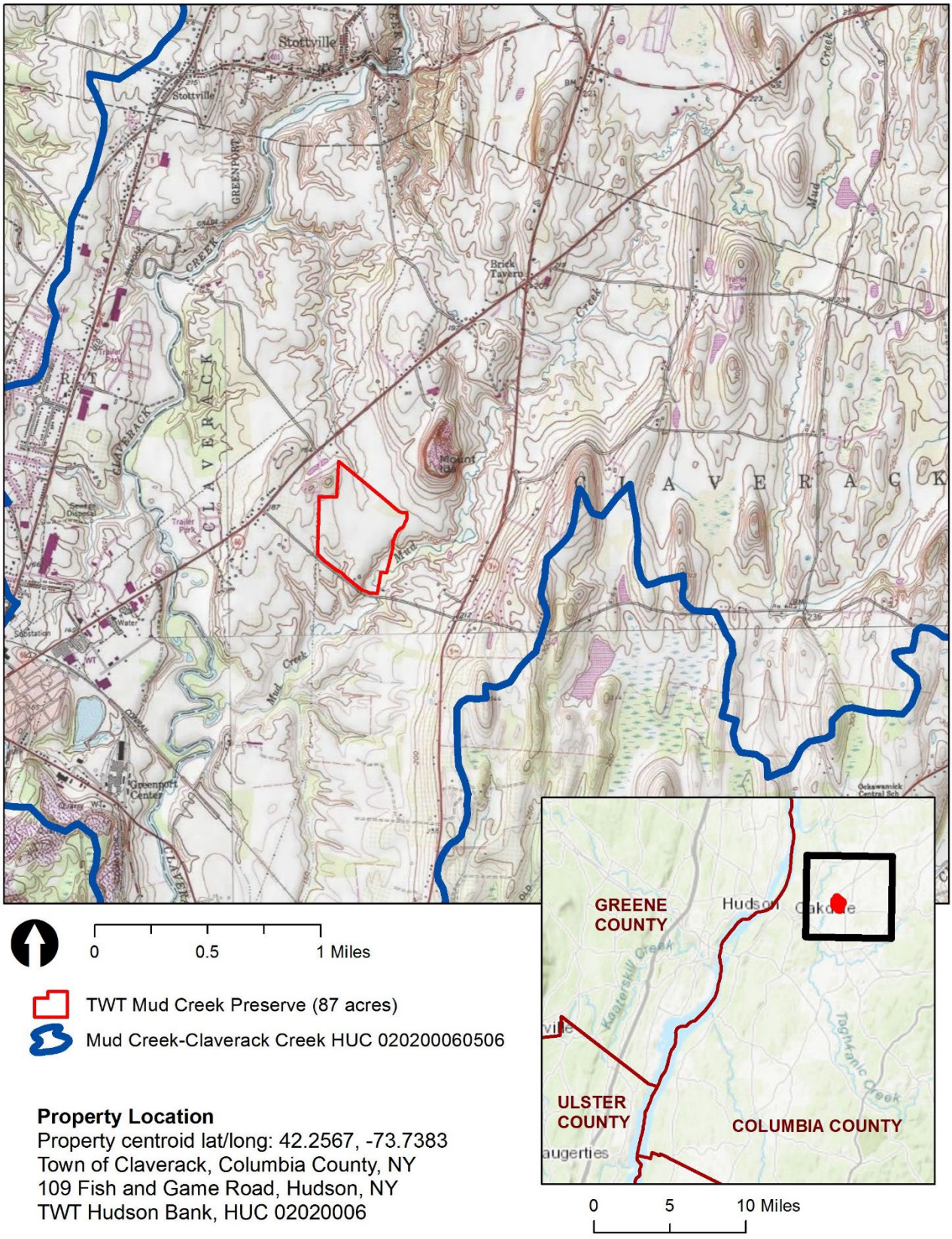
a. Develop mitigation credits to meet Mid-Hudson Service Area needs.
b. Re-establish, enhance, and preserve the functions and services of wetlands on the site.

2. Site Selection

TWT purchased an 88-acre parcel at 109 Fish and Game Road in the Town of Claverack, Columbia County, NY located in the 8-digit HUA 02020006, Mid-Hudson Service Area, (Latitude 42.254320, Longitude -73.738260, Figure 1a and Figure 1b). This location was selected because its:

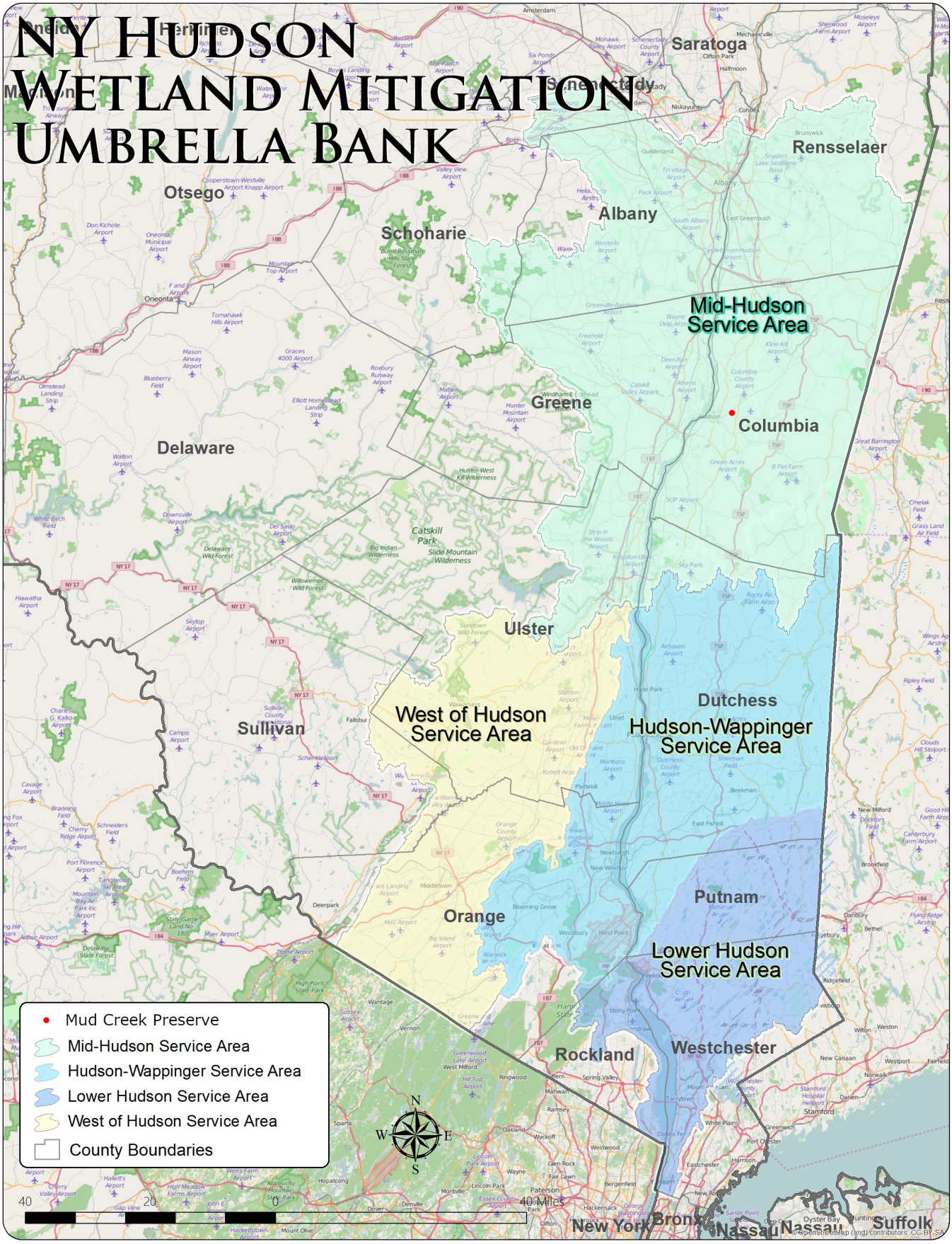
- large size lends itself to long-term landscape stability;
- soils and topography provide for substantial palustrine scrub shrub (PSS) and palustrine forested wetland (PFO) re-establishment and enhancement;
- older growth forested and shrub buffers on the site's perimeter help protect the sites functionality; and
- location is in a rural area with large residential parcels, scattered agriculture, and low development pressure.

Figure 1a Mud Creek Preserve Mitigation Site Location.



Property Location
Property centroid lat/long: 42.2567, -73.7383
Town of Claverack, Columbia County, NY
109 Fish and Game Road, Hudson, NY
TWT Hudson Bank, HUC 02020006

Figure 1b Location of Mud Creek Preserve Mitigation Site in relation the TWT NY Hudson River Wetland Mitigation Umbrella Bank.



3. Site Protection Instrument

The Wetland Trust, Inc. (TWT), 4729 State Route 414 Burdett, NY 14818 is a 501(c)(3) nonprofit corporation whose mission is the protection, conservation, and restoration of wetlands and the species who inhabit them. TWT owns, fee simple, and plans to own in perpetuity, the 88-acre Mud Creek Preserve as described in this mitigation plan; it plans to own the property in perpetuity. Protection for this property includes two layers. First, TWT is the permanent landowner and Bank Sponsor, providing for a robust protection layer, as any easement violation will also impact the viability of the Sponsor's Mitigation Bank Instrument. Having the Bank Sponsor (hereafter "Sponsor"), a land trust, also own the mitigation site reduces the risk of protection violations compared to private ownership of those lands.

Second, TWT will have on file a USACE-approved Conservation Easement (CE, Figure 2, and Appendix A) and this Mitigation Plan in the Colombia County Clerk's office. It outlines the 83.36-acre CE area that is protected as a Hudson River Bank Mitigation Site within which mitigation credits will be developed. The CE is held by The Wetland Conservancy, Inc. (TWC), P.O. Box 220, Burdett, NY 14818-0220, a 501(c)(3) nonprofit corporation; it names the USACE as third-party entity to be notified in the case of violations.

Figure 2. Conservation Easement Location on the Mud Creek Wetland Preserve.



3.1 Default provisions

Should the DE, acting in consultation with its NY IRT determine that the Sponsor is in material default of any provision of the site's Mitigation Plan or the Bank Instrument, the DE may begin a series of actions to rectify the issue in a stepped approach:

3.1.1 The DE may require adaptive management and other actions to correct the deficiencies and the Sponsor agrees to implement all such actions, reporting to the DE its actions for review and approval.

3.1.2 Should actions in 3.1.1 not be considered satisfactory by the DE, then the DE may notify the Sponsor that the sale or transfer of any credits from that particular site (or in the case of a Bank Instrument default, all sites) will be suspended until the appropriate deficiencies have been remedied. Upon notice of such suspension, the Sponsor agrees to immediately cease all sale or transfer of mitigation credits until the Corps informs the Sponsor in writing that sales or transfers may be resumed.

3.1.3 Should the Sponsor remain in default, the DE, acting in consultation with the IRT, may terminate operation of one or more sites as a bank site; in the case of a Bank Instrument failure, the DE, acting in consultation with the IRT would terminate the entire Bank. Upon termination, the Sponsor agrees to perform and fulfill all obligations relating to credits that were sold or transferred prior to termination, either from the specific site terminated or the entire Bank, depending on the specific circumstances being addressed. Closure procedures are more fully described in 3.2.

3.2 Closure provisions

Closure may be initiated for the entire HRUMBI, or individual site within the HRUMBI by:

3.2.1 the DE, acting in consultation with the IRT, due to circumstances as described under 3.1.3, where a site and/or HRUMBI is in default, or

3.2.2 the Sponsor, who believes due to circumstances as described under 3.1.3 that Termination is the best avenue to address default issues, and

3.2.3 a determination of the DE, acting in consultation with the IRT, and the Sponsor that all applicable performance measures have been achieved, all available credits for that bank site have been debited or abandoned, and the sponsor has complied with all other terms of the Mitigation Plan and Instrument.

3.2.4 final compliance and long-term stewardship:

3.2.4a upon bank closure (i.e., all individual sites within the Bank have been closed), no further credit sale or transfer may occur at any bank site, and the DE, acting in consultation with the IRT, will perform a final compliance inspection.

3.2.4b the period of long-term ownership/stewardship/preservation begins at closure under all circumstances described in 3.2 a, b, or c. This phase, for the entire HRUMBI, or the specific

Bank site being closed, must be fully funded with adequate resources, and approved by the DE, acting in consultation with the IRT.

3.2.4c in cases where stewardship transfer is part of the closure procedures, the new steward will be identified and approved by the DE, acting in consultation with the IRT.

3.3 Force majeure provisions

It is specifically acknowledged that remedies in this Instrument do not apply to violations, natural or unnatural impacts caused by third parties, war, Acts of God, force majeure, or other causes beyond the control of the Sponsor.

4. Credit Accounting

4.1 Credit determination

The DE acting in consultation with the IRT will determine credits based on wetland acres that meet or exceed performance standards, and proposed credit ratios (Table 1). The DE acting in consultation with the IRT may also use additional determinations assessment tools to modify the credit amount, such as using a sliding scale of quality based on the assessment of functions and services. Credit releases described in Section 7 will be modified as yearly monitoring provides specific information on the size and quality of the wetlands being developed.

For this site TWT proposes 1:1 for PFO and PSS re-establishment; it is one of the more expensive venues, and both wetland types in this site has similar implantation protocols and substantive costs. Similarly, TWT suggests 3:1 for forest and scrub shrub wetland rehabilitation, as they both have similar underlying costs.

Table 1. Credit determination based on acres, type, and ratio as shown in Figure 3.

Cover type	Acres	Mitigation type	Ratio	Credits
Existing Wetlands	9.36	Preservation	10:1	0.94
Upland Buffer including open water ponds	35.52	Preservation	20:1	1.78
Total Preservation Credits				**2.72**
Palustrine Forest (PFO) Palustrine Scrub Shrub (PSS)	12.13	Re-establishment	1:1	12.13
Palustrine Forest (PFO) Palustrine Scrub Shrub (PSS)	25.98	Rehabilitation	3:1	8.66
Total Re-establishment and Rehabilitation credits				**20.79**
Total ditch plug impact	0.1	Impact credit reduction	1:1	**-0.1**
Total	**82.99**			**23.41**

4.2 Credit release schedule

TWT anticipates this site will generate 23.41 credits. There will be three (3) credit releases coinciding with satisfaction of success criteria, other mileposts, and supported by an enhanced bond (Appendix B). Credit release is as follows:

1. A first release of credits after the approval of the Mitigation Plan and other required documents (i.e., CE, Bond). This release includes all preservation credits (2.72) and 15% of total re-establishment/rehabilitation Credits (3.12) minus total impacts (0.1) = **5.74 Released Credits.**

2. A second credit release after approval of the As-built Plan, which includes a new wetland delineation that updates the total planned credits as described in the original Mitigation Plan. This release includes 60% of the total Re-establishment/Rehabilitation Credits = **12.47 Released Credits.**

This new approach is being proposed per the guidance contained in Regulatory Guidance Letter (RGL) No. 19-01 dated 22 February 2019, where the usual three credit (or more) releases are combined into one release, but assured of success by a bond that includes all potential costs. A confidential detailed Bonding Cost Proposal has been submitted to the USACE for approval of this approach (Appendix B).

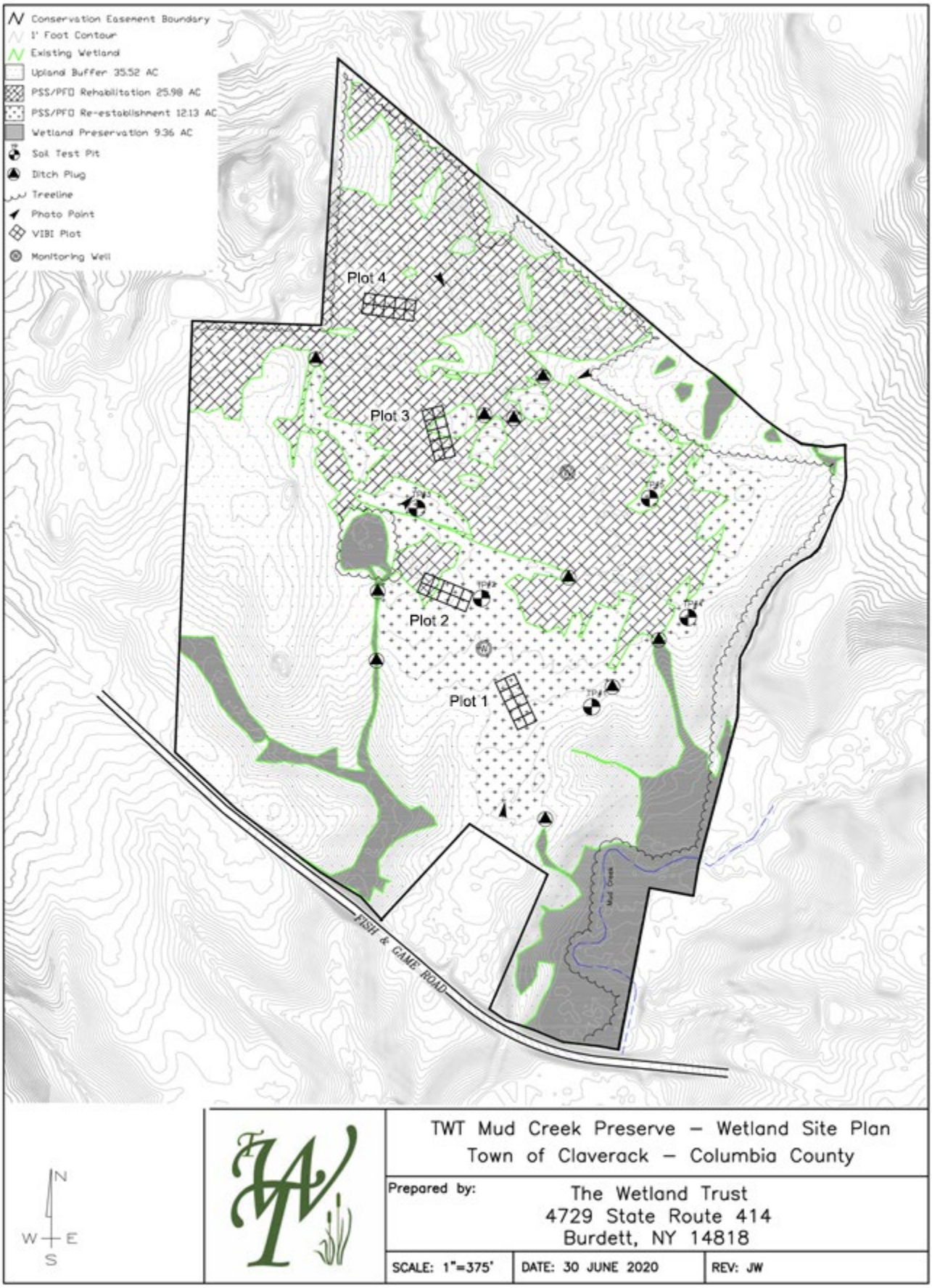
3. A final release of credits will be approved after the entire site is completed, all performance goals are met, and approved by the USACE. This release is the remaining 25% of the total re-establishment/rehabilitation Credits = **5.20 Released Credits**.

   This final credit amount will be adjusted (up or down) to account for the actual final number of credits developed by meeting performance goals in Section 7, and other obligations set forth in the HRUMBI such as an approved and funded long-term management plan.

4.3 Credit Accounting Procedures

Account procedures are described in the Umbrella Mitigation Banking Instrument section 2.2.1. TWT will establish and maintain an accounting system that tracks credit production, credit transactions, and financial transactions between the Bank and permittees, and for the Regulatory In-Lieu Fee and Bank Information Tracking System (RIBITS). A credit transaction letter will be submitted to the Corps after every sale.

Figure 3. Mud Creek Preserve Mitigation Plan Overview.



5. Baseline Ecological Characteristics

5.1 Historic and existing plant communities, including wetlands

Historic plant communities

Historic plant community data is not available for the MCP, but a review of historic aerial photos shows that the current property configuration and cover have changed little, other than a transition from orchards in the western and southern portions of the site to other types of agriculture in the 1950s and 1960s (see Section 5.2 below). Agricultural practices varied over the past several decades until abandonment in approximately 2014. The MCP includes small patches of existing forest including a forested buffer along Mud Creek which runs along the east side of the MCP. These forested areas appear to have been intact from at least 1942. Extrapolating from existing plant communities in the intact forested areas, it is likely that the historic community was a mix of upland forest, wetland forest, and riparian forest communities that included many of the same woody species observed today including American elm, *Ulmus Americana*, American hophornbeam, (*Ostrya virginiana*), various oak, maple, hophornbeam and dogwood species with sedge openings.

Present plant communities

There is both recent and historical evidence of land manipulation and alteration at the MCP. The fields remain open due to the recent agricultural activity, as late as 2014, during the previous owner's tenure, and some of the existing wetland area still possesses remnant drainage features which continue to alter hydrology. These manipulations and alterations have resulted in a matrix of wetland and upland plant communities in various stages of ecological succession (Figure 4).

A wetland delineation was conducted in April 2020 (Figure 5, Appendix G). The delineation between upland and wetland at this location is due to both natural topography and agricultural drainages. Approximately 35 acres of the site are currently wetland. Abandoned agricultural areas are comprised of old field successional communities in the upland areas and a mix of emergent marsh/wet meadow in the wetland areas classified as PEM1E (palustrine emergent marsh persistent seasonally flooded). Forested areas include both upland and forested wetland classified as PFO1E and PFO1F (palustrine forested broad leaved deciduous seasonally and semi-permanently flooded). Additional details for upland and wetland communities are provided below.

Upland Communities

Dominant woody species found in upland forested areas include shagbark hickory (*Carya ovata*), white ash (*Fraxinus americana*), red oak (*Quercus rubra*), red maple (*Acer rubrum*), apple (*Malus spp.*), American hophornbeam, glossy buckthorn (*Rhamnus frangula*), and gray dogwood (*Cornus racemosa*). Common vines include poison ivy (*Toxicodendron radicans*) and Virginia creeper (*Parthenocissus quinquefolia*). Herbaceous species include Canada goldenrod (*Solidago canadensis*), nodding onion (*Allium cernuum*), and yellow trout lily (*Erythonium americanum*).

Upland successional old field communities are dominated by Canada goldenrod, common milkweed (*Asclepias syriaca*), orchard grass (*Dactylis glomerata*), bedstraw (*Galium verum*), white clover (*Trifolium repens*), wild carrot, multiflora rose (*Rosa multiflora*), and poison ivy (*Toxicodendron radicans*).

Wetland Communities

Woody species in forested wetlands at MCP include red maple, swamp white oak (*Quercus bicolor*), American elm (*Ulmus americana*), glossy buckthorn, and red osier dogwood (*Cornus sericea*). Dominant species in the herbaceous understory include skunk cabbage (*Symplocarpus foetidus*), sensitive fern (*Onoclea sensibilis*), and tussock sedge (*Carex stricta*), and other sedge species (*Carex spp.*). Dominant species in emergent marsh and wet meadow communities include purple loosestrife (*Lythrum salicaria*), reed canary grass (*Phalaris arundinacea*), tussock sedge (*Carex stricta*), and narrowleaf cattail (*Typha angustifolia*).

Invasive Species

Invasive hydrophytes are present in several of the MCP's wetland communities. Additional data will be developed from Vegetative Index of Biotic Integrity (VIBI) data and drone photo interpretation later in the growing season. Purple loosestrife and reed canary grass are present throughout the emergent marsh wetlands, in some cases a dominant component. Narrowleaf cattail is present in a wetland in the northwest portion of the site. Figure 6 shows invasive species cover for these three species.

Invasive species in upland communities include autumn olive, Canada thistle, glossy buckthorn, honeysuckle, and multiflora rose. Estimates of the most common wetland and upland invasive species and their coverage have been developed using field mapping and shown in Figure 6 and Table 2.

Table 2. Invasive species coverage within the Mud Creek Preserve Mitigation Site. (in acres)

Autumn Olive	Canada Thistle	Narrowleaf Cattail/ Phragmites /Purple Loosestrife	Narrow leaf Cattail/ Purple Loosestrife	Japanese Stiltgrass	Purple Loosestrife	Purple Loosestrife / Japanese Stiltgrass	Purple Loosestrife / Reed Canary Grass	Reed Canary Grass
<0.1	0.76	0.58	0.52	0.25	7.83	0.09	2.52	0.77

Note: The table includes separate columns where multiple species were present within the same polygon.

Baseline VIBI scores

The Vegetative Index of Biotic Integrity (VIBI) and VIBI-Floristic Quality (VIBI-FQ) VIBI is an average numerical value, or "Coefficient of Conservation" (CoC), on a scale of 1-10 for flora with higher numbers expressing higher fidelity with natural conditions and intolerance of human disturbance. Lower numbers are assigned to ruderals, exotics, and widespread taxa without narrow ecological tolerances. Intermediate numbers are assigned to taxa that may typify a stable community but are able to persist after some disturbance.

Four VIBI-FQ data plots have been established in the re-establishment and rehabilitation areas to determine pre-construction scores for vegetative quality (Figure 3). Like other early successional upland and wetland areas where TWT has conducted VIBI baseline studies, it is anticipated that VIBI scores in these areas will be relatively low compared to the more intact and persistent forested wetlands at the MCP. This is due to the relatively greater coverage of adventive plants and invasive species. And indeed, the baseline data within the four VIBI plots collected in early September 2020 ranged from 8 to 11. Summaries of VIBI data sheet calculations and data collected are found in Appendix E.

Figure 4. Mud Creek Preserve Property Land Use.

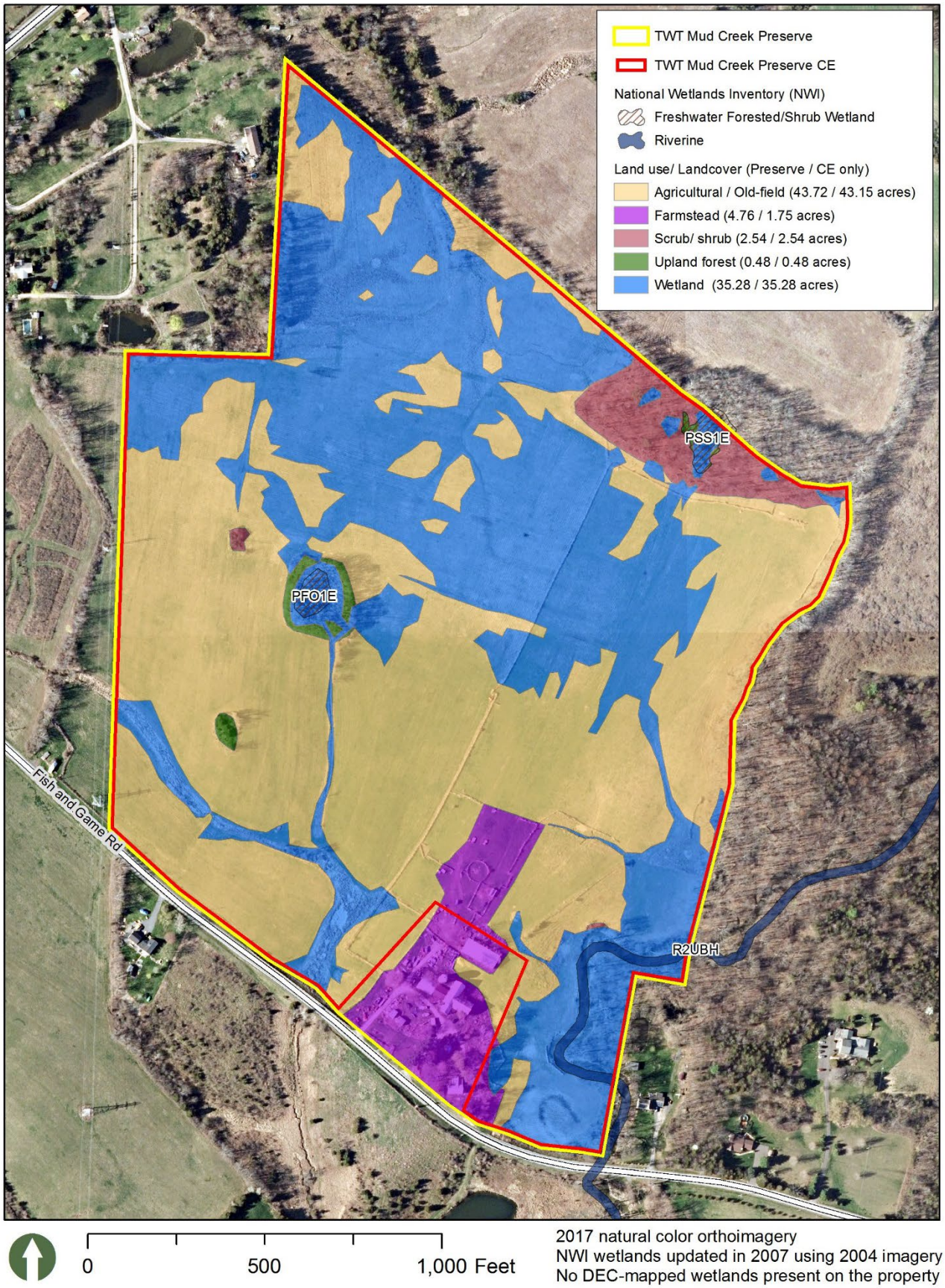
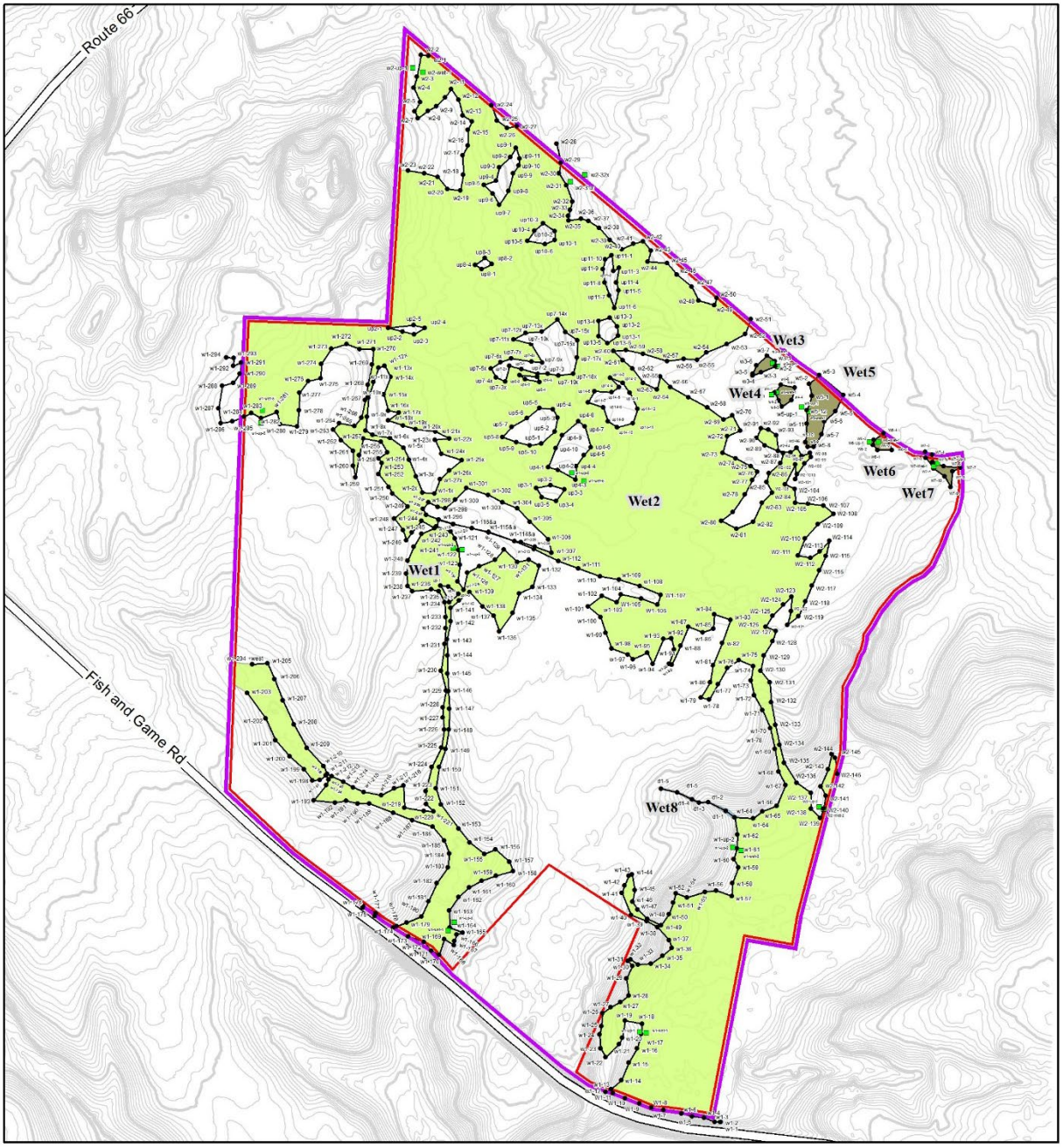


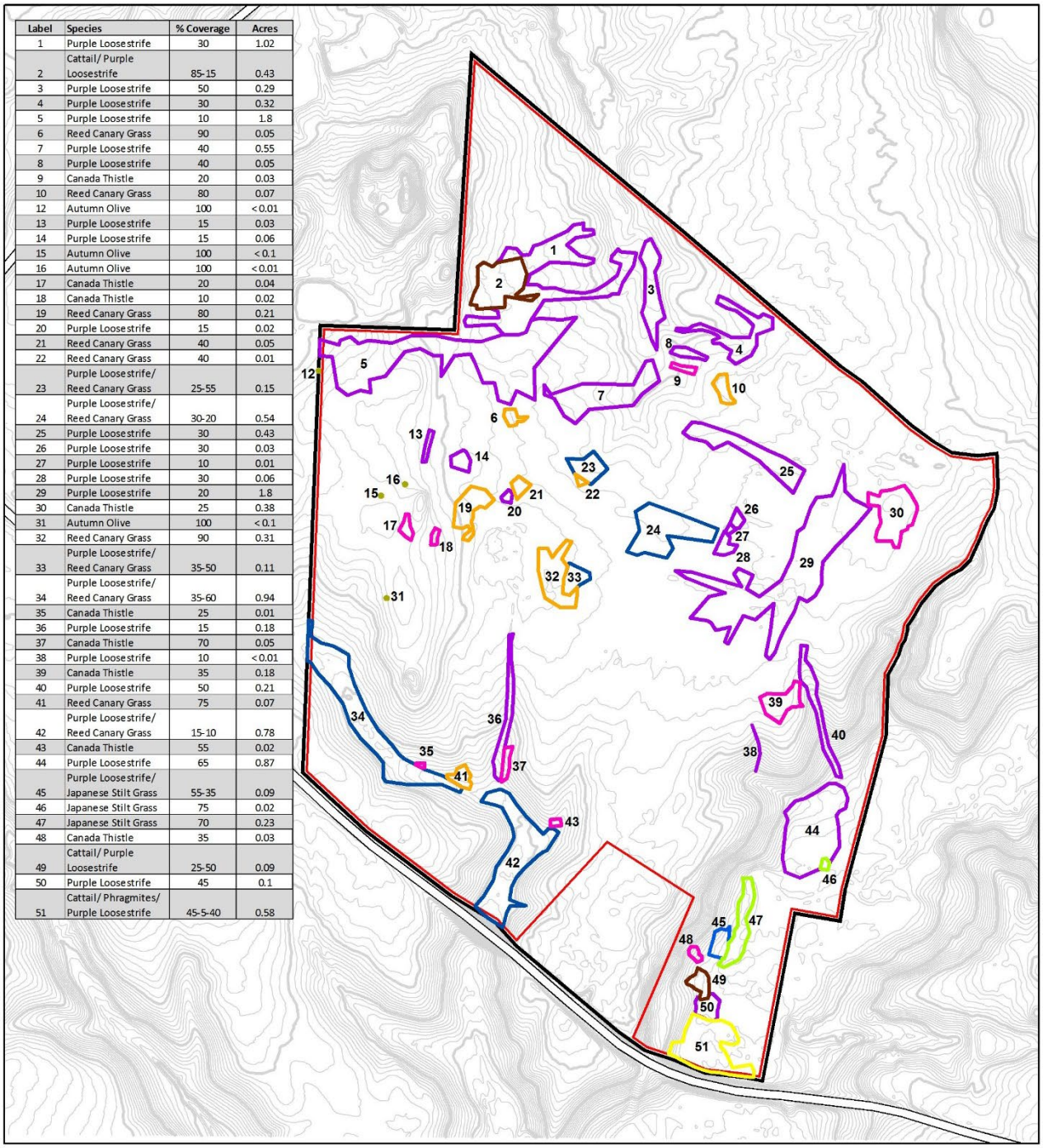
Figure 5. Mud Creek Preserve Mitigation Site Wetland Delineation.



GPS Data Collection Methodology:
The wetland points identified in this Figure were collected with a sub-meter accurate Trimble Geo7x Series Handheld GPS unit with floodlight/ real-time correction enabled. At each wetland flag/location, data were recorded and averaged for a minimum of 10-15 seconds to ensure accurate positioning. The GPS points were uploaded and imported into Trimble Pathfinder Office Software. The points were differentially collected using data imported from the nearest available base station. They were then exported to a comma-delimited file and imported into Microsoft Excel for final data manipulation and presentation to The Wetland Trust by Diehlux LLC. The final delineation points, listed in Addendum A, Appendix IV were then imported into ArcGIS 10.7.1 and used to create the Delineation Points Pointfile and Delineation Boundary Polygon included in this Figure and subsequent project maps.

Figure 6. Mud Creek Preserve Invasive Species.

Label	Species	% Coverage	Acres
1	Purple Loosestrife	30	1.02
2	Cattail/ Purple Loosestrife	85-15	0.43
3	Purple Loosestrife	50	0.29
4	Purple Loosestrife	30	0.32
5	Purple Loosestrife	10	1.8
6	Reed Canary Grass	90	0.05
7	Purple Loosestrife	40	0.55
8	Purple Loosestrife	40	0.05
9	Canada Thistle	20	0.03
10	Reed Canary Grass	80	0.07
12	Autumn Olive	100	< 0.01
13	Purple Loosestrife	15	0.03
14	Purple Loosestrife	15	0.06
15	Autumn Olive	100	< 0.1
16	Autumn Olive	100	< 0.01
17	Canada Thistle	20	0.04
18	Canada Thistle	10	0.02
19	Reed Canary Grass	80	0.21
20	Purple Loosestrife	15	0.02
21	Reed Canary Grass	40	0.05
22	Reed Canary Grass	40	0.01
23	Purple Loosestrife/ Reed Canary Grass	25-55	0.15
24	Purple Loosestrife/ Reed Canary Grass	30-20	0.54
25	Purple Loosestrife	30	0.43
26	Purple Loosestrife	30	0.03
27	Purple Loosestrife	10	0.01
28	Purple Loosestrife	30	0.06
29	Purple Loosestrife	20	1.8
30	Canada Thistle	25	0.38
31	Autumn Olive	100	< 0.1
32	Reed Canary Grass	90	0.31
33	Purple Loosestrife/ Reed Canary Grass	35-50	0.11
34	Purple Loosestrife/ Reed Canary Grass	35-60	0.94
35	Canada Thistle	25	0.01
36	Purple Loosestrife	15	0.18
37	Canada Thistle	70	0.05
38	Purple Loosestrife	10	< 0.01
39	Canada Thistle	35	0.18
40	Purple Loosestrife	50	0.21
41	Reed Canary Grass	75	0.07
42	Purple Loosestrife/ Reed Canary Grass	15-10	0.78
43	Canada Thistle	55	0.02
44	Purple Loosestrife	65	0.87
45	Purple Loosestrife/ Japanese Stilt Grass	55-35	0.09
46	Japanese Stilt Grass	75	0.02
47	Japanese Stilt Grass	70	0.23
48	Canada Thistle	35	0.03
49	Cattail/ Purple Loosestrife	25-50	0.09
50	Purple Loosestrife	45	0.1
51	Cattail/ Phragmites/ Purple Loosestrife	45-5-40	0.58



0 500 1,000 Feet

GPS Data Collection Methodology:
The invasive species locations identified in this Figure were collected with a sub-meter accurate Trimble TDC150 Series Handheld GPS unit with floodlight/ real-time correction enabled. The GPS points were uploaded and imported into Collector for ArcGIS Online. They were then exported to shapefile for final data manipulation and presentation by The Wetland Trust by in ArcGIS 10.7.1.

- TWT Mud Creek Preserve
- TWT Mud Creek Preserve CE
- 1-foot contour interval
- 10-foot contour interval
- Autumn Olive (< 0.1 acre)
- Canada Thistle (0.76 acre)
- Cattail/ Phragmites/ Purple Loosestrife (0.58 acre)
- Cattail/ Purple Loosestrife (0.58 acre)
- Japanese Stilt Grass (0.25 acre)
- Purple Loosestrife (7.83 acres)
- Purple Loosestrife/ Japanese Stilt Grass (0.09 acre)
- Purple Loosestrife/ Reed Canary Grass (2.52 acres)
- Reed Canary Grass (0.77 acre)

5.2 Site land use history

Past land use

Historic aerial photos (Figures 7-14) and historic documents were reviewed to assist project planners in understanding the property land use history. The earliest aerial photo (1942) show the parcel was already in agriculture and probably has a much longer history of that use considering its location in the Hudson Valley. As was and is still common in this area, the land hosted several large apple orchards, but these were gone by the 1970s. The remaining open fields were used for mostly pasture or hay, no doubt because of the poorer soil quality that could not support row crops. The overall footprint of forest and field has basically not changed at least over the past 90 years, no doubt even longer. The site should provide excellent restoration potential as the land has been very lightly used considering it hosted hay and horses for the past 20 years. There are also there are no historic and/or archeological resources on the property (Appendix D).

Current land use

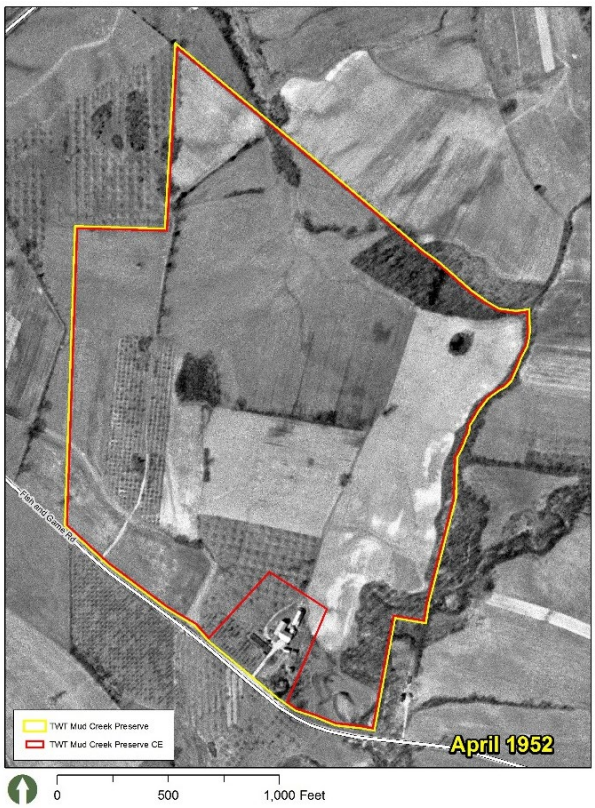
Most recently the parcel was used as a horse farm up until about 2014 when the parcel was abandoned, finally being foreclosed and owned by a bank until purchased by TWT. The MCP includes about 44 acres of agriculture/old field, 5 acres of farmstead, 2.5 acres of upland scrub shrub, 0.5 acres of upland forest, and 35 acres of wetland. Detailed acreages and locations are found in Figure 4.

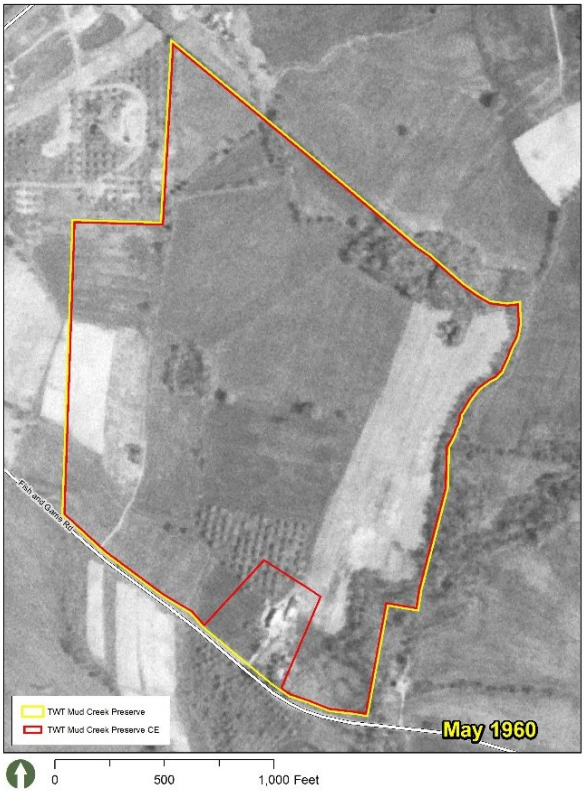
Existing structures

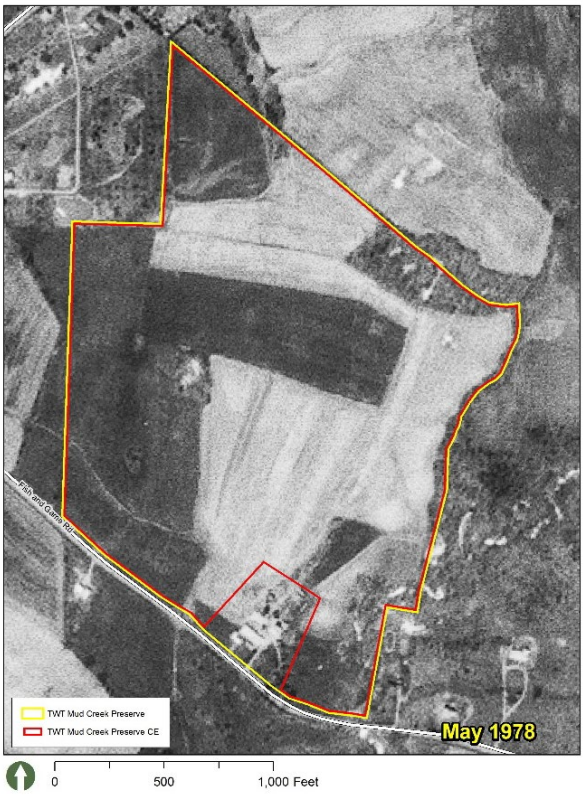
No structures are present in the mitigation area. A high-tension transmission line and a narrow strip of property owned by Consolidated Edison Company, NY, runs through the western edge of the TWT property. There is a barn and old farmhouse on the TWT property but outside of the CE; these may be used to store wetland equipment and supplies.

Figures 7-14. Mud Creek Preserve Historic Aerial Imagery.









Figures 7-14. Mud Creek Preserve Historic Aerial Imagery.









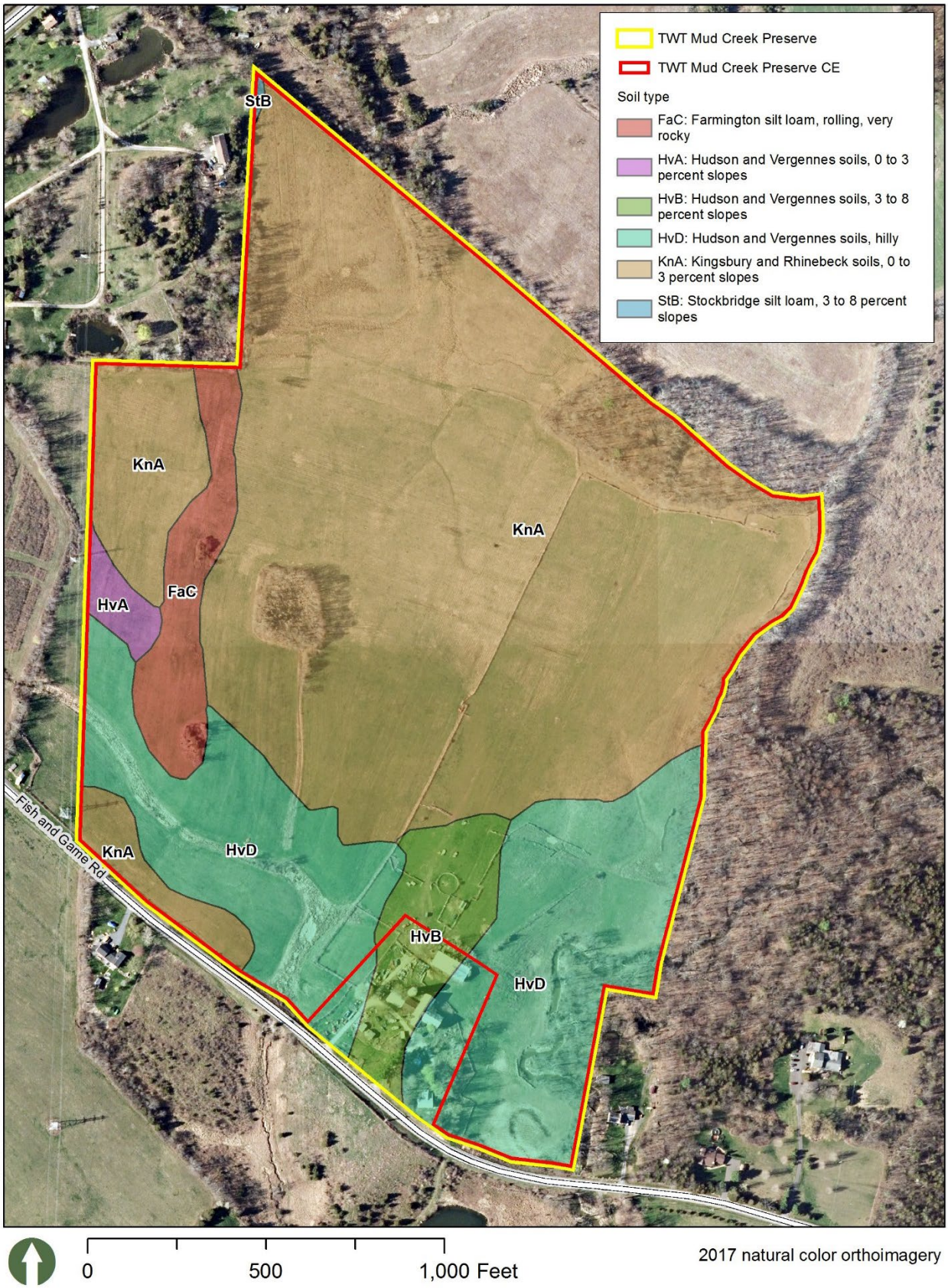
5.3 Historic and existing hydrology

The mitigation site lies along the western bank of Mud Creek, a tributary to Claverack Creek, which flows into Stockport Creek and then to the Hudson River, directly across from the NYS DEC Vosburgh Swamp Wildlife Management Area. The historic drainage pattern on the site is generally to the north and east. Ditches and swales were dug to concentrate surface water flow in the fields to presumably help dry them out; these mostly drain to the north and east toward Mud Creek. A concerted effort was made to drain a remnant wetland seen on all the photos as a small forest pocket in the middle of the parcel. That ditching succeeded in changing the drainage from that small wetland to flow south, crossing Fish and Game Road through a culvert.

5.4 Soil descriptions

Roger J. Case, Soil Scientist, visited the MCP on 6 May 2020 to investigate soil profiles on upland areas adjacent to delineated wetlands. The MCP is, according the Natural Resources Conservation Service's (NRCS) Columbia County Soil Survey, mostly Kingsbury and Rhinebeck soils in a complex where they can be easily mapped separately. These soils include somewhat poorly drained Rhinebeck silty clay loam with inclusions of moderately well drained Hudson silt loam. Rhinebeck soils are very deep, somewhat poorly and poorly drained soils formed in clayey lacustrine deposits. Hudson soils are very deep moderately well drained soils occurring in similar settings. Typically, both soils have seeps just above the very firm clayey layers in the substratum, which should aid in wetland formation. The site is a broad array of clayey lacustrine deposits that have until recently been farmed; drainage patterns in the field suggest the surface drainage was enhanced by use of "bedding" (e.g., shallow swales). The soil investigation report is found in Appendix F.

Figure 15. Mud Creek Preserve Soils.



5.5. Animal species including endangered species

The following tables lists wildlife species or sign observed or probable at the MCP. A review of potentially occurring federal (https://ecos.fws.gov/ipac/) and state-listed species (https://www.dec.ny.gov/animals/7494.html) indicate that Indiana bats (*Myotis sodalis*) and bald eagles (*Haliaeetus leucocephalus*) could be present at the site if habitats are suitable. Any tree removable will be in the ditch plug locations, be few in number, and only done during thee approved time window (e.g., after 1 November) that would affect these species. All other species of concern were observed at the site and are included in the Table 3.

Table 3a. Wildlife species identified at the TWT Mud Creek Preserve, probable and confirmed.

Common Name	Scientific Name	Conservation Status	Notes
Mammals			
Eastern coyote	*Canis latrans*		**Confirmed –** game camera capture at vernal pool spring 2020
groundhog	*Marmota monax*		Many burrows around farm buildings
striped skunk	*Mephitis mephitis*		
whitetail deer	*Odocoileus virginianus*		**Confirmed** – tracks, sightings and game camera photos throughout parcel, Spring 2020
raccoon	*Procyon lotor*		**Confirmed –** tracks and game camera photos along Mud Creek, Spring 2020
Eastern gray squirrel	*Sciurus carolinensis*		**Confirmed –** game camera photos along Mud Creek, Spring 2020
Eastern chipmunk	*Tamias striatus*		**Confirmed –** observed throughout wooded sections, and in an isolated wetland, June 2020
gray fox	*Urocyon cinereoargenteus*		
red fox	*Vulpes vulpes*		
Indiana bat	*Myotis sodalis*		Not confirmed, but per https://ecos.fws.gov/ipac
Reptiles			Per NYSDEC Herp Atlas distribution data and existing habitat
common snapping turtle	*Chelydra serpentina*		
milk snake	*Lampropeltis triangulum*		**Confirmed –** around barns, June 2020
brown snake	*Storeria dekayi*		
Eastern garter snake	*Thamnophis sirtalis*		**Confirmed –** throughout old pasture, June 2020

Amphibians			Per NYSDEC Herp Atlas distribution data and existing habitat
spotted salamander	*Ambystoma maculatum*		**Confirmed** – egg masses in vernal pool, Spring 2020
American toad	*Anaxyrus americanus*		
gray treefrog	*Hyla versicolor*		**Confirmed** – calls from wooded sections June 2020
American bullfrog	*Lithobates catesbeinanus*		**Confirmed** – adults observed along Mud Creek and in vernal pool, Spring 2020
green frog	*Lithobates clamitans*		**Confirmed –** observed in vernal pool and isolated wetland June 2020
pickerel frog	*Lithobates palustris*		
wood frog	*Lithobates sylvaticus*		**Confirmed** – egg masses, larvae and/or adults observed in vernal pool and isolated wetland, Spring 2020
spring peeper	*Pseudacris crucifer*		**Confirmed** – calls heard at vernal pool and isolated wetland, Spring 2020

Table 3b. Bird species identified at the TWT Mud Creek Preserve.

Common Name	Scientific Name	Conservation Status	Notes
Cooper's hawk	*Accipiter cooperii*	NYS Special Concern	
red-winged blackbird	*Agelaius phoeniceus*		
mallard	*Anas platyrhynchos*		
great blue heron	*Ardea herodias*		
tufted titmouse	*Baeolophus bicolor*		
cedar waxwing	*Bombycilla cedrorum*		
Canada goose	*Branta canadensis*		
red-tailed hawk	*Buteo jamaicensis*		
turkey vulture	*Cathartes aura*		
Northern cardinal	*Cardinalis cardinalis*		
killdeer	*Charadrius vociferus*		
Northern harrier	*Circus hudsonias*	NYS Special Concern	
Northern flicker	*Colaptes auratus*		
rock pigeon	*Columba livia*		
Eastern wood-pewee	*Contopus virens*		
black vulture	*Coragyps atratus*		
American crow	*Corvus brachyrynchos*		
blue jay	*Cyanocitta cristata*		
bobolink	*Dolichonyx oryzivorus*	USFWS Birds of Conservation Concern	
downy woodpecker	*Dryobates pubescens*		
pileated woodpecker	*Dryocopus pileatus*		

gray catbird	*Dumetella carolinensis*		
alder flycatcher	*Empidonax alnorum*		
least flycatcher	*Empidonax minimus*		
willow flycatcher	*Empidonax traillii*		
American kestrel	*Falco sparverius*		
common yellowthroat	*Geothlypus trichas*		
ring-billed gull	*Larus delawarensis*		
house finch	*Haemorhous mexicanus*		
bald eagle	*Haliaeetus leucocephalus*	Not observed, but per https://ecos.fws.gov/ipac	
barn swallow	*Hirundo rustica*		
wood thrush	*Hylocichla mustelina*	USFWS Birds of Conservation Concern	
Baltimore oriole	*Icterus galbula*		
belted kingfisher	*Megaceryle alcyon*		
red-bellied woodpecker	*Melanerpes carolinus*		
swamp sparrow	*Melospiza georgiana*		
song sparrow	*Melospiza melodia*		
Northern mockingbird	*Mimus polyglottos*		
brown-headed cowbird	*Molathrus ater*		
great-crested flycatcher	*Myiarchus crinitus*		
house sparrow	*Passer domesticus*		
Savannah sparrow	*Passerculus sandwichensis*		
black-capped chickadee	*Peocile atricapillus*		
Eastern towhee	*Pipilo erythrophthalmus*		
common grackle	*Quiscalus quiscula*		
Eastern phoebe	*Sayornis phoebe*		
chestnut-sided warbler	*Setophaga pensylvanica*		
yellow warbler	*Setophaga petechial*		
American redstart	*Setophaga ruticilla*		
Eastern bluebird	*Sialia sialis*		
white-breasted nuthatch	*Sitta carolinensis*		
American goldfinch	*Spinus tristis*		
chipping sparrow	*Spizella passerine*		
field sparrow	*Spizella pusilla*		
European starling	*Sturnus vulgaris*		
tree swallow	*Tachycineta bicolor*		
Carolina wren	*Thryothorus ludovicianus*		
brown thrasher	*Toxostoma rufum*		
house wren	*Troglodytes aedon*		
American robin	*Turdus migratorius*		
Eastern kingbird	*Tyrannus tyrannus*		
yellow-throated vireo	*Vireo flavifrons*		
warbling vireo	*Vireo gilvus*		
red-eyed vireo	*Vireo olivaceus*		
mourning dove	*Zenaida macroura*		

6. Mitigation Work Plan

6.1 Geographic boundaries

The geographic boundaries of the mitigation area are within the 83-acre CE boundary as depicted in Figure 2.

6.2 Construction methods, timing, and sequencing

The hydrological restoration and re-establishment of wetland cover types will involve plugging existing ditches and a minor alteration of surface contours through grading to achieve desired surface elevations. Natural Resource Conservation Service (NRCS) standard ditch plugs design specifications will be used for constructing the plugs (Figure 16). The ditch plugs will increase the elevation of the subsurface hydrology and expand this hydrology into the entire reestablishment area.

Ten ditch plugs will be installed throughout the site (Figure 3) and sized to fit its exact location, with typical dimensions being approximately 20 feet in length and 10 feet in width. Thus, a total of about 2,000 square feet of area will be disturbed with ditch plug placement. To prepare the ditch plug site all trees and shrubs in the footprint are removed, topsoil is then stripped and stockpiled for re-spreading, and sediment control is installed. A key trench is excavated 2-feet in depth within the center of the ditch plug footprint, extending a minimum of 5 feet beyond the ditch line into the adjacent field. Suitable backfill material sourced either from the excavation or elsewhere on-site is then compacted in a minimum of 10-inch lifts until the desired height is reached. Excavated soil not used is moved to a designated upland spoil deposition area where it is seeded and mulched, providing for some small upland topographic diversity.

The height of the ditch plugs varies, but the targeted height of each ditch plug will be the elevation of the adjacent field area relative the ditch bottom. After ditch plugs are constructed and TWT staff inspection is complete, the topsoil is re-spread at a minimum depth of 6 inches. All disturbed upland areas are then seeded and mulched at a rate of 80lbs of seed (typical conservation mix) and 1,000 pounds of mulch per acre. Areas within the planned wetland footprint are seeded with wetland seeds (Table 5). Dead and/or dying woody debris will then be placed as ground cover in strategic locations to provide additional habitat diversity. The construction activity sequence is outlined in Table 4.

Figure 16. Ditch plug typical cross-section.

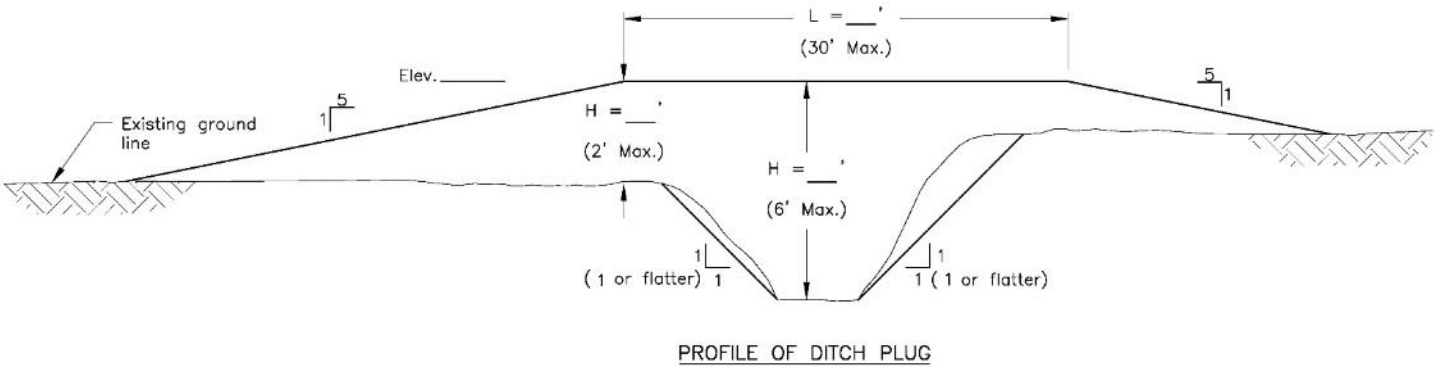


Figure 17a. Ditch Plug details depicting contour line modifications.

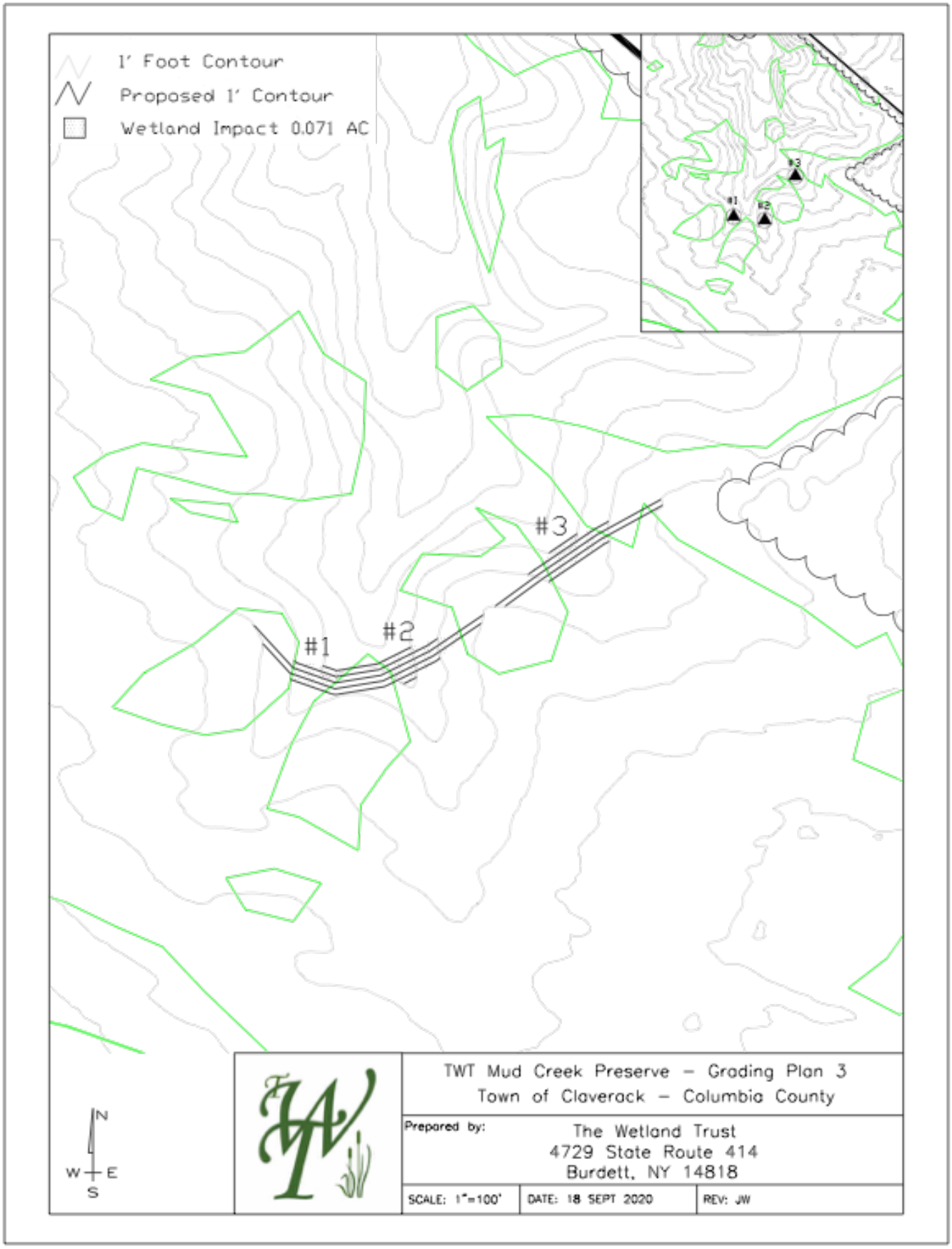


Figure 17b. Ditch Plug details depicting contour line modifications.

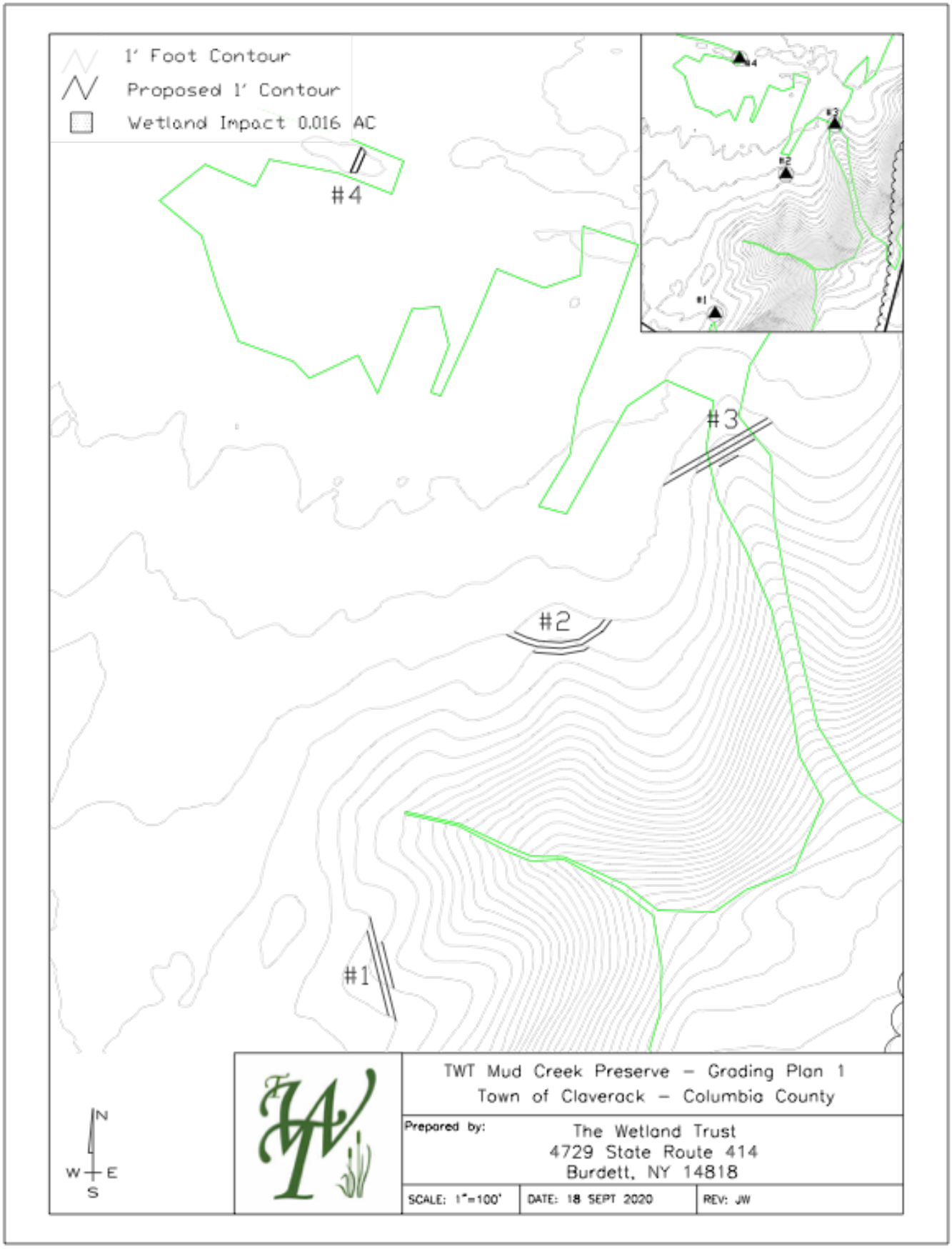
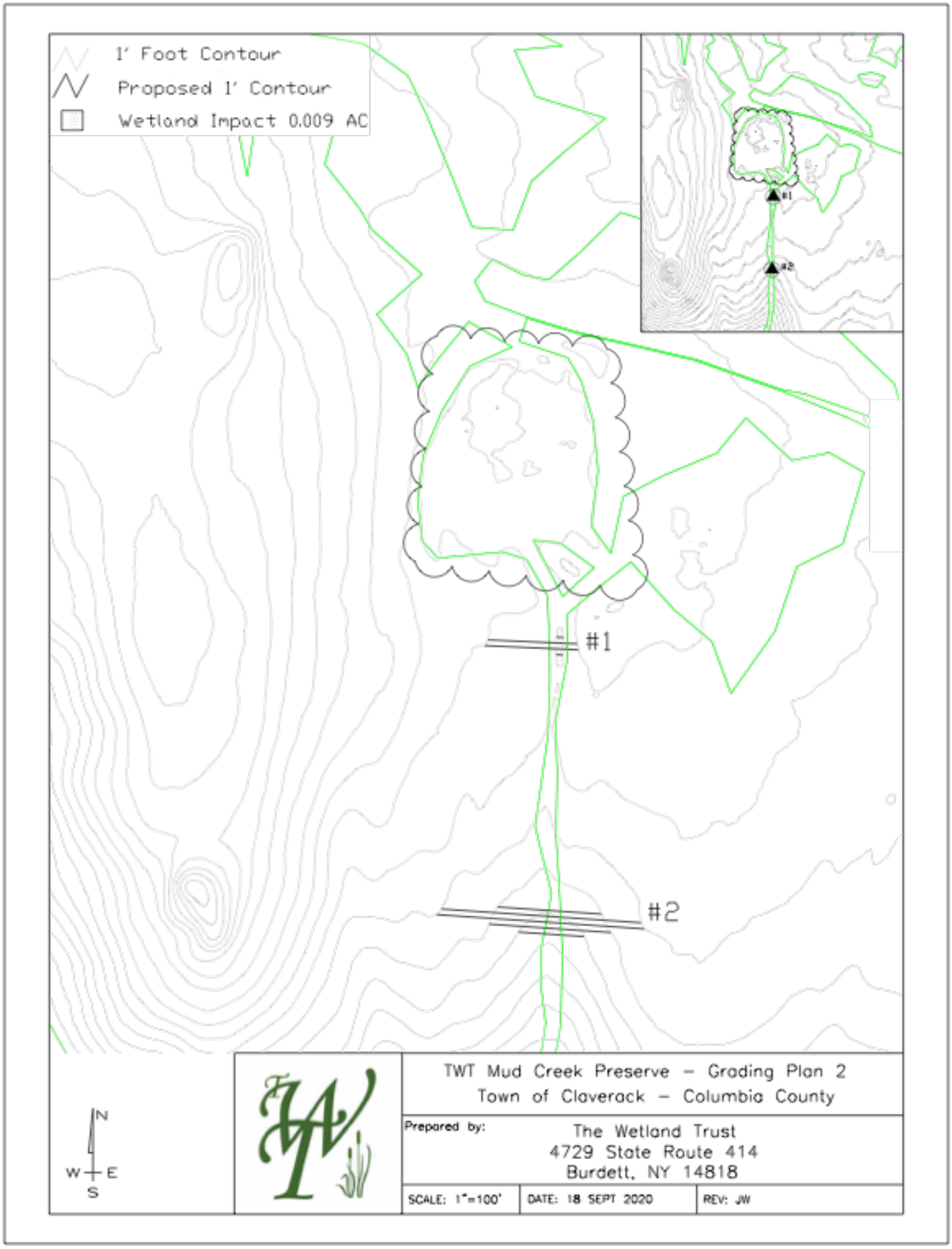


Figure 17c. Ditch Plug details depicting contour line modifications.



All erosion and sediment control practices are installed as specified by the site's Erosion and Sediment Control Plan (ESCP) prior to any ground disturbance. The limit of disturbance will be clearly marked within each wetland area and the spoil deposition area to ensure ground disturbances are minimized. Temporary devices and structures to control erosion and sedimentation in and around mitigation sites will be properly maintained at all times and be on-going throughout the course of the project. The devices and structures will be disassembled and properly disposed of no later than 1 November of the year after three full growing seasons have elapsed. Sediment collected by these devices will be removed and placed upland in a manner that prevents its erosion and transport to a waterway or wetland.

The scheduling sequence for construction activities are as follows:

- Construction site layout
- Installation of silt fence per ESCP to protect adjacent resources
- Clearing of vegetation within the construction footprint
- Grubbing of stumps and organic material within construction footprint
- Initiate ditch plug construction starting with removal and stockpile of excess topsoil
- Excavation of mineral soils and key trench
- Compaction of subsoil in minimum of 10" lifts
- Final grading of ditch plug
- Placement of topsoil and seeding, mulching
- Removal of temporary erosion control measures once disturbed areas are permanently stabilized

Table 4. Construction Methods, Timing, and Sequencing

Activity	**Timing**	**Construction Phase**
Remove any potential bat roost trees >3" dbh within the site work permitted dates of November 1 to March 31	Immediately after plan approval and within the permit-approved window.	Pre-construction preparation
Complete site excavation and ditch plug construction in rehabilitation and reestablishment areas	Following plan approval and during appropriate weather conditions.	Phase I Topographic reconfiguration
Site stabilization following ESCP outlined activities	Initiated at completion of grading for each project area.	Phase II Planting/ Seeding
Tree, shrub and herbaceous plug planting/seeding in wetland areas	Wetland seed mixes will be applied at the completion of construction of each project area, and repeated if needed, during prime (e.g., moist) soil conditions. Herbaceous plugs will be planted in spring following construction during conditions of suitable hydrology.	

	Woody species will be planted during their dormant period immediately following the completion of construction for all the project areas.	
Supplemental herbaceous and woody species planting	As needed throughout the monitoring period.	Phase III Maintenance

6.3 Grading plan, including elevations and slopes of substrate

This project relies on ditch plug installation to modify the site's hydrology (Figures 3 and 15) with only very small areas of grading to adjust surface contours.

6.4 Plant community establishment, including adaptive management techniques

The desired plant communities will be established through a combination of broadcasting seed mixes and hand planting trees, shrubs, and herbaceous plugs. Plants and seed material will be obtained from nurseries or, if possible, collected from nearby TWT owned wetlands. Species and quantities are described in Table 5 and may be subject to change depending on availability.

If the mitigation site is not adequately vegetated by the end of the third full growing season based on monitoring of performance standards (Sections 7 and 8) and if the DE acting in consultation with the IRT determines that the site (or any portion thereof) is failing to meet its goals, TWT will implement a remediation plan to correct the deficiencies, or alternately reduce credits for underperforming areas. In the former case, the remedial action plan must be submitted to the DE within three months of receipt of written notification of deficiencies. Within two months of receipt of the remedial action plan, the DE acting in consultation with the IRT must provide written acceptance of the submitted plan or a modified plan acceptable to the DE acting in consultation with the IRT. The DE acting in consultation with the IRT accepted remedial action plan (as submitted by TWT or as modified by the DE acting in consultation with the IRT) will then be returned to TWT and TWT shall implement the measures specified in the remedial action plan within six months or along a timeline as otherwise provided.

The remediation plan will review and suggest adaptive management techniques pertinent to the areas(s) in need of work. Replanting or increasing the stock rate of the original species, adding new species, soil manipulation to increase favorable hydrological characteristics, expansion of the work area, adding, removing or modifying ditch plug shapes and size are some of the likely techniques to be used.

Table 5. List of species to be planted throughout wetland reestablishment and rehabilitation areas.

Herbaceous Plants

Common Name	Latin Name	Indicator Status	CoC Coefficient of Conservation	Planting Rate
longhair sedge	*Carex comosa*	OBL	4	Combination of 20 lbs/ acre and/or Plugs or bare roots at density of 3ft on center
fringed sedge	*Carex crinita*	OBL	3	
Gray's sedge	*Carex grayi*	FACW	7	
greater bladder sedge	*Carex intumescens*	FACW	3	
bottlebrush sedge	*Carex lupulina*	OBL	5	
shallow sedge	*Carex lurida*	OBL	3	
white turtlehead	*Chelone glabra*	OBL	5	
sweet woodreed	*Cinna arundinacea*	FACW	5	
Riverbank wildrye	*Elymus riparius*	FACW	4	
Virginia wildrye	*Elymus virginicus*	FACW	6	
spotted touch-me-not	*Impatiens capensis*	FACW	1	
pale touch-me-not	*Impatiens pallida*	FACW	4	
Northern blue flag	*Iris versicolor*	OBL	5	
wood-nettle	*Laportea canadensis*	FACW	4	
ostrich fern	*Matteuccia struthiopteris*	FAC	5	
sensitive fern	*Onoclea sensibilis*	FACW	2	
switchgrass	*Panicum virgatum*	FAC	3	
bur-reed	*Sparganium americanum*	OBL	5	

Woody Plants

Common Name	Latin Name	Indicator Status	CoC	Planting Rate
red maple	*Acer rubrum*	FAC	2	Sum to 450/acre
silver maple	*Acer saccharinum*	FACW	4	
silky dogwood	*Cornus amomum*	FACW	4	
Northern spicebush	*Lindera benzoin*	FACW	6	
American sycamore	*Platanus occidentalis*	FACW	6	
Eastern cottonwood	*Populus deltoides*	FAC	2	
black willow	*Salix nigra*	OBL	4	
common elderberry	*Sambucus canadensis*	FACW	3	
slippery elm	*Ulmus rubra*	FAC	5	
arrow-wood	*Viburnum dentatum*	FAC	4	

6.5 Sources of water, connections to existing waters, and upland runoff.

Surface water is the primary source of water for the proposed wetland reestablishment and rehabilitation areas. A significant amount of surface water flows through the existing ditches. This water will be retained onsite via the establishment of ditch plugs.

6.6 Invasive species control

Invasive species and unwanted plant species establishment is inevitable on a property with existing populations of such species. But by adequately preparing the site, removing or managing invasive species seed sources where possible in areas adjacent to and within the re-establishment footprint, and by vigilantly addressing invasives as part of regular maintenance the site should achieve performance standards. Invasive species have been mapped throughout the CE to aid in this endeavor (Figure 6). Management will focus on hand pulling, mechanical removal, and, if needed, application of herbicide in accordance with all state and federal regulations.

Herbaceous invasive plants will be removed within the restoration area prior to construction and removal will continue afterward to meet the performance standards outlined in Sections 7 and 8. . Management will include either mowing or herbicide management timed to prevent seed production. This technique will limit seed production at times when soils would be easily colonized. Loosestrife management, while still aggressive, will be targeted to promote the continued development of the Galerucella beetle population throughout the site, sustaining the beetle food sources, the loosestrife leaves, while still curbing seed production. Management will continue annually throughout the monitoring period, addressing problems areas as soon as they are found. During the monitoring period, invasive plant species will be documented during site visits and mapped via GPS to be used to direct control measures.

Other appropriate methods for control will be determined at the time the species are encountered. Long-term tasks will include routine inspections in early summer (late June through mid-July) to determine invasive species presence or absence and abundance. Species found will be rapidly controlled through manual extraction or the application of herbicides before seeds reach maturity.

6.7 Soil management and erosion control measures

All slopes, soils, substrates, and constructed features within and adjacent to the work site will follow stabilization protocols described in the Mud Creek Preserve Erosion and Sediment Control plan submitted to NYS DEC prior to initiation of those activities.

7. Performance Standards

Success within the mitigation site is based on meeting the USACE criteria for the three parameters described in the 1987 Corps of Engineers Wetland Delineation Manual and 2012 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region.

The parameters needed to result in released credits include:

- *Wetland hydrology* where areas generating credit are inundated (flooded or ponded) or the water table is ≤12 inches below the soil surface for ≥14 consecutive days during the growing season at a minimum frequency of 5 years in 10.
- *Hydrophytic vegetation* where areas generating credit demonstrate a relative dominance of FAC or wetter plant coverage, meeting one or more USACE Wetland Determination Data Form Hydrophytic Vegetation Indicators.
- *Hydric soils* where areas generating credits contains soil profiles that demonstrate one or more USACE Wetland Determination Data Form Hydric Soil Indicators.
- *Any unvegetated open water area* that is greater than 0.1 acre in size does not generate "wetland" credits. As unvegetated open water (<30% cover of PEM/PSS/PFO species) does not meet the definition of wetland, it is appropriate to credit these areas as buffers as they do not truly represent wetlands.

The performance standards will be monitored over a 10-year term that begins the year following the submittal of the post-construction as-built report. Performance standards are based on three interim and one final goal. Credits will be released following the schedule described in Section 4.2. The credit amount or final release will be adjusted in accordance with the site performance at the end of the 10-year monitoring period.

7.1 First vegetative interim goal

- 50% relative cover by native perennial hydrophytes (FAC or wetter); and
- Any PSS area will have at least 150 shrubs/trees per acre from species listed in Table 5; and
- No more than 25% of wetland areal coverage of common reed (*Phragmites australis*), purple loosestrife (*Lythrum salicaria*), reed canary grass (*Phalaris arundinacea*), Japanese knotweed (*Polygonum cuspidatum),* Tartarian honeysuckle (*Lonicera tatarica*), Eurasian water-milfoil (*Myriophyllum spicata*), and/or other invasive species; and
- Re-establishment areas achieve a VIBI score of 15 or greater.

7.2 Second vegetative interim goals

- 60% relative cover by native perennial hydrophytes (FAC or wetter); and
- Any PSS area will have at least 200 shrubs/trees per acre from species listed in Table 5; and
- No more than 20% of wetland areal coverage of common reed (*Phragmites australis*), purple loosestrife (*Lythrum salicaria*), reed canary grass (*Phalaris arundinacea*), Japanese knotweed (*Polygonum cuspidatum),* Tartarian honeysuckle (*Lonicera tatarica*), Eurasian water-milfoil (*Myriophyllum spicata*), and/or other invasive species; and
- Re-establishment areas achieve a VIBI score of 22.5 or greater.

7.3 Third vegetative interim goals

- 75% relative cover by native perennial hydrophytes (FAC or wetter); and
- Any PSS area will have at least 300 shrubs/trees per acre from species listed in Table 5; and
- No more than 10% of wetland areal coverage of common reed (*Phragmites australis*), purple loosestrife (*Lythrum salicaria*), reed canary grass (*Phalaris arundinacea*), Japanese knotweed (*Polygonum cuspidatum),* Tartarian honeysuckle (*Lonicera tatarica*), Eurasian water-milfoil (*Myriophyllum spicata*), and/or other invasive species; and
- Re-establishment areas achieve a VIBI score of 33.8 or greater.

7.4 Final vegetative goals at end of the 10-year monitoring period

- 90% relative cover by native perennial hydrophytes (FAC or wetter); and
- Any PSS area will have at least 450 shrubs/trees per acre from species listed in Table 5; and
- No more than 5% of wetland of wetland areal coverage of common reed (*Phragmites australis*), purple loosestrife (*Lythrum salicaria*), reed canary grass (*Phalaris arundinacea*), Japanese knotweed (*Polygonum cuspidatum),* Tartarian honeysuckle (*Lonicera tatarica*), Eurasian water-milfoil (*Myriophyllum spicata*), and/or other invasive species; and
- Re-establishment areas achieve a VIBI score of 45 or greater.

8. Monitoring to Track Success Criteria and Determine Adaptive Management Implementation Needs

8.1 Monitoring report requirements

Site monitoring begins after construction is completed, and continues for ten (10) years. Monitoring information collected will determine if performance standards are being met, and provide, if needed, a list of adaptive management tasks (Section 9) to help meet those standards. Monitoring reports (Table 6) will include:

- An "As-Built" report, post-construction, which depicts completed construction details including photographs, baseline ecological descriptions, as-built drawings that describe the constructed features with 0.5' contours, map/descriptions of planted materials, wetland delineation maps with habitat type breakdowns, delineation data forms, estimates of relative cover of invasive plant species, and a description of any deviations from the mitigation plan.
- Five vegetation monitoring reports that will include:
  - A map showing the locations of monitoring activities.
  - Descriptions of the monitoring inspection protocols used.
  - Hydrology data collected from permanent water wells as well as hydrology information derived from Wetland Determination Data Forms completed throughout the site. Locations of each water well and data point will be indicated in each report.
  - Description of remedial actions completed since the last report.
  - The status of all erosion control measures on the mitigation site, including functionality, and any new adaptive management erosion control measures.
  - Review of all information collected to meet performance goals (7.1, 7.2, 7.3, 7.4), as appropriate.
  - Photographs taken from permanent photo points shown on a site plan.
  - List of wildlife observed and other interesting biological occurrences.

- Description of the general plant health, vigor and mortality, including a prognosis for their future survival including a qualitative description of arboreal plant health, vigor and mortality, including a prognosis for their future survival and photos illustrating tree growth.
- VIBI scores and associated data sheets for all re-establishment areas generating credits.
- All areas >0.1 acres that are dominated by invasive species will be mapped and reported.
- All areas >0.1 acre of unvegetated open water (<30% cover of PEM/PSS/PFO species) will be mapped and reported.
- Description of any measures requiring additional soil manipulation or changes in hydrology, all of which will be undertaken only after written approval from the New York District Engineer.

8.2 Reporting schedule

Monitoring reports by unique year and number, and an initial Post-Construction, "as-built" Report, will be submitted by 28 February of the following year (Table 6). All reports in hard copy and digital format will be submitted to the District Engineer, Department of the Army, New York District Corps of Engineers 1 Buffington Street, Building 10, Third Floor North, Watervliet NY 12189; reports to the IRT as requested. All monitoring, reporting, requests, and adaptive management implementation will be the responsibility of TWT.

Table 6. Schedule for as-built and monitoring reports.

Activity	Timing	Year*
Post-Construction "as-built" Report	Submitted by 28 February of the year following construction completion and planting	0
1st Monitoring Report	Submitted by 28 February of the year following first full year of vegetation growth, with this report being used as a template for all future reports	1
2nd Monitoring Report	Submitted by 28 February of the year following Third full year of vegetation growth	3
3rd Monitoring Report	Submitted by 28 February of the year following Fifth full year of vegetation growth	5
4th Monitoring Report	Submitted by 28 February of the year following Seventh full year of vegetation growth	7
Final Monitoring Report	Submitted by February of the year following Tenth full year of vegetation growth	10

**The year column depicts when monitoring reports will begin, and their sequence over the 10-year monitoring period.*

In the event that construction takes more than one growing season to be completed, an interim construction report will be submitted by no later than February 28 and will describe completed tasks and those remaining. The monitoring timeline will begin following the completion of construction and planting activities described herein.

9. Adaptive Management Plan

Effective management of this mitigation site throughout the monitoring period will promote greater long-term viability of the site. There are a wide variety of factors that could affect the success of this mitigation site, but the frequent visits required to complete the 10-year site monitoring process should ensure adaptive management needs are identified and implemented early and often. Proactive responses to concerns will result in a higher likelihood of successful management. Corrective measures to address factors such as woody plant health and quantity, native herbaceous plant cover including managing invasive species, erosion control, and hydrology will all be critical tools in ensuring site performance standards are achieved.

9.1 Adaptive woody plant health management

Re-establishment areas will predominantly be planted to forest cover, making survivability of woody stock a key consideration of site performance. Apart from the need to achieve the final woody plant performance standard of 450 shrubs and trees per acre, the shade they will produce will be a key tool for controlling invasive herbaceous plant coverage. Woody plant health can be affected by herbivory, pest infestation, poor responses to planting or to the hydrologic regime. Should deer herbivory become a concern, management either by installing an exclusionary fence, or by cooperation with licensed hunters operating in accordance with all state and local laws will be evaluated. The hydrologic regime of the mitigation areas, predominantly saturated soils without water flow, should ensure beaver are not attracted to the area. Should beaver damage become evident, management options include an exclusionary fence targeting beaver access, protective wraps around bases of larger trees, or partnership with a licensed nuisance trapper to allow planted material to take root and expand throughout the monitoring period.

9.2 Adaptive plant cover management

Managing to promote targeted plant species coverage will be a key component to ensuring meeting success criteria. In managing for plant cover, the planting more plug and/or seeds, and expanding the species planted may be part of general site management. Promoting a diverse assemblage of herbaceous plants will aid in meeting success criteria standards, and will result in a much higher quality wetland in the long-term, and targeting certain species based on local site conditions as the site matures will also be considered. Should deep water inhibit the development of a robust plant community, re-grading to decrease water levels coupled with replanting and reseeding will address problem areas. Alternatively, should drought conditions or inadequate surface hydrology occur, soil manipulation such as groundwater dams may be in order. The approach for managing invasives will be through vigilant management, before, during, and after the construction period as described in Section 6.6. Adaptive management options for addressing invasive species beyond regular maintenance might include temporarily placing weed control devices, selective regrading to favor native and woody species, and increased planting densities of woody species.

9.3 Adaptive hydrology management

In areas where infiltration is not the likely the cause of inadequate hydrology, modification of local

topography may be needed to access additional subsurface hydrology through such techniques as adding ditch plugs, installing groundwater dams, or modifying existing swales.

9.4 Adaptive site control management

The site is currently accessed through one primary gated driveway and is posted. Should site control become an issue, the installation of surveillance cameras and property border fencing will be options to increase property control. TWT will regularly review the status of this site to confirm that all necessary activities have been implemented and to ensure early detection of any management concerns.

10. Long-Term Management and Maintenance Plan

10.1 Responsible party

TWT is the long-term management lead, and plans to have TWT staff in the basin who will be responsible for management, maintenance, site work, research, and implementation. Certain tasks may be contracted to local partners when the need occurs.

10.2 Long-term management goals

The goals of the long-term management of the Mud Creek Preserve Wetland Mitigation Site is to support the long-term viability of the protected, re-established, rehabilitated wetlands and their buffers and the entire conserved (e.g., CE) site in perpetuity.

10.3 Long-term evaluation schedule

The Long-Term Management and Maintenance Plan begins as soon as the site is approved and continues thereafter. Sites visits will occur, at a minimum, on an annual basis, though due to the TWT's ongoing long-term research in several nearby sites, visits will likely occur at a much greater frequency. TWT also uses high resolution aerial imagery to monitor its property, and will have digital data available to all monitoring and maintenance staff as an additional property evaluation resource. The first 10 years of operation will also have increased presence as TWT implements the Mitigation Plan.

10.4 Long-term management and maintenance items

The long-term management strategy will advocate a sustainable approach, minimizing active management activities, and instead promoting natural wetland processes. The Mud Creek Preserve will be available for study and research to our academic partners. We expect SUNY ESF, among other universities, may use the site for graduate research. TWT will actively solicit non-invasive research projects on all of its Hudson River Basin sites to maximize this venue. These academic partnerships help meet educational objectives for the Bank, while stimulating site visits that may reveal adaptive management needs. Each academic partner visiting the site will be provided a simple site evaluation form to submit that will ensure continued monitoring vigilance. This form will request comments regarding invasive species, rare/threatened/endangered plant or animal species found in the mitigation area, evidence of trash and trespass in the mitigation area or any other cause of concern that need be addressed by TWT.

The parcel will be posted for protection against trespassing as well as to delineate the boundaries for academic activities; fencing along Fish and Game Road is under consideration. Monitoring for maintenance addresses anticipated regular actions, include ensuring boundary posting and fence integrity, signage repair, structure maintenance (there is a storage building at the MCP), early detection of invasive species problems, areas that require an activity such as mowing, and any areas where there is natural activity that could lead to problems such as after extreme weather events. Certain items such as mowing are timed to meet their objectives of keeping a field in early succession, but after bird nesting activities. Lastly there is a farmhouse at the MCP, and should TWT initiate its plan for becoming a bunkhouse for visiting researchers and TWT staff, if it will provide additional stewardship oversight.

As part of long-term management plan TWT will review the functionality of the entire MCP to identify additional implementation needs that could be undertaken to increase the preserve's sustainability, resilience, wetland area, and biodiversity. The review may result in a plan amendment request for additional work should it fall within the mitigation credit purview, or a request for biological enhancement under the CE if mitigation credits are not involved.

11. Financial Assurances

11.1 Short-term financial assurances

TWT will provide sufficient assurance to ensure a high level of confidence that the compensatory mitigation project will be successfully completed (Section 332.3(n)(1)) through a performance bond naming the USACE New York District as the Obligee, who can then designate a third party. TWT plans to use the bonding company it currently uses to meet its assurance obligations for another NY Mitigation Bank, the Salt Marsh Bank in Montezuma, NY.

For this Mitigation Plan TWT is using an enhanced bonding approach based on USACE Regulatory Letter No 19-01, where the credit release schedule is broken down into three, rather than multiple components; otherwise the plan's components are the same (e.g., construction, success criteria, monitoring reports and schedules, and so on). TWT will provide the USACE New York District with a comprehensive cost estimate for appropriate costs that need to be assured should TWT not complete these Mitigation Plan tasks. The cost categories used to develop the bonding amount are detailed in Table 7.

Table 7. Cost estimate categories for high level confidence bonding.

Cost Category	Total Amount Confidential, but provided to IRT	Basis/Commends
Land Acquisition		land costs, prorated taxes, other closing costs
Legal Fees and Filings		attorney fees for real estate closing, subsequent conservation easement and mitigation plan filing,

Planning and Engineering		developing Mitigation Plan (which includes construction technical specifications and Conservation Easement); As-Built Plan, including construction details and second wetland delineation
Mobilization		Boundary survey, soil survey, erosion control, installing monitoring water wells, permanent VIBI plots, initial and as-Built wetland delineations, SHPO review (plan for phase 1 review)
Construction		Includes equipment/staff for soil manipulation and ditch plug installation; seeds, plants, and planting/mulching
Monitoring		Multiple monitoring session following Mitigation Plan plans requirement and writing/submitting monitoring plan
Adaptive management to make mid-course corrections		Cost involved in additional planting, invasive species control, mid-course corrections on topographic layout, or other implementation tasks that have been revealed through monitoring to meet ecological performance standards in the Mitigation Plan
Total Bondable costs		Cost per year; bonding at 3-year intervals (first three paid, second 3 and last 3 or 4 if needed), to insure extra financial security

11.2 Long-term financial assurances

To ensure long-term financial assurance TWT will continue to own the site fee simple in perpetuity. Being a 501(c)(3) nonprofit, TWT has received tax-exempt status for the site, which helps assure its long-term protection. TWT has a director-controlled Stewardship Management Investment Account specifically established for the Mitigation Bank. A total of $407,400 will be deposited in this account, with the investment income (investment instruments are low risk and broad based) used to support permanent long-term management and maintenance. These funds are sufficient to sustain the long-term management of the Mud Creek Preserve as outlined in Table 8. The account will be fully funded before 10.4 credits have been sold.

Table 8. Long-term Maintenance Budget Estimate.

Budget Estimate for long-term management and maintenance tasks for the Overlook Wetland Preserve Mitigation Site consisting of 88 acres.

Category	Task	Frequency Every Year = 1 Every 10 years = 0.1	Estimated Cost	Amount set aside every year
Potential Adaptive Management Tasks	Replanting	0.05	8,000	400
	Reshaping terrain	0.02	10,000	200
	Invasive species removal	0.5	2000	1000
	Other techniques	0.3	4,000	1200
Potential Maintenance Tasks	Boundary posting	0.05	10,000	500
	Fence maintenance	0.05	6,000	300
	mowing	1	1200	1200
	Site manipulation	0.02	4,800	96
Additional Potential Long-Term Management Tasks	Other corrective, adaptive management, Actions to ensure natural stability of site	0.1	38,000	3200
Monitoring	To determine implementation tasks	1	2,000	8,000
Administration	To ensure the Overlook Preserve remains tax exempt	1	200	200
Total cash needed per year to cover both maintenance and long-term management tasks, with some funds rolled over for less frequent implementation tasks.				16,296
Total Stewardship investment to support all tasks, based on an investment of 4% return to generate funds, or $40/1,000 invested. Any additional funds generated will be rolled over to increase the stewardship investment or used as needed for the above tasks				407,400

12. Other Items

Where appropriate, TWT will follow specific species habitat regulatory restoration protocols for sites that may harbor rare species, beginning with coordination between TWT and USFWS to ensure these protocols are correct. TWT will also request Section 7 consultation between the Corps and USWFS as part of the procedure. Other items as determined by the DE, acting in consultation with the IRT will be included.

13. Property Transfer Provision

The Wetlands Trust shall have the right to sell, assign, transfer or convey (each a “transfer” for the purposes of this Subsection) its interest in the Mitigation Property at any time; provided, however, that any such

transfer on or after the execution date of this Mitigation Plan must be made in accordance with the Mitigation Plan and the Conservation Easement, and shall be subject to prior written concurrence by USACE and the IRT. Such concurrence shall be subject to the requirement that the transferee assumes and agrees in writing to observe and perform all of TWT's obligations pursuant to this Mitigation Plan and the Conservation Easement.

From and after the date of any transfer by TWT of its interest in the Mitigation Property in which the transferee has assumed and agreed in writing to observe and perform all of the transferor's obligations pursuant to this Mitigation Plan, (a) the transferor shall have no further obligations hereunder and all references to TWT in this Mitigation Plan shall thereafter refer to such transferee, except that the transferor's liability for acts, omissions, or breaches occurring prior to the transfer shall survive the transfer. Any transfer of the TWT's interest in the Mitigation Property made without the prior written concurrence of USACE and the IRT constitutes default and the IRT may take action accordingly.

Sponsor may sell or convey its entire interest in the Mitigation Property at any time, provided that no uncured event of default exists, Sponsor is in full compliance *w*ith all requirements of this Mitigation Plan (including all Financial Assurance requirements), and subject to the prior written approval of USACE, in consultation with the IRT. If any of the Financial Assurances required under this Mitigation Plan are not completely funded at the time the Sponsor requests USACE approval of a sale or conveyance, then USACE shall not approve such sale or conveyance unless and until either the current Sponsor, or the proposed replacement Sponsor, shall have provided all required Financial Assurances. In addition, prior to sale or conveyance, the Sponsor shall provide to each member of the IRT a written agreement signed by the replacement Sponsor, acceptable to the IRT in form and substance, in which the Sponsor assigns to the replacement Sponsor, and the replacement Sponsor assumes and agrees to perform, all of the responsibilities and obligations of the Sponsor under the Mitigation Plan. Any such sale or conveyance made without the prior written concurrence of USACE constitutes default and USACE may take action accordingly.

14. Invalid Clauses

In the event any one or more of the provisions contained in this document are held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality, or unenforceability will not affect any other provision hereof, and this document shall be construed as if such invalid, illegal, or unenforceable provision has not been contained herein.

15. Notice Provision

Any notice required or permitted hereunder shall be deemed to have been given either (i.) when delivered by hand, or (ii.) three (3) days following the date deposited in the United States Mail, postage prepaid, by registered or certified mail, return receipt requested, or (iii.) sent by Federal Express or similar next-day nationwide delivery system, addresses as follows (or addressed in such a manner as the party being notified shall have requested by written notice to the party):

Sponsor: The Wetland Trust, Inc. 4729 State Route 414, Burdett NY, 14818

USACE: District Engineer, Department of the Army, New York District Corps of Engineers 1 Buffington Street, Building 10, Third Floor North, Watervliet NY 12189.

16. Dispute Resolution

In an event of dispute between the Corps and the sponsor or other interested parties (e.g., long-term land steward) concerning interpretation of the HRUMBI or a site mitigation plan or its components, which is not already covered within the HRUMBI or appropriate Federal regulations**,** the Corps shall consider comments from the other members of the IRT, the Sponsor and/or information provided by an independent review. The Corps will allow 60 days for comments and information, and within the next 90 days issue a written resolution declaration. Nothing in this section will affect other legal means of addressing the issue at hand.

17. Controlling Provision

USACE approval of this Instrument constitutes the regulatory approval required for the HRUMBI to be used to provide compensatory mitigation for Department of the Army permits pursuant to 22 C.F.R. 332.8(a)(l). This Instrument is not a contract between the Sponsor or property Owner and USACE or any other agency of the federal government. Any dispute arising under this Instrument will not give rise to any claim by the Sponsor or Property Owner for monetary damages. This provision is controlling notwithstanding any other provision or statement in the Instrument to the contrary.

References

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Appendix A. Mud Creek Preserve mitigation site conservation easement

CONSERVATION EASEMENT

On lands of The Wetland Trust, Inc.

109 Fish and Game Road, Hudson, NY 12534

Town of Claverack, Columbia County, NY

covering a portion of

Tax Parcel 111.-1-61.3

THIS DECLARATION OF CONSERVATION EASEMENT is made as of the ___ day of_____2020, by The Wetland Trust, Inc. (the "Grantor"), a New York not-for-profit with offices at 4729 State Route 414, Burdett, NY 14818, for the benefit of, but not the burden upon, The Wetland Conservancy, Inc. (the "Holder"), a New York not-for-profit entity having its office at P.O. Box 220, Burdett, New York 14818.

WHEREAS, Grantor is the owner in fee simple of real property located in the Town of Claverack, County of Columbia, and State of New York, a portion of which property is covered by this conservation easement and more fully described in Schedules A and B annexed hereto (the "Protected Property"), and

WHEREAS, Grantor seeks to develop the Protected Property in a manner authorized in the Wetland Mitigation Plan for the Mud Creek Preserve, 109 Fish and Game Road, Town of Claverack, NY, as part of the TWT NY Hudson River Wetland Mitigation Umbrella Bank Instrument developed under Part 332.8, Federal Register Volume 73, Number 70 and approved by the United States Army Corps of Engineers, Buffalo and New York City Districts ("Corps of Engineers" and to include any successor agency) in accordance with the Federal Clean Water Act, 33 U.S.C. Section 1344 (the “Plan”); and

WHEREAS, as compensatory mitigation for activity authorized by the Plan; in order to protect, restore, and maintain the chemical, physical, and biological integrity of waters of the United States including wetlands through the control of discharges of dredged or fill material; in accordance with the common law and with the Conservation Easements provisions of New York Environmental Conservation Law ("ECL") Article 49, Title 3; and in recognition of the continuing benefit to scenic and natural resources, the environment, and general property values; Grantor agrees to restrict ownership and use of a portion of the approximately 88-acre Protected Property more particularly described in Schedule A (the "Protected Property"), in order that the Protected Property shall remain substantially in its natural condition (subject to applicable terms and conditions of the Plan) in perpetuity; and

WHEREAS, the Holder is a 501 (c) 3 not-for-profit corporation and is qualified to hold a Conservation Easement in accordance with ECL Section 49-0305; and

WHEREAS, the purposes of this Conservation Easement include, without limitation, conservation and preservation of the Protected Property, with its scenic and other natural resource values and its aquatic resources, which resources include native flora and fauna, and the ecological processes that support them; diverse forest types and conditions; soil productivity; biological diversity; water quality; and wetland, riparian, and other aquatic habitats; and

WHEREAS, Grantor agrees, in accordance with ECL Section 49-0305.5, that rights of enforcement of the terms of this Conservation Easement shall be held by the Holder, and that third-party rights of enforcement shall also be held by the Corps of Engineers or other appropriate enforcement agencies of the United States and that these rights are in addition to, and do not limit, the rights of enforcement under the Plan.

NOW, THEREFORE, for the foregoing consideration, and in further consideration of the restrictions, rights, and agreements herein, Grantor hereby creates, gives, grants, bargains and conveys to the Holder a perpetual easement in, to, over and across, the Protected Property for the purposes of preservation, protection, maintenance and conservation of the Protected Property and the aquatic resources thereon.

A. RESTRICTIONS

Grantor shall ensure compliance with the following Restrictions on the Protected Property, which shall run with the Protected Property in perpetuity, and be binding on the Grantor, the Holder, and their respective successors, assigns, lessees, and other occupiers and users.These Restrictions are subject to Grantor's Reserved Rights, which follow.

1. **General.** There shall be no future grading, filling, flooding, excavating, mining or drilling; no removal of natural materials;no dumping of materials; and, no alteration of the topography which would materially affect the Protected Property in any manner, except as authorized by the Plan

2. **Waters and Wetlands.** In addition to the general restrictions above, on the Protected Property there shall be no draining, dredging, damming or impounding of waters; no changing the grade or elevation, impairing the flow or circulation of waters, or reducing the reach of waters; and, no other discharges or activity requiring a permit

under applicable water pollution control laws and regulations, except as authorized by the Permit or by current New York State Department of Environmental Conservation permits, or any amendments thereof.

3. **Trees and Vegetation.** On the Protected Property there shall be no clearing, burning, cutting or destroying of trees or vegetation, nor application of herbicides except as may be necessary to protect public health or safety or as authorized by the Plan. There shall be no planting or introduction of non--native or exotic species of trees or vegetation.

4. **Waste Disposal.** There shall be no disposal or storage of liquid or solid waste or other unsightly, hazardous, toxic or offensive material on the Protected Property.

5. **Uses.** No agricultural, animal husbandry, industrial, mining, logging or commercial activity shall be undertaken or allowed on the Protected Property.

6. **Structures.** There shall be no construction, erection, or placement of buildings, billboards, or any other temporary or permanent structures, to include trailers, mobile homes, recreational vehicles, telecommunication s towers or antennas, on the Protected Property.

7. **Roads.** There shall be no construction of roads, trails or walkways on the Protected Property without the prior written approval (including approval of the manner of construction) of the Holder and the Corps of Engineers.

8. **Utilities.** There shall be no construction or placement of utilities or related facilities on the Protected Property without the prior written approval (including approval of the manner of construction) of the Holder and the Corps of Engineers.

9. **Pest Control.** There shall be no application of pesticides or biological controls, including controls of problem vegetation, on the Protected Property without prior written approval (including approval of the manner of application) of the Holder and the Corps of Engineers.

10. **Vehicular Use.** There shall be no use of any vehicle or mechanical conveyance which may alter or impair the natural contour or natural vegetation on the Protected Property, except that motor vehicles may be used in case of emergency, for law-enforcement purposes, or for the purpose of compliance and monitoring compliance with the purposes of this Conservation Easement.

11. **Subdivision.** There shall be no subdivision of the Protected Property into parcels or lots, so as to create new parcels,

lots or sites with or without access.

12. **Marking.** The Grantor shall mark the limits of the Protected Property in a manner approved by the Holder and the Corps of Engineers, and shall maintain the marking in place so as to notify the public that the Protected Property is an area preserved for conservation purposes.

13. **Other Prohibitions.** Any other use of, or activity on, the Protected Property, w h i c h is or may become inconsistent with the purposes of this Conservation Easement, the preservation of the Protected Property substantially in its natural condition, or the protection of its environmental systems, is prohibited.

B. RESERVED RIGHTS OF GRANTOR

Grantor reserves the right to engage in all acts or uses not prohibited by the Restrictions, which are not inconsistent with the conservation purposes of this grant, the preservation of the Protected Property substantially in its natural condition, and the protection of its environmental systems, and which do not interfere with Grantor's obligations under the Permit. Nothing herein shall be deemed to modify or amend any other or additional agreements between or among the Grantor, the Holder and the Corps of Engineers. In the event any of the Grantor's acts or uses, whether on the Protected Property or on the Permitted Property, are subject to review under the New York State Environmental Quality Review Act (SEQRA), the Holder shall be designated as an interested party and notified of the review process.

C. GENERAL PROVISIONS

The following General Provisions shall be binding upon the Grantor and the Grantor's heirs, successors, grantees, transferees, administrators, assigns, lessees, licensees and agents, and shall inure to the benefit of the Holder and the Corps of Engineers, and the heirs, successors, grantees, transferees, administrators, assigns, lessees, licensees and agents of the Holder and the Corps of Engineers:

1. **Rights of Access and Entry.** The Holder and the Corps of Engineers shall have the right to enter and go upon the Protected Property for purposes of monitoring and inspection, and to take actions necessary to verify compliance with the Restrictions. The Holder shall also have rights of visual access and view, and the right to enter and go upon the Protected Property for purposes of making scientific or educational observations and studies, and taking samples, in such a manner as will not disturb the quiet enjoyment of the Protected Property by Grantor. No right of access or entry by the general public to any portion of the Protected Property is conveyed by this Conservation Easement.

2. **Enforcement.** Grantor acknowledges and agrees that the Holder's and the Corps of Engineers' remedies at law for any violation of this Conservation Easement are inadequate. In the event of a breach of any of the Restrictions set forth above, the Holder or the Corps of Engineers will notify the Grantor in writing of the breach. The Grantor shall have thirty (30) days after receipt of such notice to undertake actions that are reasonably calculated to promptly correct the conditions constituting the breach. If the Grantor fails to commence such corrective action within thirty (30) days, or fails to complete the necessary corrective action, the Holder or the Corps of Engineers may undertake such actions, including legal proceedings, as are necessary to effect such corrective action. Among other relief, the Holder or the Corps of Engineers shall be entitled to specific performance of the terms of this Conservation Easement and to a complete restoration of the Protected Property, correcting damage caused by any breach of the Restrictions. Breaches of the General Provisions of this Conservation Easement shall be actionable without notice. The costs of a breach, correction or restoration, including reasonable Holder or Corps of Engineers expenses, expert or consultant expenses, court costs and attorneys' fees, shall be paid by the Grantor. Enforcement shall be at the discretion of the Holder or the Corps of Engineers. Enforcement shall not be defeated because of any subsequent adverse possession, laches, estoppel or waiver. The Holder's and the Corps of Engineers' enforcement rights are in addition to, and shall not limit, enforcement rights available under other provisions of law or equity, or under any applicable permit or certification.

3. **Events Beyond Grantor's Control.** Nothing herein shall be construed to authorize the Holder or the Corps of Engineers to institute any proceedings against Grantor for any changes to the Protected Property caused by acts of God or circumstances beyond the Grantor's control such as earthquake, fire, flood, storm, war, civil disturbance, strike or similar causes.

4. **Obligations of Ownership.** Grantor is responsible for payment of all real estate taxes, assessments, fees, or other charges levied upon the Protected Property, and Grantor will provide copies of receipts evidencing payment of any such charges upon request of the Holder or the Corps of Engineers. Any liens, mortgages or other encumbrances affecting the Protected Property shall be subject to the terms of this Conservation Easement. The Holder or the Corps of Engineers shall not be responsible for any costs or liability of any kind related to the ownership, operation, insurance, upkeep, or maintenance of the Protected Property, except as expressly provided herein. Nothing herein shall relieve the Grantor of the obligation to comply with federal, state or local laws, regulations and permits that may apply to the exercise of ownership, or rights under this Conservation Easement, by Grantor.

5. **Recording.** The Grantor shall have this Conservation Easement duly recorded and indexed as such in the Office of the County Clerk of Columbia County, New York, as described in ECL Section 49-0305.4. Upon recording, the Grantor shall forward a copy of this Conservation Easement as recorded to the Holder, to the Corps of Engineers and, as described in ECL Section 49-0305.4, the New York Department of Environmental Conservation.

6. **Extinguishment.** In the event that changed conditions render impossible the continued use of the Protected Property for conservation purposes, this Conservation Easement may only be extinguished, in whole or in part, by judicial proceeding under authority of ECL Section 49-0307.

7. **Eminent Domain.** If all or part of the Protected Property is taken in the exercise of eminent domain so as to substantially abrogate the Restrictions imposed by this Conservation Easement, the Grantor and the Holder shall promptly notify the Corps of Engineers and shall join in appropriate actions at the time of such taking to recover the full value of the taking, and all incidental and direct damages due to the taking. Each party shall be responsible for its own costs in any such legal proceeding.

8. **Proceeds of Taking.** This Conservation Easement constitutes a real property interest immediately vested in the Holder. In the event that all or a portion of this Protected Property is sold, exchanged, or involuntarily converted following an extinguishment or the exercise of eminent domain, the Holder shall be entitled to the fair market value of this Conservation Easement. The parties stipulate that the fair market value of this Conservation Easement shall be determined by identifying the fair market value of the Protected Property unencumbered by this Conservation Easement (minus any increase in value after the date of this grant attributable to improvements) and subtracting the value of the Protected Property with the Conservation Easement at the time of this grant. The values at the time of this grant shall be the values used, or which would have been used, to calculate a deduction for federal income tax purposes, pursuant to Section l70(h) of the Internal Revenue Code (whether the grant is eligible or ineligible for such a deduction). The Holder shall use its share of the proceeds in a manner consistent with the purposes of this Conservation Easement.

9. **Notification.** Any notice, request for approval, or other communication required under this Conservation Agreement shall be sent by registered or certified mail, postage prepaid, to the following addresses (or such address as may be hereafter specified by notice pursuant to this paragraph):

To Grantor:

The Wetland Trust, Inc.

4729 State Route 414, Burdett, New York 14818

To Holder:

The Wetlands Conservancy, Inc

P.O. Box 220, Burdett, New York 14818

To the Corps of Engineers:

U.S. Army Corps of Engineers, New York District ATTN: Regulatory Branch

Room 1937, 26 Federal Plaza New York, NY
10278-0090

And

U.S. Army Corps of Engineers, Buffalo District ATTN: Regulatory
Branch

1776 Niagara Street, Buffalo, NY 14207-3199

10. **Assignment.** This Conservation Easement is transferable, but only to a holder qualified under ECL Section 49-0305.3, and approved in writing by the Corps of Engineers before transfer. As a condition of such transfer, the transferee shall agree to all of the restrictions, rights, and provisions herein,and to continue to carry out the purposes of this Conservation Easement. Assignments s h a l l be accomplished by amendment of this Conservation Easement in accordance with Section C, Paragraph 14.

11. **Failure of Holder.** If at any time the Holder is unable or fails to enforce this Conservation Easement, or if the Holder ceases to be a holder qualified under ECL Section 49-0305, and if within a reasonable period of time after the occurrence of one of these events the Holder fails to make an assignment pursuant to paragraph 10, then the Holder's interest shall become vested in another holder qualified in accordance with an appropriate *(e.g., cy pres)* proceeding, to be brought by the Grantor in a court of competent jurisdiction .

12. **Subsequent Transfer.** This Conservation Easement shall be perpetual and run with the land and shall be binding upon all future owners of any interest in the Protected Property. The conveyance of any portion of or any interest in the Protected Property, by sale, exchange, devise or gift, shall be made by an instrument which expressly provides that the interest thereby conveyed is subject to this Conservation Easement, without modification or amendment of the terms of this Easement, and such instrument shall expressly incorporate this Conservation Easement by reference, specifically setting forth the date, office, liber and page of the recording of this Conservation Easement. The failure of any such instrument to comply with the provisions hereof shall not affect the validity or enforceability of this Conservation Easement, nor shall such failure affect the Holder's or the Corps of Engineers' rights hereunder. No less than thirty (30) days prior to conveyance of any interest in the Protected Property,Grantor (to include any successor Grantor) shall notify the Holder and the Corps of Engineers of such intended conveyance, providing the full names and mailing addresses of all Grantees, and the individual principals thereof, under any such conveyance.

13. No **Merger of Interests.** In the event the same person or entity ever simultaneously holds an interest in the Protected Property under this Conservation Easement, and holds the underlying title in fee, the parties intend that the separate interests shall not merge.

14. **Amendment.** This Conservation Easement may be amended in accordance with ECL Section 49-0307, but only in a writing signed by the Grantor and the Holder, or their successors or assigns, and approved in writing by the Corps of Engineers, its successors or assigns; provided such amendment does not affect the qualification of this Conservation Easement or the status of the Holder under ECL Section 49-0305 or any other applicable law; and provided such amendment is consistent with the conservation purposes of this grant and its perpetual duration. Any amendment to this Conservation Easement shall be recorded and provided to the Holder, the Corps of Engineers and the New York State Department of Environmental Conservation,in the manner set forth in paragraph C-5 above.

15. **Severability.** Should a court of competent jurisdiction find any separate part of this Conservation Easement void or unenforceable le, the remainder shall continue in full force and effect.

16. **Warranties by Grantor.** Grantor warrants that it owns the Protected Property in fee simple, and that Grantor owns all interests in the Protected Property that may be impaired by the granting of this Conservation Easement. Grantor further warrants that there are no outstanding mortgages, tax liens, encumbrances, or other interests in the Protected Property that have not been expressly subordinated to this Conservation Easement. Grantor further warrants that no structures of any kind, to include roads, trails or walkways, and no violations of restrictions of this of this Conservation Easement exist on the Protected Property at the time of execution hereof. Grantor further warrants that the Holder shall have the use of and enjoy all the benefits derived from and arising out of this Conservation Easement.

17. No Gift or Dedication. Nothing contained in this Conservation Easement shall be deemed to be a gift for dedication of all or any part of either the Permitted Property or the Protected Property to the public, or for public use.

IN WITNESS WHEREOF, Grantor and Holder have executed this Conservation Easement, as of the date written above.

Execution by Grantor: The Wetland Trust, Inc.

By: _____

Title: Executive Director

STATE OF NEW YORK) ss.:

COUNTY OF Schuyler)

On the __day of_____in the year 2020 before me, the undersigned, a notary public in and for said state, personally appeared the Grantor **James Curatolo**, Executive Director of The Wetland Trust, Inc. personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that executed the same in his capacity, and that by his signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed this instrument.

_____

Notary Public Date: _____

Approval and Acceptance by Holder: The Wetland Conservancy, Inc.

By: _____

Title: Chair

STATE OF NEW YORK) ss.:

COUNTY OF Tompkins)

On the __day of_____in the year 2020 before me, the undersigned, a notary public in and for said state, personally appeared the Holder **Aaron Ristow**, Chair of The Wetland Conservancy, Inc. personally known to me or proved to me on the basis of satisfactory evidence to be the individual whose name is subscribed to the within instrument and acknowledged to me that he executed the same in his capacity, and that by his signature on the instrument, the individual, or the person upon behalf of which the individual acted, executed this instrument.

_____

Notary Public Date: _____

Schedule A

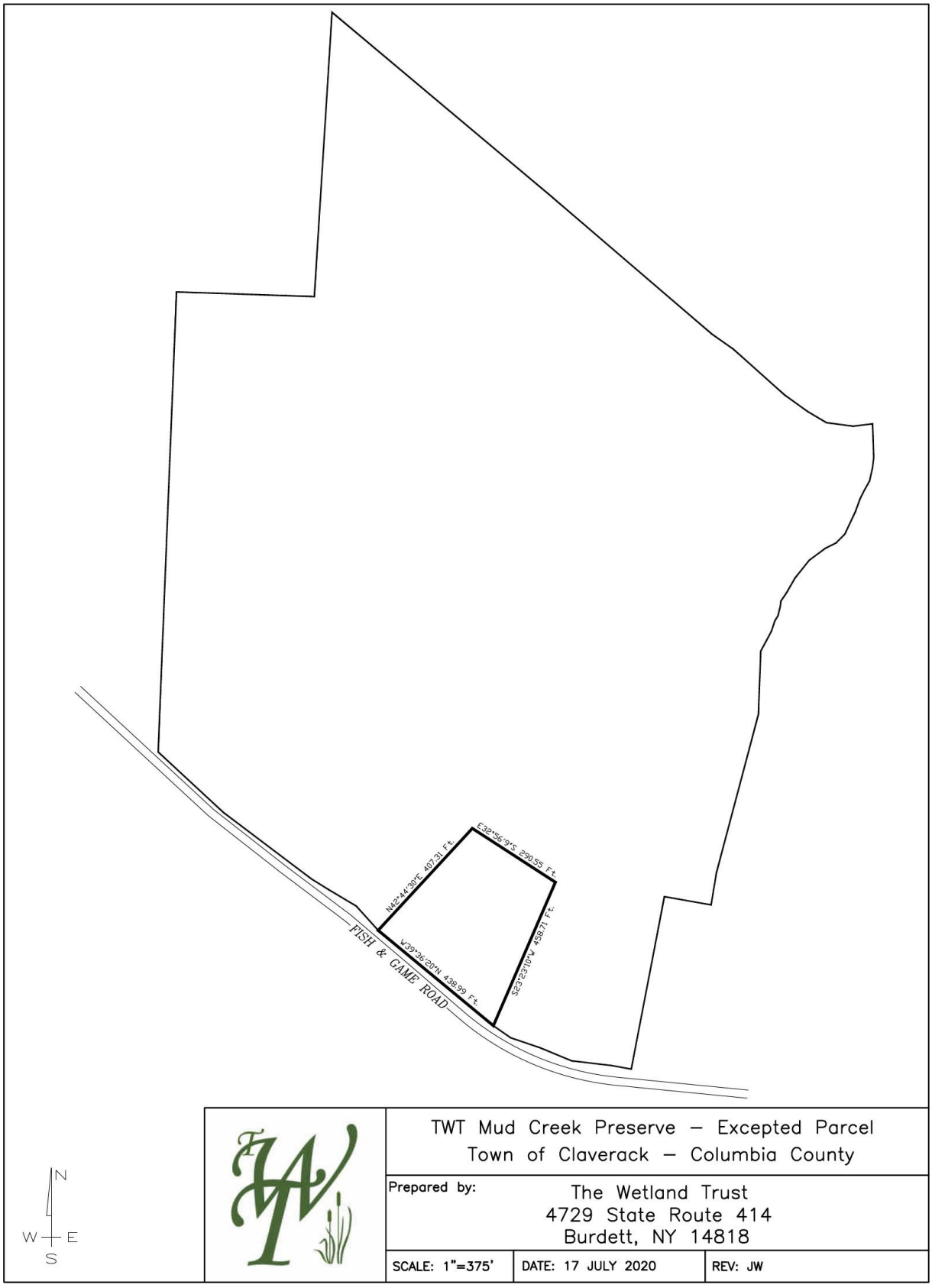
Parcel Description of the Mud Creek Preserve Conservation Easement located on tax parcel 11.-1-61.3 in the Town of Claverack, County of Columbia, and State of New York, being described as follows:

EXCEPTING AND RESERVING THEREFROM ALL THAT TRACT OR PARCEL OF LAND in the tax parcel 11.-1-61.3 Town of Claverack, County of Columbia, and State of New York, bounded and described as follows: all land within said parcel of land to the west of the Con Edison Powerline, and also COMMENCING at a point, said point being the southeast corner of the parcel at the edge of Fish & Game Road; Thence Westerly along Fish and Game Road 430 feet more or less to the BEGINNING point marking the Southeast corner of Excepted Conservation Easement Parcel; Thence West 39°36'20" North 438.99 feet to a point marking the Southwest corner; Thence North 42°44'30" East 407.31 feet to a point marking the Northwest corner; Thence East 32°56'9" South 290.55 feet to a point marking the Northeast corner; Thence South 23°23'10" West 458.71 feet back to BEGINNING point marking Southeast corner of the Excepted Conservation Easement Parcel totaling 3.56 acres.

Figure 18. Conservation Easement and Entire Mud Creek Preserve.



Figure 19. Mud Creek Preserve Exempted Acreage.



Appendix B. Bonding cost proposal.

A proposal to use USACE Regulatory Letter No.19-01, 22 February 2019

"Mitigation Bank Credit Release Schedules and Equivalency in Mitigation Bank and In-Lieu Fee Program Service Areas" to bond the Mud Creek Wetland Preserve Mitigation Site

In

A Wetland Mitigation Plan for the
Mud Creek Preserve
Hudson, NY

A site in the TWT NY Hudson River
Wetland Mitigation Umbrella Bank's
Mid-Hudson Service Area
HUA 02020006

Submitted for review to:

United States Army Corps of Engineers

New York and Buffalo District's

Interagency Review Team

Submitted by:

Prepared by:
The Wetland Trust, Inc.
4729 State Route 414
Burdett, NY 14818
www.thewetlandtrust.org

Background

The Wetland Trust, Inc. is in the final stages of developing a mid-Hudson Service Area site for its NY Hudson River Wetland Mitigation Umbrella Bank. TWT realizes that nothing has been approved, but believe that developing multiple components of a project where approval timelines are somewhat lengthy that it is TWT's best interest to have as many components ready rather than to follow a more linear approach. The ability to provide a bond that ensures funding for success, and provides more credits during earlier stages of a site development is especially critical when the site's credit size is relatively small.

Thus for this new potential Service Area TWT proposes to use the regulatory letter No 19-01 approach to develop a credit release schedule based on the letter. In a simple summary everything about the Mitigation Plan that is being developed is standard (e.g., construction, success criteria, monitoring schedules, and so on), except the credit release schedule is broken down into three, rather than multiple components. Namely:

1. A first release of Credits after the approval of the Mitigation plan and other accompanying documents (such as a filed CE). *This is the standard approach.*
2. A second release credits after approval of the As-built Plan, which includes a new wetland delineation that updates the total planned credits as described in the original Mitigation Plan. *This is the new approach where the usual three credit (or more) releases are combined into one upfront release, but assured of success by a bond that includes all potential costs.*
3. A final release of credits approved after the entire site is completed and approved by the USACE. *This is the standard approach.*

This request is for USACE to consider this approach and that TWT will include it in its Mitigation Plan as the credit release schedule, with all of the numbers, costs and other relevant information revised to reflect the actual credits generated.

A draft restoration map that depicts the layout of what will be done and how the restoration will proceed. Even though this map will be revised if and when the site is approved, it provides the necessary specifics on construction and other activities that TWT can develop a complete cost analysis for the build out that needs to be bonded for this enhanced credit request.

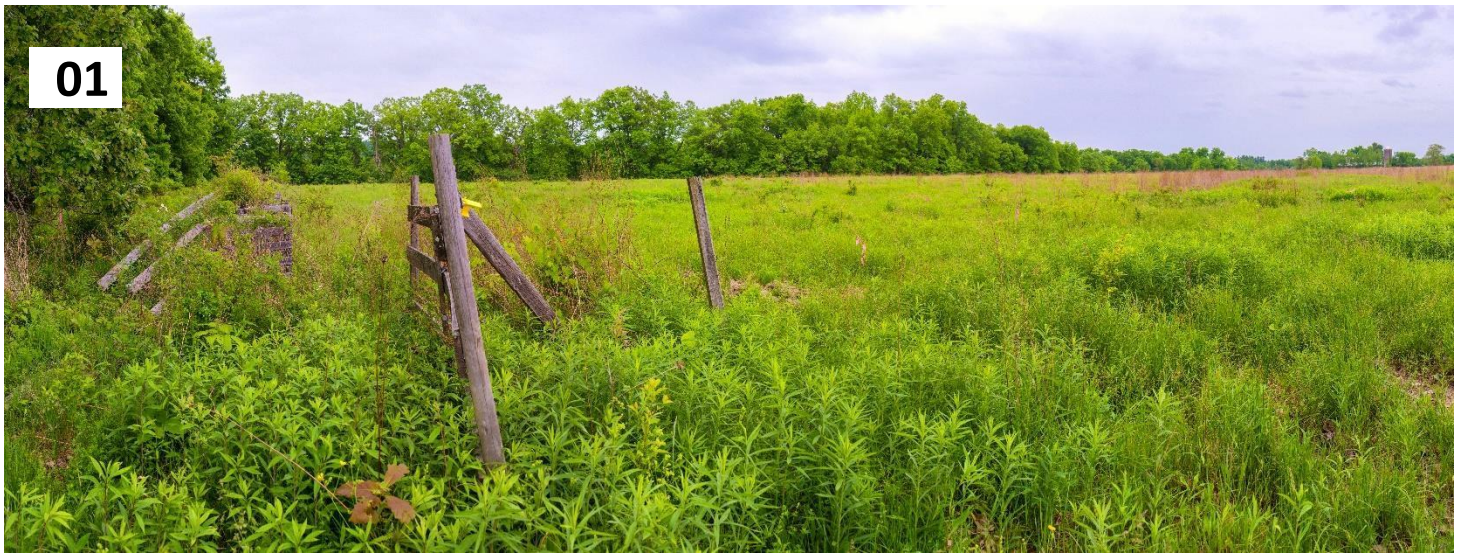
1. First credit release after mitigation plan approval, with new comprehensive Bond in place: All preservation credits (1) and 15% of restoration credits (3) = 4 credits released

2. Second credit release, after approval of As- Built Plan that includes the new wetland delineation and wetland credits adjusted as necessary, with new comprehensive Bond in place: 60% of restoration credits = 12 credits released

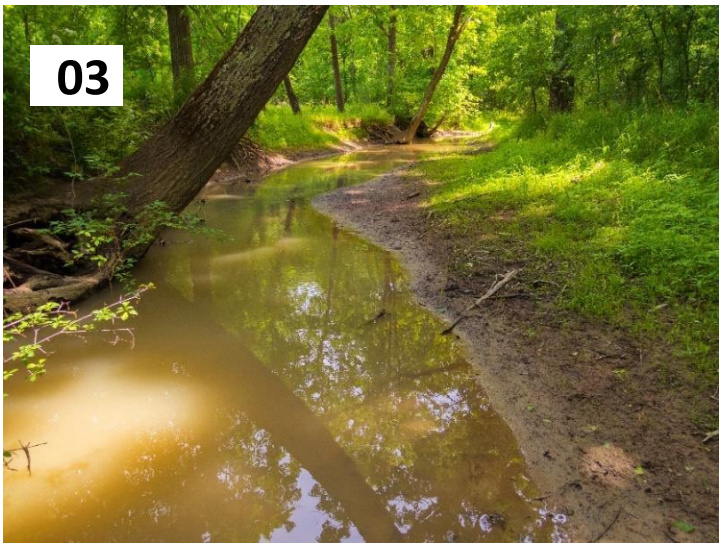
3. Third and final credit release after site is fully completed and approved by the USACE: 25% of the restoration credits = 5 credits released

Furthermore, TWT believes that the first three years of a site's life are the most sensitive to "success". TWT suggests that it provide a 3-year bond up front to help provide that high degree of confidence that there is no break in bonding coverage. And then after the first three years, provide another three-year bond to continue that confidence. As always USACE and TWT can revisit that coverage once the site matures and suggest revisions to the bonding as needed. The bonding will be initiated concurrent with the approved accelerated credit release.

Appendix C. Supplemental site photos, including photo location map.

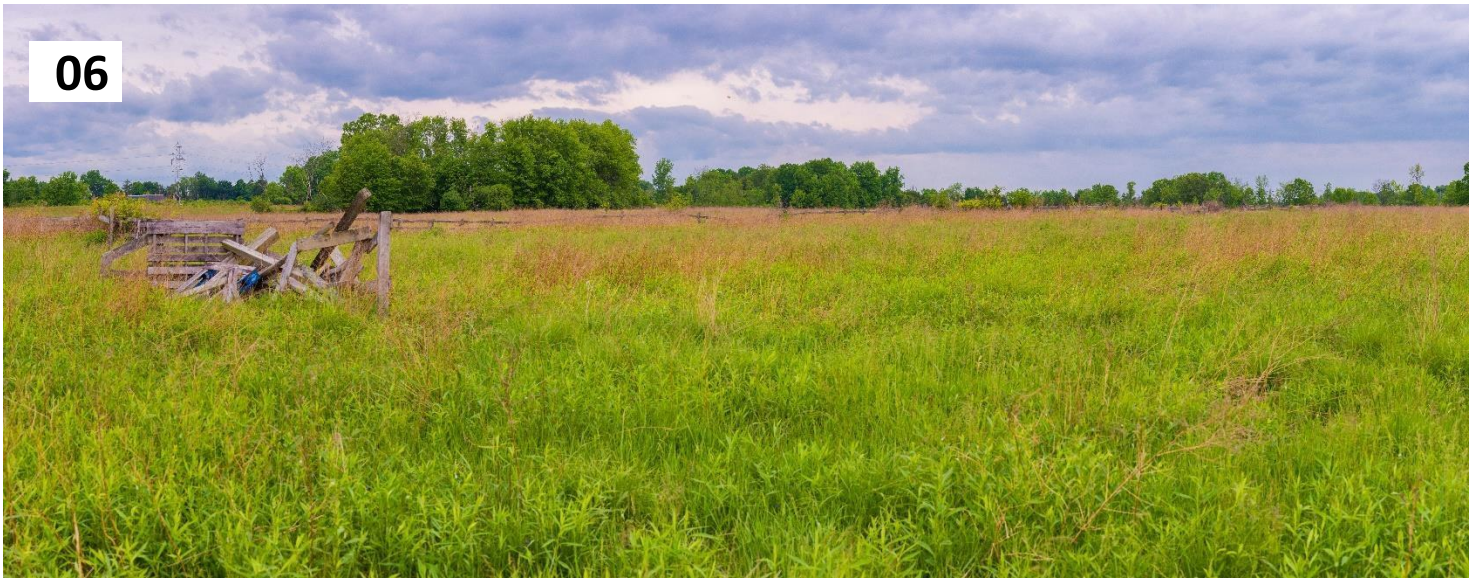






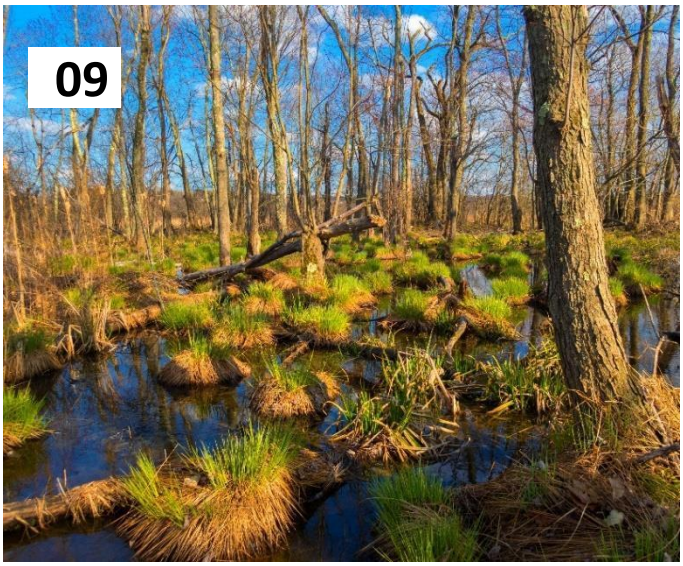



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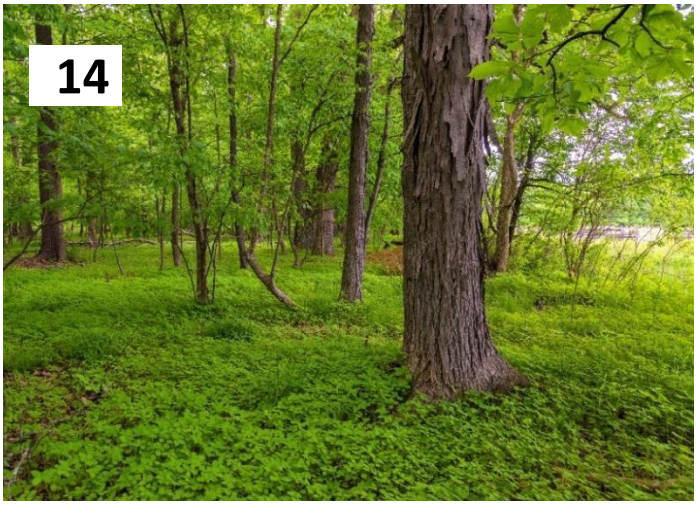

14

Photo Descriptions

(01) Facing E/SE toward northeast corner of parcel, showing northern end of pasture directly north of farm buildings. Barn silo visible on horizon toward right edge of frame.

(02) Facing northeast and downslope toward Mud Creek where the channel bends sharply to the West.

(03) Northern wooded section of Mud Creek above channel's sharp bend to the West; facing South / downstream.

(04) Southern unforested section of Mud Creek below channel's sharp bend to the West and where old pasture abuts the western bank. Facing South / downstream.

(05) Looking toward Southeast corner of parcel, showing shallow basin dominated by cattail (darker green area) interspersed with purple loosestrife (brown dead stalks from previous year) and a small common reed patch (at far right).

(06) Facing W/NW in old pasture directly North of farm buildings. The remnant "island wetland" near the parcel's center is within the cluster of tallest trees left of center.

(07) Standing along West edge of drainage ditch extending South from island wetland. Facing Southeast and downslope toward ditch convergence with another southerly-flowing ditch (perpendicular row of trees and shrubs) and the basin beyond that receives their flow. Note barn buildings to southeast for reference point.

(08) Facing North and upslope toward the island wetland (copse) from its drainage ditch.

(09) The remnant forested wetland surrounded by old pasture ("island wetland") near the parcel's center.

(10) Facing Northwest toward old pasture North of "island wetland" (trees at left edge of frame).

(11) Looking toward Northwest corner of parcel, with Southwest corner of small forested area along northern parcel boundary visible behind fence at right.

(12) Same vantage point as #11, but facing Southwest toward old pasture North of remnant "island wetland" (clump of trees left of center)

(13) Ephemeral shrub-scrub wetland along wooded northern parcel boundary; facing North at South end of wetland.

(14) Small forested area long northern parcel boundary containing ephemeral wetland; facing East with open field visible at right edge of frame.

Figure 20. Photo Location Map.



Appendix D. NY Parks, Recreation, and Historic Preservation review letter.

NEW YORK STATE OF OPPORTUNITY. | Parks, Recreation, and Historic Preservation

ANDREW M. CUOMO
Governor

ERIK KULLESEID
Commissioner

June 30, 2020

Jeremy Waddell
Upper Susquehanna Coalition
183 Corporate Drive
Owego, NY 13827

Re: USACE
Mud Creek Preserve Wetland Mitigation
109 Fish and Game Rd, Hudson, NY 12534
20PR03878

Dear Jeremy Waddell:

Thank you for requesting the comments of the State Historic Preservation Office (SHPO). We have reviewed the project in accordance with Section 106 of the National Historic Preservation Act of 1966. These comments are those of the SHPO and relate only to Historic/Cultural resources. They do not include potential environmental impacts to New York State Parkland that may be involved in or near your project. Such impacts must be considered as part of the environmental review of the project pursuant to the National Environmental Policy Act and/or the State Environmental Quality Review Act (New York Environmental Conservation Law Article 8).

Based upon this review, it is the opinion of the New York SHPO that no historic properties, including archaeological and/or historic resources, will be affected by this undertaking.

If further correspondence is required regarding this project, please be sure to refer to the OPRHP Project Review (PR) number noted above.

Sincerely,

Roger Daniel Mackay

R. Daniel Mackay

Deputy State Historic Preservation Officer
Division for Historic Preservation

Division for Historic Preservation
P.O. Box 189, Waterford, New York 12188-0189 • (518) 237-8643 • parks.ny.gov

Site Information

Site Name:	TWT Mud Creek Preserve			Site Code:	Plot 1
County:		Sampling date(s):	8/25/20		
Collector(s):	Sheila Hess, Michelle Herman, Harrison Frantz		Affiliation:		
					Create Summary Report
Phone number:		email address:			

Plot Information

General Plot Information	
Monitoring Type	VIBI FQ ONLY
Monitor Event	1st
Total Modules	10
Intensive Modules	4
Plot Congituration	VIBI-Std (2x5)
Area (ha)	0.10
Latitude	42.255400
Longitude	-73.737700
Centerline	340
Army Corps Region	NCNE
Plant Community Information	
VEG Class	NON WETLAND
1st Plant Community	
Veg. Group	Non-woody communities
Veg. Modifier	old field
Other	
2nd Plant Community	
VEG Class	
Veg. Group	
Veg. Modifier	
Other	
HGM Information	
Primary HGM Class	UPLAND HABITATS
Sub class	hydric soils
Secondary HGM Class	
Sub class	
Sub or Super Sample	NO
% Sub or Super Sample	100%
Total plot canopy closure %	
Total plot herbaceous cover %	

VIBI-TEMPLATE VERSION: 2015.1

VIBI Calculation Summary Information

Metric	Value Statewide	Value ACOE Region	VIBI - Metric Score Statewide	VIBI - Metric Score ACOE Region	VIBI FQ Metric Score
Carex	2	2	NA	NA	NA
Cyperaceae	3	3	NA	NA	NA
Dicot	17	17	NA	NA	NA
Shade	4	4	NA	NA	NA
Shrub	0	0	NA	NA	NA
Hydrophyte	9	9	NA	NA	NA
Seedless Vascular Plant	0	0	NA	NA	NA
Annual/Perennial ratio	0.21	0.21	NA	NA	NA
FQAI	5.67	5.67	NA	NA	0.00
Weighted C of C	0.95	0.95	NA	NA	7.95
%bryophyte	0.00%	0.00%	NA	NA	NA
%hydrophyte	31.64%	31.64%	NA	NA	NA
%sensitive	0.00%	0.00%	NA	NA	NA
%tolerant	69.45%	69.45%	NA	NA	NA
%invasive graminoids	0.08%	0.08%	NA	NA	NA
Pole timber (small tree)	0.00	0.00	NA	NA	NA
Subcanopy IV	0.00	0.00	NA	NA	NA
Canopy IV	0.00	0.00	NA	NA	NA
Biomass	0	0	NA	NA	NA
%unvegetated	NA	NA	NA	NA	NA
Informational Parameters					
stems/ha wetland trees	0.00	0.00			
stems/ha wetland shrubs	0.00	0.00			
%buttonbush	0.00%	0.00%			
%perennial native hydrophytes	32.49%	32.49%			
%perennial native	33.76%	33.76%			
%perennial	90.80%	90.80%			
%adventives	65.56%	65.56%			
%open water	0.00%	0.00%			
%unvegetated open water	0.00%	0.00%			
%bare ground	0.00%	0.00%			
Wetness Index	0.46	0.46			
VIBI Total Score:			0	0	8
Average %Cover of Plot:	148.17%				

* If Average %Cover is < 75% then Weight CofC VIBI FQ Metric Score is proportioned.

	Module 2			Module 3			Module 8			Module 9			Tann esidual
	Corner 2	Corner 4		Corner 2	Corner 4		Corner 2	Corner 4		Corner 2	Corner 4		
species	Level	Level	Cover Class	Level	Level	Cover Class	Level	Level	Cover Class	Level	Level	Cover Class	Cover Class
%open water	1			1			1			1			
%unvegetated open water	1			1			1			1			
%bare ground	1			1			1			1			
%litter cover	1			1			1			1			
Symphyotrichum lanceolatum	4	4	7	4	4	7		4	8	4	4	7	
Centaurea maculosa	4	2	5	4	3	6	2	3	6	4	4	5	
Agrostis gigantea	4	4	6	3	4	7	4	2	6	4		6	
Glechoma hederacea	4	4	6	4	4	8	4	3	8	4		8	
Taraxacum officinale	3	2	2	4	4	5	2		5	4	4	3	
Galium mollugo	3		4	2	1	5				3	2	3	
Lythrum salicaria	2		1										
Rumex crispus	2		1		2	1							
Phleum pratense	2	2	2		3	5		1	2	2	1	2	
Elymus sp.	2	2	1		3	1	3	1	2	3		2	
Plantago major	2	2	3										
Solidago gigantea	1		1					1	2	3		4	
Solidago canadensis	1	2	4	2	1	2		1	2		1	2	
Daucus carota	1		2					1	2	2	3	2	
Agrimonia parviflora	1	2	4	2				1	2	2		2	
Carex sp.	1		2										
Carex vulpinoidea		3	2	2	2	4	3	2	3		2	3	
Asclepias syriaca		2	1								2	3	
Ambrosia artemisiifolia		2	1	3		2		1	2	2	3	2	
Juncus tenuis		2	1		2	2				2		2	
Persicaria hydropiper					2	2							
Rumex obtusifolius					1	1				2		2	
Oxalis dillenii					4	1				2		1	
Duchesnea indica								4	2				
Prunella vulgaris								3	1				
Verbena urticifolia										2		1	
Erigeron strigosus											1	1	
Euthamia graminifolia											1	2	
Cirsium arvense													2
Phalaris arundinacea													2
Bidens frondosa													2
Senecio vulgaris													2
Asclepias incarnata													1
Lycopus americanus													2
Scirpus cyperinus													1
Parthenocissus quinquefolia													2
Eupatorium perfoliatum													1
Setaria faberi													1

Site Information

Site Name:	TWT Mud Creek Preserve			Site Code:	Plot 2
County:		Sampling date(s):	9/10/20		
Collector(s):	Michelle Herman, Harrison Frantz		Affiliation:		
					Create Summary Report
Phone number:		email address:			

Plot Information

General Plot Information	
Monitoring Type	VIBI FQ ONLY
Monitor Event	1st
Total Modules	10
Intensive Modules	4
Plot Congituration	VIBI-Std (2x5)
Area (ha)	0.10
Latitude	42.256600
Longitude	-73.738900
Centerline	125
Army Corps Region	NCNE
Plant Community Information	
VEG Class	NON WETLAND
1st Plant Community	
Veg. Group	Non-woody communities
Veg. Modifier	old field
Other	
2nd Plant Community	
VEG Class	
Veg. Group	
Veg. Modifier	
Other	
HGM Information	
Primary HGM Class	UPLAND HABITATS
Sub class	hydric soils
Secondary HGM Class	
Sub class	
Sub or Super Sample	NO
% Sub or Super Sample	100%
Total plot canopy closure %	
Total plot herbaceous cover %	

VIBI-TEMPLATE VERSION: 2015.1

VIBI Calculation Summary Information

Metric	Value		VIBI - Metric Score		VIBI FQ
	Statewide	ACOE Region	Statewide	ACOE Region	Metric Score
Carex	1	1	NA	NA	NA
Cyperaceae	1	1	NA	NA	NA
Dicot	7	7	NA	NA	NA
Shade	1	1	NA	NA	NA
Shrub	0	0	NA	NA	NA
Hydrophyte	4	4	NA	NA	NA
Seedless Vascular Plant	0	0	NA	NA	NA
Annual/Perennial ratio	0.00	0.00	NA	NA	NA
FQAI	2.86	2.86	NA	NA	0.00
Weighted C of C	0.83	0.83	NA	NA	6.92
%bryophyte	0.00%	0.00%	NA	NA	NA
%hydrophyte	26.22%	26.22%	NA	NA	NA
%sensitive	0.00%	0.00%	NA	NA	NA
%tolerant	73.78%	73.78%	NA	NA	NA
%invasive graminoids	19.58%	19.58%	NA	NA	NA
Pole timber (small tree)	0.00	0.00	NA	NA	NA
Subcanopy IV	0.00	0.00	NA	NA	NA
Canopy IV	0.00	0.00	NA	NA	NA
Biomass	0	0	NA	NA	NA
%unvegetated	NA	NA	NA	NA	NA
Informational Parameters					
stems/ha wetland trees	0.00	0.00			
stems/ha wetland shrubs	0.00	0.00			
%buttonbush	0.00%	0.00%			
%perennial native hydrophytes	29.30%	29.30%			
%perennial native	30.87%	30.87%			
%perennial	98.59%	98.59%			
%adventives	49.38%	49.38%			
%open water	0.00%	0.00%			
%unvegetated open water	0.00%	0.00%			
%bare ground	0.00%	0.00%			
Wetness Index	0.41	0.41			
VIBI Total Score:			0	0	7
Average %Cover of Plot:	150.63%				

* If Average %Cover is < 75% then Weight CofC VIBI FQ Metric Score is proportioned.

	Module 2			Module 3			Module 8			Module 9			Tann esidual
	Corner 2	Corner 4		Corner 2	Corner 4		Corner 2	Corner 4		Corner 2	Corner 4		
species	Level	Level	Cover Class	Level	Level	Cover Class	Level	Level	Cover Class	Level	Level	Cover Class	Cover Class
%open water	1			1			1			1			
%unvegetated open water	1			1			1			1			
%bare ground	1			1			1			1			
%litter cover	1			1			1			1			
Symphyotrichum lanceolatum	4	4	7	4	4	7		4	8	4	4	7	
Centaurea maculosa	4	2	5	4	3	6	2	3	6	4	4	5	
Agrostis gigantea	4	4	6	3	4	7	4	2	6	4		6	
Glechoma hederacea	4	4	6	4	4	8	4	3	8	4		8	
Taraxacum officinale	3	2	2	4	4	5	2		5	4	4	3	
Galium mollugo	3		4	2	1	5				3	2	3	
Lythrum salicaria	2		1										
Rumex crispus	2		1		2	1							
Phleum pratense	2	2	2		3	5		1	2	2	1	2	
Elymus sp.	2	2	1		3	1	3	1	2	3		2	
Plantago major	2	2	3										
Solidago gigantea	1		1					1	2	3		4	
Solidago canadensis	1	2	4	2	1	2		1	2		1	2	
Daucus carota	1		2					1	2	2	3	2	
Agrimonia parviflora	1	2	4	2				1	2	2		2	
Carex sp.	1		2										
Carex vulpinoidea		3	2	2	2	4	3	2	3		2	3	
Asclepias syriaca		2	1								2	3	
Ambrosia artemisiifolia		2	1	3		2		1	2	2	3	2	
Juncus tenuis		2	1		2	2				2		2	
Persicaria hydropiper					2	2							
Rumex obtusifolius					1	1				2		2	
Oxalis dillenii					4	1				2		1	
Duchesnea indica								4	2				
Prunella vulgaris								3	1				
Verbena urticifolia										2		1	
Erigeron strigosus											1	1	
Euthamia graminifolia											1	2	
Cirsium arvense													2
Phalaris arundinacea													2
Bidens frondosa													2
Senecio vulgaris													2
Asclepias incarnata													1
Lycopus americanus													2
Scirpus cyperinus													1
Parthenocissus quinquefolia													2
Eupatorium perfoliatum													1
Setaria faberi													1

Site Information

Site Name:	TWT Mud Creek Preserve	Site Code:	Plot 3
County:		Sampling date(s):	9/10/20
Collector(s):	Michelle Herman, Harrison Frantz	Affiliation:	
			Create Summary Report
Phone number:		email address:	

Plot Information

General Plot Information	
Monitoring Type	VIBI FQ ONLY
Monitor Event	1st
Total Modules	10
Intensive Modules	4
Plot Congituration	VIBI-Std (2x5)
Area (ha)	0.10
Latitude	42.258100
Longitude	-73.738800
Centerline	180
Army Corps Region	NCNE
Plant Community Information	
VEG Class	NON WETLAND
1st Plant Community	
Veg. Group	Non-woody communities
Veg. Modifier	old field
Other	
2nd Plant Community	
VEG Class	
Veg. Group	
Veg. Modifier	
Other	
HGM Information	
Primary HGM Class	UPLAND HABITATS
Sub class	hydric soils
Secondary HGM Class	
Sub class	
Sub or Super Sample	NO
% Sub or Super Sample	100%
Total plot canopy closure %	
Total plot herbaceous cover %	

VIBI-TEMPLATE VERSION: 2015.1

VIBI Calculation Summary Information

Metric	Value		VIBI - Metric Score		VIBI FQ
	Statewide	ACOE Region	Statewide	ACOE Region	Metric Score
Carex	1	1	NA	NA	NA
Cyperaceae	2	2	NA	NA	NA
Dicot	14	14	NA	NA	NA
Shade	4	4	NA	NA	NA
Shrub	0	0	NA	NA	NA
Hydrophyte	7	6	NA	NA	NA
Seedless Vascular Plant	0	0	NA	NA	NA
Annual/Perennial ratio	0.04	0.04	NA	NA	NA
FQAI	5.30	5.30	NA	NA	0.00
Weighted C of C	1.08	1.08	NA	NA	8.96
%bryophyte	0.00%	0.00%	NA	NA	NA
%hydrophyte	31.11%	31.01%	NA	NA	NA
%sensitive	0.00%	0.00%	NA	NA	NA
%tolerant	69.19%	69.19%	NA	NA	NA
%invasive graminoids	0.71%	0.71%	NA	NA	NA
Pole timber (small tree)	0.00	0.00	NA	NA	NA
Subcanopy IV	0.00	0.00	NA	NA	NA
Canopy IV	0.00	0.00	NA	NA	NA
Biomass	0	0	NA	NA	NA
%unvegetated	NA	NA	NA	NA	NA
Informational Parameters					
stems/ha wetland trees	0.00	0.00			
stems/ha wetland shrubs	0.00	0.00			
%buttonbush	0.00%	0.00%			
%perennial native hydrophytes	32.12%	32.12%			
%perennial native	45.36%	45.36%			
%perennial	99.19%	99.19%			
%adventives	53.83%	53.83%			
%open water	0.00%	0.00%			
%unvegetated open water	0.00%	0.00%			
%bare ground	0.00%	0.00%			
Wetness Index	0.38	0.38			
VIBI Total Score:			0	0	9
Average %Cover of Plot:	123.77%				

* If Average %Cover is < 75% then Weight CofC VIBI FQ Metric Score is proportioned.

	Module 2			Module 3			Module 8			Module 9			Tota Residual
	Corner 2	Corner 4		Corner 2	Corner 4		Corner 2	Corner 4		Corner 2	Corner 4		
species	Level	Level	Cover Class	Level	Level	Cover Class	Level	Level	Cover Class	Level	Level	Cover Class	Cover Class
%open water	1			1			1			1			
%unvegetated open water	1			1			1			1			
%bare ground	1			1			1			1			
%litter cover	1			1			1			1			
Galium mollugo	4	4	7	4	4	5	4	4	5	4	4	7	
Solidago canadensis	4		6		1	5		1	7				
Glechoma hederacea	4	3	6	3	4	5	4	3	4	3	4	5	
Trifolium pratense	3		2	4	2	2	3	2	3	2	4	2	
Solidago gigantea	3	3	5	3		3	4	4	4	4	2	7	
Parthenocissus quinquefolia	3		1		2	2					2	2	
Symphyotrichum lanceolatum	2	4	4	4	4	8	2	2	6	2	4	6	
Rosa multiflora	2		2		2	2	3		5	2	2	5	
Rumex crispus	2		3		1	2	2		3		2	2	
Centaurea maculosa	2	2	2										
Cornus racemosa	2		1		3	2		1	2				
Asclepias syriaca	2	2	2		2	2	2		2	2	3	2	
Taraxacum officinale	2	4	2		1	2		2	2				
Festuca rubra		3	7	4	4	7	2	4	6		2	3	
Lythrum salicaria		2	3	2	2	2		2	3		2	3	
Daucus carota		2	3				2		3		3	2	
Agrimonia parviflora		1	2		2	2		1	3				
Vicia cracca		1	4		1	2		4	3	3	2	4	
Agrostis gigantea		1	2	4	3	2				2		2	
Erigeron strigosus		1	1										
Carex vulpinoidea		1	2	3	2	2				2	2	2	
Duchesnea indica		1	2		2	2				2		3	
Calystegia sepium				3		2							
Phalaris arundinacea				2		4							
Scirpus atrovirens					1	2							
Euthamia graminifolia								4	2				
Rhamnus cathartica								1	1				
Solidago sp.										2		2	
Eupatorium perfoliatum											1	1	
Rudbeckia hirta											1	1	
Vitis riparia											1	2	
Geum aleppicum										2		2	
Juncus effusus													2

Site Information

Site Name:	TWT Mud Creek Preserve	Site Code:	Plot 4
County:		Sampling date(s):	8/25/20
Collector(s):	Sheila Hess, Michelle Herman, Harrison Frantz	Affiliation:	
			Create Summary Report
Phone number:		email address:	

Plot Information

General Plot Information	
Monitoring Type	VIBI FQ ONLY
Monitor Event	1st
Total Modules	10
Intensive Modules	4
Plot Congituration	VIBI-Std (2x5)
Area (ha)	0.10
Latitude	42.258900
Longitude	-73.738800
Centerline	300
Army Corps Region	NCNE
Plant Community Information	
VEG Class	NON WETLAND
1st Plant Community	
Veg. Group	Non-woody communities
Veg. Modifier	old field
Other	
2nd Plant Community	
VEG Class	
Veg. Group	
Veg. Modifier	
Other	
HGM Information	
Primary HGM Class	UPLAND HABITATS
Sub class	hydric soils
Secondary HGM Class	
Sub class	
Sub or Super Sample	NO
% Sub or Super Sample	100%
Total plot canopy closure %	
Total plot herbaceous cover %	

VIBI-TEMPLATE VERSION: 2015.1

VIBI Calculation Summary Information

Metric	Value		VIBI - Metric Score		VIBI FQ
	Statewide	ACOE Region	Statewide	ACOE Region	Metric Score
Carex	3	3	NA	NA	NA
Cyperaceae	3	3	NA	NA	NA
Dicot	21	21	NA	NA	NA
Shade	5	5	NA	NA	NA
Shrub	0	0	NA	NA	NA
Hydrophyte	13	12	NA	NA	NA
Seedless Vascular Plant	1	1	NA	NA	NA
Annual/Perennial ratio	0.19	0.19	NA	NA	NA
FQAI	7.91	7.91	NA	NA	0.00
Weighted C of C	1.27	1.27	NA	NA	10.61
%bryophyte	0.00%	0.00%	NA	NA	NA
%hydrophyte	35.65%	35.51%	NA	NA	NA
%sensitive	0.00%	0.00%	NA	NA	NA
%tolerant	63.81%	63.81%	NA	NA	NA
%invasive graminoids	0.00%	0.00%	NA	NA	NA
Pole timber (small tree)	0.00	0.00	NA	NA	NA
Subcanopy IV	0.00	0.00	NA	NA	NA
Canopy IV	0.00	0.00	NA	NA	NA
Biomass	0	0	NA	NA	NA
%unvegetated	NA	NA	NA	NA	NA
Informational Parameters					
stems/ha wetland trees	0.00	0.00			
stems/ha wetland shrubs	0.00	0.00			
%buttonbush	0.00%	0.00%			
%perennial native hydrophytes	52.93%	52.93%			
%perennial native	57.69%	57.69%			
%perennial	90.47%	90.47%			
%adventives	32.65%	32.65%			
%open water	0.00%	0.00%			
%unvegetated open water	0.00%	0.00%			
%bare ground	0.00%	0.00%			
Wetness Index	0.47	0.47			
VIBI Total Score:			0	0	11
Average %Cover of Plot:	91.93%				

* If Average %Cover is < 75% then Weight CofC VIBI FQ Metric Score is proportioned.

	Module 2			Module 3			Module 8			Module 9			esidual
	Corner 2	Corner 4		Corner 2	Corner 4		Corner 2	Corner 4		Corner 2	Corner 4		
species	Level	Level	Cover Class	Level	Level	Cover Class	Level	Level	Cover Class	Level	Level	Cover Class	Cover Class
%open water	1			1			1			1			
%unvegetated open water	1			1			1			1			
%bare ground	1			1			1			1			
%litter cover	1			1			1			1			
Toxicodendron radicans	4		1										
Symphyotrichum lanceolatum	4	3	7	3	2	5	4	4	7	3	1	4	
Euthamia graminifolia	4	4	5		3	5							
Centaurea maculosa	3		5	4	3	5	2		5	4	1	4	
Agrimonia parviflora	3	2	5	3		3		3	6	3	3	3	
Galium mollugo	3	4	5	4	4	4	2	1	5	4		2	
Duchesnea indica	3		2				4		3	4		2	
Calystegia sepium	3		1				3		2		1	2	
Agrostis gigantea	3	3	2	3	4	4	4	3	4	2		2	
Solidago sp.	3	1	3	4		5	3		6				
Asclepias syriaca	2	3	4	3	3	3	3	2	2	3	3	4	
Cornus racemosa	2	3	5	3		4	2		2	2	2	4	
Taraxacum officinale	3		5		3	3		4	2	2		2	
Rubus sp.	2		1										
Carex sp.	2		2	4		2							
Rosa multiflora	2	4	5				2		2	2		2	
Juncus torreyi	2	2	2	4	2	3	2	3	4				
Trifolium pratense		4	1										
Carex vulpinoidea		2	2	2	2	4	2	4	5	2	2	6	
Lythrum salicaria		2	3					3	5	2	2	6	
Erigeron annuus		2	1		1	2							
Daucus carota		1	1	3		1							
Oxalis dillenii				3		2							
Glechoma hederacea				3	4	1							
Solidago gigantea				2		2	2		4		3	4	
Onoclea sensibilis				2	2	2							
Rhamnus cathartica					2	1							
Geum aleppicum					4	3		4	4	4	2	2	
Fraxinus pennsylvanica					2	1					1	1	
Carex hystericina					2	1	2		1		1	2	
Viburnum dentatum					1	1							
Ambrosia artemisiifolia					3	2	2		4		4	4	
Ulmus americana					1	1							
Vitis riparia					1	1		2	2		1	1	
Senecio vulgaris													
Bidens frondosa													1
Epilobium coloratum								2	1				
Vicia cracca								2	2		3	6	
Aronia melanocarpa								1	1				
Persicaria sagittata								1	2		2	2	
Juncus effusus											2	2	
Solidago canadensis							2		4		4	4	
Festuca rubra											4	3	

SCIENTIFIC_NAME	ACRONYM	AUTHORITY	COFC	SYN	COMMON_NAME	FAMILY	FN	WET	FORM	HABIT	SHADE	USDA_ID	OH_TORE	TYPE	OH_STATUS	EMP	MW	NCNE
Abutilon theophrasti	ABUTHE	Medik.		0	VELVETLEAF	Malvaceae		UPL	forb	AN	advent	ABTH		DI	adventive	UPL	FACU	FACU
Acalypha deamii	ACADEA	(Weath.) Ahles.		0 syn	DEAM'S TWO-SEEDED MERCURY	Euphorbiaceae	1	(FAC)	forb	AN	partial	ACDE4		DI	native			
Acalypha ostryifolia	ACAOST	Riddell		0	HORNBEAM THREE-S. MERCURY	Euphorbiaceae		(FACU-)	forb	AN	advent	ACOS		DI	adventive			
Acalypha rhomboidea	ACARHO	Raf.		0 syn	RHOMBIC THREE-S. MERCURY	Euphorbiaceae		FACU-	forb	AN	partial	ACRH		DI	native	FACU	FACU	FACU
Acalypha sp.	ACALYP	L.			COPPERLEAF	Euphorbiaceae		ND	forb	AN	ND	ACALY		DI				
Acalypha virginica	ACAVIR	L.		0 syn	VIRGINIA THREE-S. MERCURY	Euphorbiaceae		FACU-	forb	AN	partial	ACVI		DI	native	FACU	FACU	FACU
Acer negundo	ACENEG	L.		3	BOX ELDER	Aceraceae	2	FAC+	tree	W	tree	ACNE2		DI	native	FAC	FAC	FAC
Acer palmatum	ACEPAL	Thunb.		0	JAPANESE MAPLE	Aceraceae		(FACU)	tree	W	advent	ACPA2		DI	adventive			
Acer pensylvanicum	ACEPEN	L.		10	STRIPED MAPLE	Aceraceae		FACU	tree	W	tree	ACPE	E	DI	native	FACU	FACU	FACU
Acer platanoides	ACEPLA	L.		0	NORWAY MAPLE	Aceraceae		UPL	tree	W	advent	ACPL		DI	adventive	UPL	UPL	UPL
Acer rubrum	ACERUB	L.		2	RED MAPLE	Aceraceae	3	FAC	tree	W	tree	ACRU		DI	native	FAC	FAC	FAC
Acer saccharinum	ACESAC	L.		3	SILVER MAPLE	Aceraceae		FACW	tree	W	tree	ACSA2		DI	native	FACW	FACW	FACW
Acer saccharum	ACESAR	Marshall		5	SUGAR MAPLE	Aceraceae	4	FACU-	tree	W	tree	ACSA3		DI	native	FACU	FACU	FACU
Acer sp.	ACER	L.			MAPLE	Aceraceae		ND	tree	W	tree	ACER		DI				
Acer spicatum	ACESPI	Lam.		8	MOUNTAIN MAPLE	Aceraceae		FACU-	tree	W	tree	ACSP2		DI	native	FACU	FACU	FACU
Acer tataricum	ACETAT	L.		0	TATARIAN MAPLE	Aceraceae		(FACU)	tree	W	advent	ACTA80		DI	adventive			
Acer x freemanii	ACEFRE	E.Murray		3	Freeman maple	Aceraceae		FACW	tree	W	tree	ACFR		DI	native	FACW	FACW	FACW
Achillea millefolium	ACHMIL	DC.		1	YARROW	Asteraceae	5	FACU	forb	PE	full	ACMI2		DI	native	FACU	FACU	FACU
Aconitum noveboracense	ACONOV	A. Gray		10 syn	NORTHERN MONKSHOOD	Ranunculaceae		(UPL)	forb	PE	shade	ACNO2	E	DI	native			
Aconitum sp.	ACONIT	L.		10	MONKSHOOD	Ranunculaceae		ND	forb	PE	shade	ACONI		DI				
Aconitum uncinatum	ACOUNC	L.		10	SOUTHERN MONKSHOOD	Ranunculaceae		(FAC+)	forb	PE	shade	ACUN	E	DI	native	FAC		
Acorus americanus	ACOAME	(Raf.) Raf.		6	AMERICAN SWEET-FLAG	Acoraceae		(OBL)	forb	PE	full	ACAM	P	DI	native	OBL	OBL	OBL
Acorus calamus	ACOCAL	L.		0	SWEET-FLAG	Acoraceae		OBL	forb	PE	advent	ACAM		DI	adventive	OBL	OBL	OBL
Actaea alba	ACTALB	(L.) Mill.		7 syn	WHITE BANEBERRY	Ranunculaceae		UPL	forb	PE	shade	ACPA		DI	native	UPL	FACU	UPL
Actaea rubra	ACTRUB	(Aiton) Willd.		7	RED BANEBERRY	Ranunculaceae		UPL	forb	PE	shade	ACRU2	T	DI	native	UPL	FACU	FACU
Actaea sp.	ACTAEA	L.			BANEBERRY	Ranunculaceae		UPL	forb	PE	shade	ACTAE		DI				
Actinidia arguta	ACTARG	(Siebold & Zucc.) Planch. ex Miq.		0	TARA VINE	Actinidiaceae		(UPL)	vine	PE	advent			DI	adventive			
Adiantum pedatum	ADIPED	L.		6	MAIDENHAIR FERN	Pteridaceae		FAC-	fern	PE	shade	ADPE		SVP	native	FAC	FACU	FACU
Adlumia fungosa	ADLFUN	(Aiton) Greene ex B.S.P.		8	MOUNTAIN-FRINGE	Fumariaceae		(UPL)	forb	BI	shade	ADFU	T	DI	native			
Aegilops cylindrica	AEGCYL	Host		0	JOINTED GOAT-GRASS	Poaceae		(UPL)	grass	AN	advent	AECY		MO	adventive			
Aegopodium podagraria	AEGPOD	L.		0	GOUTWEED	Apiaceae		FACU	forb	PE	advent	AEPO		DI	adventive	FACU	FAC	FAC
Aesculus flava	AESFLA	Aiton		7 syn	YELLOW BUCKEYE	Hippocastanaceae	6	(UPL)	tree	W	tree	AEFL		DI	native	FACU	FACU	FACU
Aesculus glabra	AESGLA	Willd.		6	OHIO BUCKEYE	Hippocastanaceae	7	FACU+	tree	W	tree	AEGL		DI	native	FACU	FAC	FAC
Aesculus hippocastanum	AESHIP	L.		0	HORSE-CHESTNUT	Hippocastanaceae		(UPL)	tree	W	advent	AEHI		DI	adventive			
Aesculus sp.	AESCUL	L.			BUCKEYE	Hippocastanaceae		ND	tree	W	tree	AESCU		DI				
Aethusa cynapium	AETCYN	L.		0	FOOL'S-PARSLEY	Apiaceae		(FACU)	forb	AN	advent	AECY2		DI	adventive			
Agalinis auriculata	AGOAUR	(Michx.) S.F. Blake		8 syn	EAR-LEAVED FOXGLOVE	Scrophulariaceae		(UPL)	forb	AN	full	AGAU3	E	DI	native			
Agalinis gattingeri	AGAGAT	(Small) Small ex Britton		8 syn	GATTINGER'S FOXGLOVE	Scophulariaceae		(FACW)	forb	AN	full	AGGA	T	DI	native			
Agalinis purpurea (L.) Pennell var. parviflora	AGAPUPA	(Benth.) B. Boivin		10 syn	SMALL PURPLE FOXGLOVE	Scophulariaceae		FACW+	forb	AN	full	AGPUP	E	DI	native			
Agalinis purpurea var. purpurea	AGAPUPU	(L.) Pennell		6 syn	LARGE PURPLE FOXGLOVE	Scophulariaceae		FACW-	forb	AN	full	AGPUC		DI	native			
Agalinis skinneriana	AGASKI	(A.W. Wood) Britton		10 syn	SKINNER'S FOXGLOVE	Scophulariaceae	8	(FACW)	forb	AN	full	AGSK	E	DI	native			FACU
Agalinis sp.	AGALIN	Raf.			FALSE FOXGLOVE	Scrophulariaceae		ND	forb	AN	full	AGALI		DI				
Agalinis tenuifolia	AGATEN	(M. Vahl) Raf.		4 syn	SLENDER FOXGLOVE	Scophulariaceae	9	FAC	forb	AN	full	AGTE3		DI	native	FAC	FACW	FACW
Agastache nepetoides	AGANEP	(L.) Kuntze		4	YELLOW GIANT-HYSSOP	Lamiaceae		FACU	forb	PE	shade	AGNE2		DI	native	FACU	FACU	FACU
Agastache scrophulariifolia	AGASCR	(Willd.) Kuntze		4	PURPLE GIANT-HYSSOP	Lamiaceae		(UPL)	forb	PE	shade	AGSC		DI	native			
Agastache sp.	AGASTA	Clayton ex Gronov.			GIANT-HYSSOP	Lamiaceae		ND	forb	PE	shade	AGAST		DI				
Agrimonia gryposepala	AGRGRY	Wallr.		3	TALL AGRIMONY	Rosaceae		FACU	forb	PE	partial	AGGR2		DI	native	FACU	FACU	FACU
Agrimonia parviflora	AGRPAR	Aiton		2	SMALL-FLOWERED AGRIMONY	Rosaceae		FAC	forb	PE	shade	AGPA6		DI	native	FACW	FACW	FAC
Agrimonia pubescens	AGRPUB	Wallr.		5	DOWNY AGRIMONY	Rosaceae		(UPL)	forb	PE	shade	AGPU		DI	native			
Agrimonia rostellata	AGRROS	Wallr.		5	WOODLAND AGRIMONY	Rosaceae		FACU	forb	PE	shade	AGRO3		DI	native	FACU	FACU	FACU
Agrimonia sp.	AGRIMO	L.			AGRIMONY	Rosaceae		ND	forb	PE	partial	AGRIM		DI				
Agrimonia striata	AGRSTR	Michx.		7	LINED AGRIMONY	Rosaceae		FACU-	forb	PE	shade	AGST		DI	native	FACU	FACU	FACU
Agropyron desertorum	AGRDES	(Fisch. ex Link) Schult.		0	WHEATGRASS	Poaceae		(UPL)	grass	PE	advent	AGDE2		MO	adventive			
Agrostemma githago	AGRGIT	L.		0	CORN-COCKLE	Caryophyllaceae		(FACU)	forb	BI	advent	AGGI		DI	adventive			
Agrostis capillaris	AGRCAP	L.		0	RHODE ISLAND BENT GRASS	Poaceae	10	(UPL)	grass	PE	advent	AGCA5		MO	adventive	FAC	FAC	FAC
Agrostis elliottiana	AGRELL	Schult.		5	ELLIOTT'S BENT GRASS	Poaceae		(UPL)	grass	AN	full	AGEL4	E	MO	native	FACU	FACU	FACU
Agrostis gigantea	AGRGIG	Roth		0 syn	REDTOP	Poaceae	11	FACW	grass	PE	advent	AGGI2		MO	adventive	FACW	FACW	FACW
Agrostis hyemalis	AGRHYE	(Walter) B.S.P.		3	TICKLEGRASS	Poaceae	12	FAC	grass	PE	shade	AGHY		MO	native	FAC	FAC	FAC
Agrostis perennans	AGRPER	(Walter) Tuck.		4	AUTUMN BENT GRASS	Poaceae		FACU	grass	PE	partial	AGPE		MO	native	FACU	FAC	FACU
Agrostis sp.	AGROST	L.			BENT GRASS	Poaceae		ND	grass	ND	ND	AGROS2		MO				
Agrostis stolonifera	AGRSTO	L.		0 syn	CREEPING BENT GRASS	Poaceae	13	FACW	grass	PE	advent	AGST2		MO	adventive	FACW	FACW	FACW
Agrostis tenuis	AGRTEN	Sibth.		0 syn	COLONIAL BENT GRASS	Poaceae		(FACU-)	grass	PE	advent	AGCA5		MO	adventive			
Ailanthus altissima	AILALT	(Mill.) Swingle		0	TREE-OF-HEAVEN	Simaroubaceae		FACU-	tree	W	advent	AIAL		DI	adventive	FACU	FACU	UPL
Aira caryophyllea	AIRCAR	L.		0	SILVER HAIR GRASS	Poaceae		(FACU)	grass	AN	advent	AICA		MO	adventive	FAC	FACU	UPL

Ajuga genevensis	AJUGEN	L.	0	ERECT BUGLE-WEED	Lamiaceae	(FACU)	forb	PE	advent	AJGE		DI	adventive			
Ajuga reptans	AJUREP	L.	0	CARPET BUGLE-WEED	Lamiaceae	(UPL)	forb	PE	advent	AJRE		DI	adventive			
Akebia quinata	AKEQUI	(Houtt.) Decne.	0	CHOCOLATE-VINE	Lardizabalaceae	(UPL)	vine	W	advent	AKQU		DI	adventive			
Albizia julibrissin	ALBJUL	Durazz.	0	SILK-TREE	Mimosaceae	(UPL)	tree	W	advent	ALJU		DI	adventive			
Aletris farinosa	ALEFAR	L.	8	COLIC-ROOT	Liliaceae	FAC	forb	PE	full	ALFA2		MO	native	FAC	FAC	FAC
Alisma sp.	ALISMA	L.		WATER-PLAINTAIN	Alismataceae	OBL	forb	PE	full	ALISM		MO		OBL	OBL	OBL
Alisma subcordatum	ALISUB	Raf.	2 syn	SOUTHERN WATER-PLANTAIN	Alismataceae	14 OBL	forb	PE	full	ALSU		MO	native	OBL	OBL	OBL
Alisma triviale	ALITRI	Pursh	6 syn	NORTHERN WATER-PLANTAIN	Alismataceae	(OBL)	forb	PE	full	ALTR7		MO	native	OBL	OBL	OBL
Alliaria petiolata	ALLPET	(M. Bieb.) Cavara & Grande	0 syn	GARLIC MUSTARD	Brassicaceae	FACU-	forb	BI	advent	ALPE4		DI	adventive	FACU	FAC	FACU
Allium canadense	ALLCAN	L.	2	WILD GARLIC	Liliaceae	FACU	forb	PE	full	ALCA3		MO	native	FACU	FACU	FACU
Allium cernuum	ALLCER	Roth	5	NODDING WILD ONION	Liliaceae	(FACU)	forb	PE	full	ALCE2		MO	native	FACU	FACU	FACU
Allium sativum	ALLSAT	L.	0	GARLIC	Liliaceae	(UPL)	forb	PE	advent	ALSA2		MO	adventive			
Allium schoenoprasum	ALLSCH	L.	0	CHIVES	Liliaceae	(FAC)	forb	PE	advent	ALSC		MO	adventive	FACU	FAC	FACU
Allium sp.	ALLIUM	L.		ONION	Liliaceae	ND	forb	PE	ND	ALLIU		MO				
Allium tricoccum	ALLTRI	Aiton	5	WILD LEEK	Liliaceae	15 FACU+	forb	PE	shade	ALTR3		MO	native	FACU	FACU	FACU
Allium vineale	ALLVIN	L.	0	FIELD GARLIC	Liliaceae	FACU-	forb	PE	advent	ALVI		MO	adventive	FACU	FACU	FACU
Alnus glutinosa	ALNGLU	(L.) Gaertn.	0	BLACK ALDER	Betulaceae	FACW-	shrub	W	advent	ALGL2		DI	adventive	FACW	FACW	FACW
Alnus incana	ALNINC	(L.) Moench	6 syn	SPECKLED ALDER	Betulaceae	16 FACW+	shrub	W	full	ALIN2		DI	native	FACU	FACW	FACW
Alnus serrulata	ALNSER	(Aiton) Willd.	6	SMOOTH ALDER	Betulaceae	OBL	shrub	W	full	ALSE2		DI	native	OBL	OBL	OBL
Alnus sp.	ALNUS	Mill.		ALDER	Betulaceae	ND	shrub	W	ND	ALNUS		DI				
Alopecurus aequalis	ALOAEQ	Sobol.	3	SHORT-AWNED FOXTAIL	Poaceae	OBL	grass	PE	partial	ALAE		MO	native	OBL	OBL	OBL
Alopecurus carolinianus	ALOCAR	Walter	1	CAROLINA FOXTAIL	Poaceae	FACW	grass	AN	partial	ALCA4		MO	native	FACW	FACW	FACW
Alopecurus myosuroides	ALOMYO	Huds.	0	MOUSE FOXTAIL	Poaceae	FACW	grass	AN	advent	ALMY		MO	adventive	FACW	FACW	FACW
Alopecurus pratensis	ALOPRA	L.	0	MEADOW FOXTAIL	Poaceae	FACW	grass	PE	advent	ALPR3		MO	adventive	FACW	FACW	FAC
Alopecurus sp.	ALOPEC	L.	0	FOXTAIL	Poaceae	ND	grass	ND	partial	ALOPE		MO				
Althaea officinalis	ALTOFF	L.	0	MARSH-MALLOW	Malvaceae	FACW+	forb	PE	advent	ALOF2		DI	adventive	FACW	FACW	FAC
Althaea rosea	ALTROS	(L.) Cav.	0 syn	HOLLYHOCK	Malvaceae	(UPL)	forb	BI	advent	ALRO3		DI	adventive			
Alyssum alyssoides	ALYALY	(L.) L.	0	ALYSSUM	Brassicaceae	(UPL)	forb	AN	advent	ALAL3		DI	adventive			
Alyssum saxatile	ALYSAX	L.	0	GOLDENTUFT	Brassicaceae	(FACU)	forb	PE	advent	AUSA		DI	adventive			
Amaranthus albus	AMAALB	L.	0	TUMBLEWEED	Amaranthaceae	FACU	forb	AN	full	AMAL		DI	native	FACU	FACU	FACU
Amaranthus blitoides	AMABLI	S. Watson	0	MAT AMARANTH	Amaranthaceae	17 (UPL)	forb	AN	advent	AMBL		DI	adventive	FAC	FACU	FACU
Amaranthus blitum	AMABLT	L.	0	AMARANTH	Amaranthaceae	(FAC)	forb	AN	advent	AMBL2		DI	adventive	FACU	FAC	FACU
Amaranthus cruentus	AMACRU	L.	0	RED AMARANTH	Amaranthaceae	(FACU-)	forb	AN	advent	AMCR4		DI	adventive			
Amaranthus hybridus	AMAHYB	L.	0	SMOOTH PIGWEED	Amaranthaceae	(UPL)	forb	AN	advent	AMHY		DI	adventive			
Amaranthus palmeri	AMAPAL	S. Wats.	0	CARELESS WEED	Amaranthaceae	FACU	forb	AN	advent	AMPA		DI	adventive	FACU	FACU	FACU
Amaranthus powellii	AMAPOW	S. Wats.	0	TALL AMARANTH	Amaranthaceae	(FACU)	forb	AN	advent	AMPO2		DI	adventive			
Amaranthus retroflexus	AMARET	L.	0	REDROOT	Amaranthaceae	FACU	forb	AN	advent	AMRE		DI	adventive	FACU	FACU	FACU
Amaranthus rudis	AMARUD	Sauer	0 syn	WESTERN AMARANTH	Amaranthaceae	18 FACW-	forb	AN	advent	AMTU		DI	adventive	FACW	OBL	OBL
Amaranthus sp.	AMARAN	L.		PIGWEED	Amaranthaceae	ND	forb	AN	ND	AMARA		DI				
Amaranthus spinosus	AMASPI	L.	0	SPINY AMARANTH	Amaranthaceae	FACU	forb	AN	advent	AMSP		DI	adventive	FACU	FACU	FACU
Amaranthus tuberculatus	AMATUB	(Moq.) J.D. Sauer	1	TUBERCLED AMARANTH	Amaranthaceae	FACW	forb	AN	full	AMTU		DI	native	FACW	OBL	OBL
Ambrosia artemisiifolia	AMBART	L.	0	COMMON RAGWEED	Asteraceae	FACU	forb	AN	full	AMAR2		DI	native	FACU	FACU	FACU
Ambrosia bidentata	AMBBID	Michx.	1	LANCELEAVED RAGWEED	Asteraceae	(UPL)	forb	AN	full	AMBI2		DI	native			
Ambrosia psilostachya	AMBPSI	DC.	0	WESTERN RAGWEED	Asteraceae	FACU-	forb	PE	advent	AMPS		DI	adventive	FAC	FACU	FAC
Ambrosia sp.	AMBROS	L.		RAGWEED	Asteraceae	ND	forb	ND	ND	AMBRO		DI				
Ambrosia trifida	AMBTRI	L.	0	GIANT RAGWEED	Asteraceae	FAC	forb	AN	full	AMTR		DI	native	FAC	FAC	FAC
Amelanchier arborea	AMEARB	(F. Michx.) Fernald	5	DOWNY SERVICEBERRY	Rosaceae	FAC-	sm tree	W	shade	AMAR3		DI	native	FAC	FACU	FACU
Amelanchier interior	AMEINT	Nielsen	4	INTERIOR SERVICEBERRY	Rosaceae	19 (FACU)	sm tree	W	shade	AMIN2		DI	native			
Amelanchier laevis	AMELAE	Wiegand	5	SMOOTH SERVICEBERRY	Rosaceae	(FAC)	sm tree	W	shade	AMLA		DI	native			
Amelanchier sanguinea	AMESAN	(Pursh) DC.	7	ROCK SERVICEBERRY	Rosaceae	(UPL)	sm tree	W	shade	AMSA	P	DI	native			
Amelanchier sp.	AMELAN	Medik.		SERVICEBERRY	Rosaceae	ND	sm tree	W	shade	AMELA		di				
Amelanchier spicata	AMESPI	(Lam.) K. Koch	7	DWARF SERVICEBERRY	Rosaceae	(FACU)	sm tree	W	shade	AMST80		DI	native	FACU	FACU	FACU
Ammannia coccinea	AMMCOC	Rottb.	7	LONG-LEAVED TOOTH-CUP	Lythraceae	OBL	forb	AN	full	AMCO		DI	native	OBL	OBL	OBL
Ammannia robusta	AMMROB	Heer & Regel	7	SESSILE TOOTH-CUP	Lythraceae	OBL	forb	AN	full	AMRO3		DI	native	OBL	OBL	OBL
Ammannia sp.	AMMANI	L.	7	TOOTH-CUP	Lythraceae	OBL	forb	AN	full	AMMAN		DI				
Ammophila breviligulata	AMMBRE	Fernald	10	BEACH GRASS	Poaceae	FACU-	grass	PE	full	AMBR	T	DI	native	FACU	UPL	UPL
Amorpha fruticosa	AMOFRU	L.	3	FALSE INDIGO	Fabaceae	FACW	forb	PE	full	AMFR		DI	native	FACW	FACW	FACW
Ampelamus albidus	AMPALB	(Nutt.) Britton	1 syn	SAND-VINE	Asclepiadaceae	FAC	vine	PE	full	CYLA		DI	native			
Ampelopsis brevipedunculata	AMPBRE	(Maxim.) Trautv.	0	PORCELAIN-BERRY	Vitaceae	(UPL)	vine	W	advent	AMBR7		DI	adventive			
Ampelopsis cordata	AMPCOR	Michx.	7	RACCOON-GRAPE	Vitaceae	FAC+	vine	W	shade	AMAC4		DI	native	FAC	FAC	FAC
Ampelopsis sp.	AMPELO	Michx.		PEPPERVINE	Vitaceae	ND	vine	W	ND	AMPEL3		DI				
Amphiachyris dracunculoides	AMPDRA	(DC.) Nutt.	0	BROOMWEED	Asteraceae	(UPL)	forb	AN	advent	AMDR		DI	adventive			
Amphicarpaea bracteata	AMPBRA	(L.) Fernald	4	HOG-PEANUT	Fabaceae	20 FAC	forb	PE	shade	AMBR2		DI	native	FAC	FAC	FAC
Amsinckia lycopsoides	AMSLYC	Lehm.	0	TARWEED	Boraginaceae	(UPL)	forb	AN	advent	AMLY		DI	adventive			
Amsonia tabernaemontana	AMSTAB	Walter	0	BLUE-STAR	Apocynaceae	(FACU)	forb	PE	advent	AMTA2		DI	adventive	FAC	FACW	FACW
Anagallis arvensis	ANAARV	L.	0	SCARLET PIMPERNEL	Primulaceae	(FACU)	forb	AN	advent	ANAR		DI	adventive			

Anaphalis margaritacea	ANAMAR	(L.) Benth. & Hook.	5	PEARLY EVERLASTING	Asteraceae	(UPL)	forb	PE	full	ANMA		DI	native			
Anchusa arvensis	ANCARV	(L.) Bieb	0	SMALL BUGLOSS	Boraginaceae	(FACU)	forb	AN	advent	ANAR16		DI	adventive			
Anchusa azurea	ANCAZU	Mill.	0	GARDEN BUGLOSS	Boraginaceae	(FACU)	forb	PE	advent	ANAZ		DI	adventive			
Anchusa officinalis	ANCOFF	L.	0	COMMON BUGLOSS	Boraginaceae	(UPL)	forb	BI	advent	ANOF		DI	adventive			
Andromeda glaucophylla	ANDGLA	Link.	10 syn	BOG-ROSEMARY	Ericaceae	OBL	shrub	W	full	ANPOG	X	DI	native			
Andropogon gerardii	ANDGER	Vitman	5 syn	BIG BLUESTEM	Poaceae	FAC	grass	PE	full	ANGE		MO	native	FAC	FAC	FACU
Andropogon glomeratus	ANDGLO	(Walter) B.S.P.	6 syn	BUSHY BROOM-SEDGE	Poaceae	FACW+	grass	PE	full	ANGL2	E	MO	native	FACW	FACW	FACW
Andropogon gyrans	ANDGYR	Ashe	3 syn	ELLIOTT'S BEARD GRASS	Poaceae	(UPL)	grass	PE	full	ANGY2		MO	native	OBL	UPL	
Andropogon sp.	ANDROP	L.		BLUESTEM	Poaceae	ND	grass	PE	full	ANDRO2		MO				
Andropogon virginicus	ANDVIR	L.	3 syn	COMMON BROOM-SEDGE	Poaceae	FACU	grass	PE	full	ANVI2		MO	native	FACU	FACU	FACU
Androsace occidentalis	ANDOCC	Pursh	10	WESTERN ROCK-JASMINE	Primulaceae	(FACU)	forb	AN	full	ANOC2	T	DI	native	FACU	FACU	UPL
Anemone canadensis	ANECAN	L.	5	CANADA ANEMONE	Ranunculaceae	FACW	forb	PE	full	ANCA8		DI	native	FACW	FACW	FACW
Anemone cylindrica	ANECYL	A. Gray	8	PRAIRIE THIMBLEWEED	Ranunculaceae	(UPL)	forb	PE	full	ANCY	T	DI	native			
Anemone quinquefolia	ANEQUI	L.	5	WOOD ANEMONE	Ranunculaceae	FACU	forb	PE	shade	ANQU		DI	native	FACU	FAC	FACU
Anemone sp.	ANEMON	L.		ANEMONE	Ranunculaceae	ND	forb	PE	ND	ANEMO		DI				
Anemone virginiana	ANEVIR	L.	3	WOODLAND THIMBLEWEED	Ranunculaceae	FACU	forb	PE	shade	ANVI3		DI	native	FACU	FACU	FACU
Anemonella thalictroides	ANETHA	(L.) Spach.	6 syn	RUE ANEMONE	Ranunculaceae	(UPL)	forb	PE	shade	THTH2		DI	native			
Anethum graveolens	ANEGRA	L.	0	DILL	Apiaceae	(FACU)	forb	AN	advent	ANGR2		DI	adventive			
Angelica atropurpurea	ANGATR	L.	6	PURPLE-STEMMED ANGELICA	Apiaceae	OBL	forb	PE	partial	ANAT		DI	native	OBL	OBL	OBL
Angelica sp.	ANGELI	L.	6	ANGELICA	Apiaceae	ND	forb	PE	ND	ANGEL		DI				
Angelica venenosa	ANGVEN	(Greenway) Fernald	6	HAIRY ANGELICA	Apiaceae	(FACU)	forb	PE	full	ANVE		DI	native			
Anoda cristata	ANOCRI	(L.) Schlechtend.	0	SPURRED ANODA	Malvaceae	UPL	forb	AN	advent	ANCR2		DI	adventive	UPL	FAC	FAC
Antennaria neglecta	ANTNEG	Greene	1	FIELD PUSSY-TOES	Asteraceae	21 FACU-	forb	PE	full	ANNE		DI	native	UPL	UPL	UPL
Antennaria plantaginifolia	ANTPLA	(L.) Richardson	1	PLANTAIN-LEAVED PUSSY-TOES	Asteraceae	22 (UPL)	forb	PE	full	ANPL		DI	native			
Antennaria solitaria	ANTSOL	Rydb.	3	SINGLE-HEADED PUSSY-TOES	Asteraceae	(UPL)	forb	PE	full	ANSO		DI	native			
Antennaria sp.	ANTENN	Gaertn.		PUSSY-TOES	Asteraceae	ND	forb	PE	full	ANTEN		DI				
Antennaria virginica	ANTVIR	Stebbins	9	SHALE BARREN PUSSY-TOES	Asteraceae	(UPL)	forb	PE	full	ANVI13	T	DI	native			
Anthemis arvensis	ANTARV	L.	0	CORN-CHAMOMILE	Asteraceae	(UPL)	forb	AN	advent	ANAR6		DI	adventive			
Anthemis cotula	ANTCOT	L.	0	DOGFENNEL	Asteraceae	FACU-	forb	AN	advent	ANCO2		DI	adventive	FACU	FACU	FACU
Anthemis nobilis	ANTNOB	L.	0	ROMAN CHAMOMILE	Asteraceae	(FACU)	forb	PE	advent	CHNO3		DI	adventive			
Anthemis sp.	ANTHEM	L.		CHAMOMILE	Asteraceae	ND	forb	ND	advent	ANTHE		DI				
Anthemis tinctoria	ANTTIN	L.	0	YELLOW CHAMOMILE	Asteraceae	(UPL)	forb	PE	advent	ANTI		DI	adventive			
Anthoxanthum aristatum	ANTARI	Boiss.	0	VERNAL GRASS	Poaceae	(FACU)	grass	AN	advent	ANAR7		MO	adventive			
Anthoxanthum odoratum	ANTODO	L.	0	SWEET VERNAL GRASS	Poaceae	FACU	grass	PE	advent	ANOD		MO	adventive	FACU	FACU	FACU
Anthriscus caucalis	ANTCAU	M. Bieb.	0	BUR CHERVIL	Apiaceae	(UPL)	forb	AN	advent	ANCA14		DI	adventive			
Anthriscus sylvestris	ANTSYL	(L.) Hoffm.	0	FALSE CHERVIL	Apiaceae	(UPL)	forb	AN	advent	ANSY		DI	adventive			
Anthyllis vulneraria	ANTVUL	L.	0	WOUNDWORT	Fabaceae	(UPL)	forb	PE	advent	ANVU		DI	adventive			
Antirrhinum majus	ANTMAJ	L.	0	SNAPDRAGON	Scrophulariaceae	(FACU)	forb	AN	advent	ANMA3		DI	adventive			
Antirrhinum orontium	ANTORO	L.	0	LESSER SNAPDRAGON	Scrophulariaceae	(FACU)	forb	AN	advent	MIOR		DI	adventive			
Apera spica-venti	APESPI	(L.) P. Beauv.	0	OPEN LITTLE-AWNED GRASS	Poaceae	(UPL)	grass	AN	advent	APSP		MO	adventive			
Apios americana	APIAME	Medik.	3	COMMON GROUNDNUT	Fabaceae	FACW	forb	PE	partial	APAM		DI	native	FACW	FACW	FACW
Apium graveolens	APIGRA	l.	0	CELERY	Apiaceae	FAC	forb	PE	advent	APGR2		DI	adventive			
Aplectrum hyemale	APLHYE	(Muhl. ex Willd.) Torr.	7	PUTTY ROOT	Orchidaceae	FAC	forb	PE	shade	APHY		MO	native	FAC	FAC	FAC
Apocynum androsaemifolium	APOAND	L.	6	SPREADING DOGBANE	Apocynaceae	FACU-	forb	PE	full	APAN2		DI	native	FACU	UPL	UPL
Apocynum cannabinum	APOCAN	L.	1	INDIAN HEMP	Apocynaceae	544 FACU	forb	PE	full	APCA		DI	native	FACU	FAC	FAC
Apocynum sp.	APOCYN	L.		DOGBANE	Apocynaceae	ND	forb	PE	full	APOCY		DI				
Aquilegia canadensis	AQUCAN	L.	6	WILD COLUMBINE	Ranunculaceae	FAC	forb	PE	shade	AQCA		DI	native	FAC	FACU	FACU
Aquilegia vulgaris	AQUVUL	L.	0	GARDEN COLUMBINE	Ranunculaceae	(FACU)	forb	PE	advent	AQVU		DI	adventive			
Arabidopsis lyrata	ARALYR	(L.) O'Kane & Al-Shehbaz	6 syn	LYRE-LEAF ROCK CRESS	Brassicaceae	FACU	forb	BI	full	ARLY2	E	DI	native	FACU	FACU	FACU
Arabidopsis thaliana	ARATHA	(L.) Heynh.	0	MOUSE-EAR CRESS	Brassicaceae	(UPL)	forb	AN	advent	ARTH		DI	adventive			
Arabis canadensis	ARACAN	L.	5	SICKLE-POD	Brassicaceae	(UPL)	forb	BI	shade	ARCA		DI	native			
Arabis glabra	ARAGLA	(L.) Bernh.	3	TOWER MUSTARD	Brassicaceae	(UPL)	forb	BI	full	ARGL		DI	native			
Arabis laevigata	ARALAE	(Muhl. ex Willd.) Poir.	4	SMOOTH ROCK CRESS	Brassicaceae	(UPL)	forb	BI	shade	ARLA		DI	native			
Arabis patens	ARAPAT	Sull.	10	SPREADING ROCK CRESS	Brassicaceae	(UPL)	forb	BI	shade	ARPA2	E	DI	native			
Arabis pycnocarpa M. Hopkins. var. adpressipilis	ARAPYCA	M. Hopkins	4	SMALL HAIRY ROCK CRESS	Brassicaceae	FACU	forb	BI	shade	ARHIP	P	DI	native			
Arabis pycnocarpa M. Hopkins. var. pycnocarpa	ARAPYCP	M. Hopkins	6	WESTERN HAIRY ROCK CRESS	Brassicaceae	FACU	forb	BI	partial	ARHIP	E	DI	native			
Arabis shortii	ARASHO	(Fernald) Gleason	7	SHORT'S ROCK CRESS	Brassicaceae	23 (UPL)	forb	PE	shade	ARSH2		DI	native			
Arabis sp.	ARABIS	L.		ROCK CRESS	Brassicaceae	ND	forb	BI	ND	ARABI2		DI				
Aralia hispida	ARAHIS	Vent.	7	BRISTLY SARSAPARILLA	Araliaceae	(UPL)	forb	PE	shade	ARHI2	E	DI	native			
Aralia nudicaulis	ARANUD	L.	5	WILD SARSAPARILLA	Araliaceae	FACU	forb	PE	shade	ARNU2		DI	native	FACU	FACU	FACU
Aralia racemosa	ARARAC	L.	5	AMERICAN SPIKENARD	Araliaceae	(UPL)	forb	PE	shade	ARRA		DI	native	FACU	FACU	FACU
Aralia sp.	ARALIA	L.		SPIKENARD	Araliaceae	ND	forb	PE	shade	ARALI		DI				
Aralia spinosa	ARASPI	L.	5	DEVIL'S WALKINGSTICK	Araliaceae	24 FAC	shrub	W	shade	ARSP2		DI	native	FAC	FACW	FAC
Arctium lappa	ARCLAP	L.	0	GREAT BURDOCK	Asteraceae	(FACU+)	forb	BI	advent	ARLA3		DI	adventive			
Arctium minus	ARCMIN	Berhn.	0	COMMON BURDOCK	Asteraceae	FACU-	forb	BI	advent	ARMI2		DI	adventive	FACU	FACU	FACU
Arctostaphylos uva-ursi	ARCUVA	(L.) Spreng.	10	BEARBERRY	Ericaceae	25 (UPL)	shrub	W	full	ARUV	X	DI	native	UPL	UPL	UPL

Arenaria lateriflora	ARELAT	L.	7 syn	GROVE SANDWORT	Caryophyllaceae	(FACU-)	forb	PE	full	MOLA6	P	DI	native			
Arenaria patula	AREPAT	Michx.	9 syn	SPREADING SANDWORT	Caryophyllaceae	(UPL)	forb	AN	full	MIPA6	E	DI	native			
Arenaria serpyllifolia	ARESER	L.	0	THYME-LEAVED SANDWORT	Caryophyllaceae	FAC	forb	AN	advent	ARSE2		DI	adventive	FAC	FAC	FAC
Arenaria sp.	ARENAR	L.		SANDWORT	Caryophyllaceae	ND	forb	ND	ND	ARENA		DI				
Arenaria stricta	ARESTR	Michx.	10 syn	ROCK SANDWORT	Caryophyllaceae	(UPL)	forb	PE	full	MIMIM	P	DI	native			
Arethusa bulbosa	AREBUL	L.	10	DRAGON'S MOUTH	Orchidaceae	OBL	forb	PE	full	ARBU	E	MO	native	OBL	OBL	OBL
Argemone albiflora	ARGALB	Hornem.	0	WHITE PRICKLY POPPY	Papaveraceae	(UPL)	forb	AN	advent	ARAL3		DI	adventive			
Argemone mexicana	ARGMEX	L.	0	MEXICAN PRICKLY POPPY	Papaveraceae	(UPL)	forb	AN	advent	ARME4		DI	adventive			
Arisaema dracontium	ARIDRA	(L.) Schott	5	GREEN DRAGON	Araceae	FACW	forb	PE	shade	ARDR3		MO	native	FACW	FACW	FACW
Arisaema sp.	ARISAE	Mart.		JACK-IN-THE-PULPIT	Araceae	ND	forb	PE	shade	ARISA		MO				
Arisaema triphyllum (L.) Schott subsp. stewardsonii	ARITRIS	(Britton) Huttleston	7 syn	SWAMP JACK-IN-THE-PULPIT	Araceae	(FACW-)	forb	PE	shade	ARTRS		MO	native	FACW	FACW	FAC
Arisaema triphyllum subsp. triphyllum	ARITRIT	(L.) Schott	3 syn	JACK-IN-THE-PULPIT	Araceae	(FACU-)	forb	PE	shade	ARTRT3		MO	native	FACW	FACW	FAC
Aristida dichotoma	ARIDIC	Michx.	1	POVERTY GRASS	Poaceae	UPL	grass	AN	full	ARDI4		MO	native	UPL	FACU	FACU
Aristida longespica Poir. var. geniculata	ARILONG	(Raf.) Fernald	8 syn	FALSE ARROW-FEATHER	Poaceae	(UPL)	grass	AN	full	ARLOG6	E	MO	native	UPL	FACU	FACU
Aristida longespica var. longespica	ARILONL	Poir.	4 syn	SLIMSPIKE THREE-AWNED GRASS	Poaceae	UPL	grass	AN	full	ARLOL3		MO	native	UPL	FACU	FACU
Aristida oligantha	ARIOLI	Michx.	1	PLAINS THREE-AWNED GRASS	Poaceae	(UPL)	grass	AN	full	AROL		MO	native			
Aristida purpurascens	ARIPUR	Poir.	7	PURPLE THREE-AWNED GRASS	Poaceae	(UPL)	grass	PE	full	ARPU8	P	MO	native	FAC	FACU	UPL
Aristida sp.	ARISTI	L.		THREE-AWNED GRASS	Poaceae	UPL	grass	ND	full	ARIST		MO				
Aristolochia clematitis	ARICLE	L.	0	BIRTHWORT	Aristolochiaceae	(UPL)	forb	PE	advent	ARCL		DI	adventive			
Aristolochia serpentaria	ARISER	L.	7	VIRGINIA SNAKEROOT	Aristolochiaceae	(UPL)	forb	PE	shade	ARSE3		DI	native	UPL	UPL	UPL
Aristolochia tomentosa	ARITOM	Sims	0	PIPE-VINE	Aristolochiaceae	FAC	vine	W	advent	ARTO3		DI	adventive	FAC	FAC	FAC
Armoracia rusticana	ARMRUS	P. Gaertn.% B. Mey. & Scherb.	0	HORSERADISH	Brassicaceae	(FAC)	forb	PE	advent	ARRU4		DI	adventive			
Arnoseris minima	ARNMIN	(L.) Schweigg. & Korte	0	DWARF NIPPLEWORT	Asteraceae	(UPL)	forb	AN	advent	ARMI3		DI	adventive			
Aronia arbutifolia	AROARB	(L.) Pers.	9 syn	RED CHOKEBERRY	Rosaceae	535 FACW	shrub	W	partial	PHFL9	E	DI	native	FACW	FACW	FACW
Aronia melanocarpa	AROMEL	(Michx.) Elliott	5 syn	BLACK CHOKEBERRY	Rosaceae	26 FAC	shrub	W	partial	PHME13		DI	native	FAC	FACW	FAC
Aronia sp.	ARONIA	L.		CHOKEBERRY	Rosaceae	ND	shrub	W	partial	PHOTI		DI				
Arrhenatherum elatius	ARRELA	P. Beauv.	0	TALL OATGRASS	Poaceae	FACU	grass	PE	advent	AREL3		MO	adventive	FACU	FACU	FACU
Artemisia absinthium	ARTABS	L.	0	WORMWOOD	Asteraceae	(UPL)	forb	PE	advent	ARAB3		DI	adventive			
Artemisia annua	ARTANN	L.	0	ANNUAL WORMWOOD	Asteraceae	FACU	forb	AN	advent	ARAN3		DI	adventive	FACU	FACU	FACU
Artemisia biennis	ARTBIE	Willd.	0	BIENNIAL WORMWOOD	Asteraceae	FACU-	forb	BI	advent	ARBI2		DI	adventive	FACU	FACW	FACW
Artemisia campestris L. var. caudata	ARTCAM	(Michx.) E.J. Palm. & Steyerm.	10 syn	BEACH WORMWOOD	Asteraceae	27 (FAC+)	forb	PE	full	ARCAC	T	DI	native			
Artemisia ludoviciana	ARTLUD	Nutt.	0	WESTERN MUGWORT	Asteraceae	28 (UPL)	forb	PE	advent	ARLU		DI	adventive	UPL	UPL	UPL
Artemisia pontica	ARTPON	L.	0	ROMAN WORMWOOD	Asteraceae	(UPL)	forb	PE	advent	ARPO4		DI	adventive			
Artemisia sp.	ARTEMS	L.		WORMWOOD	Asteraceae	ND	forb	ND	ND	ARTEM		DI				
Artemisia vulgaris	ARTVUL	L.	0	COMMON MUGWORT	Asteraceae	FACU-	forb	PE	advent	ARVU		DI	adventive	UPL	UPL	UPL
Arthraxon hispidus	ARTHIS	(Thunb.) Makino	0	HAIRY JOINT GRASS	Poaceae	FAC	grass	AN	advent	ARHI3		MO	adventive	FAC	FACW	FACW
Aruncus dioicus	ARUDIO	(Walter) Fernald	6	GOAT'S-BEARD	Rosaceae	FACU	forb	PE	shade	ARDI8		DI	native	FACU	FACU	FACU
Arundinaria gigantea	ARUGIG	(Walter) Muhl.	7	GIANT CANE	Poaceae	29 FACW	grass	PE	full	ARGI		MO	native	FACW	FACW	
Asarum canadense	ASACAN	L.	6	WILD GINGER	Aristolochiaceae	30 FACU-	forb	PE	shade	ASCA		DI	native	FACU	FACU	UPL
Asclepias amplexicaulis	ASCAMP	Sm.	7	CLASPING-LEAVED MILKWEED	Asclepiadaceae	(UPL)	forb	PE	full	ASAM	P	DI	native			
Asclepias exaltata	ASCEXA	L.	8	POKE MILKWEED	Asclepiadaceae	FACU	forb	PE	full	ASEX		DI	native	FACU	UPL	UPL
Asclepias hirtella	ASCHIR	(Pennell) Woodson	8	SAND MILKWEED	Asclepiadaceae	(UPL)	forb	PE	full	ASHI		DI	native			
Asclepias incarnata	ASCINC	L.	4	SWAMP MILKWEED	Asclepiadaceae	OBL	forb	PE	full	ASIN		DI	native	OBL	OBL	OBL
Asclepias purpurascens	ASCPUR	L.	7	PURPLE MILKWEED	Asclepiadaceae	FACU	forb	PE	full	ASPU2		DI	native	FACU	FACU	FACU
Asclepias quadrifolia	ASCQUA	Jacq.	6	FOUR-LEAVED MILKWEED	Asclepiadaceae	(UPL)	forb	PE	full	ASQU		DI	native			
Asclepias sp.	ASCLEP	L.		MILKWEED	Asclepiadaceae	ND	forb	PE	full	ASCLE		DI				
Asclepias sullivantii	ASCSUL	Engelm. ex A. Gray	8	SULLIVANT'S MILKWEED	Asclepiadaceae	(UPL)	forb	PE	full	ASSU3		DI	native			
Asclepias syriaca	ASCSYR	L.	1	COMMON MILKWEED	Asclepiadaceae	FACU-	forb	PE	full	ASSY		DI	native	FACU	FACU	UPL
Asclepias tuberosa	ASCTUB	L.	4	BUTTERFLY-WEED	Asclepiadaceae	(UPL)	forb	PE	full	ASTU		DI	native			
Asclepias variegata	ASCVAR	L.	7	WHITE MILKWEED	Asclepiadaceae	FACU	forb	PE	full	ASVA	P	DI	native	FACU	FACU	FACU
Asclepias verticillata	ASCVER	L.	4	WHORLED MILKWEED	Asclepiadaceae	(UPL)	forb	PE	full	ASVE		DI	native	FACU	FACU	UPL
Asclepias viridiflora	ASCVIR	Raf.	5	GREEN MILKWEED	Asclepiadaceae	(UPL)	forb	PE	full	ASVI		DI	native			
Asclepias viridis	ASCVID	Walter	7	SPIDER MILKWEED	Asclepiadaceae	(UPL)	forb	PE	full	ASVI2		DI	native			
Asimina triloba	ASITRI	(L.) Dunal	6	PAWPAW	Annonaceae	FACU+	sm tree	W	shade	ASTR		DI	native	FAC	FAC	FAC
Asparagus officinalis	ASPOFF	L.	0	ASPARAGUS	Liliaceae	FACU	forb	PE	advent	ASOF		MO	adventive	FACU	FACU	FACU
Asperugo procumbens	ASPPRO	L.	0	MADWORT	Boraginaceae	(FAC)	forb	AN	advent	ASPR		DI	adventive	UPL	UPL	FACU
Asplenium bradleyi	ASPBRA	DC. Eaton	8	BRADLEY'S SPLEENWORT	Aspleniaceae	(UPL)	fern	PE	shade	ASBR2	E	SVP	native			
Asplenium montanum	ASPMON	Willd.	7	MOUNTAIN SPLEENWORT	Aspleniaceae	(UPL)	fern	PE	shade	ASMO2		SVP	native			
Asplenium pinnatifidum	ASPPIN	Nutt.	8	LOBED SPLEENWORT	Aspleniaceae	(UPL)	fern	PE	shade	ASPI		SVP	native			
Asplenium platyneuron	ASPPLA	(L.) B.S.P.	3	EBONY SPLEENWORT	Aspleniaceae	FACU	fern	PE	shade	ASPL		SVP	native	FACU	FACU	FACU
Asplenium resiliens	ASPRES	Kunze	7	BLACK-STEMMED SPLEENWORT	Aspleniaceae	(UPL)	fern	PE	shade	ASRE	X	SVP	native			
Asplenium rhizophyllum	ASPRHI	L.	7 syn	WALKING FERN	Aspleniaceae	(UPL)	fern	PE	shade	ASRH2		SVP	native			
Asplenium ruta-muraria	ASPRUT	L.	10	WALL-RUE	Aspleniaceae	(UPL)	fern	PE	shade	ASRU2	T	SVP	native			
Asplenium sp.	ASPLEN	L.		SPLEENWORT	Aspleniaceae	ND	fern	PE	shade	ASPLE		SVP				
Asplenium trichomanes	ASPTRI	L.	7	MAIDENHAIR SPLEENWORT	Aspleniaceae	31 (UPL)	fern	PE	shade	ASTR2		SVP	native	FAC	UPL	UPL
Aster acuminatus	ASTACU	Michx.	8 syn	MOUNTAIN ASTER	Asteraceae	FACU+	forb	PE	full	OCAC	X	DI	native	FACU		FACU

Aster borealis	ASTBOR	(Torr. & A. Gray) Prov.	9 syn	NORTHERN BOG ASTER	Asteraceae	32	OBL	forb	PE	full	SYBO2		DI	native	OBL	OBL	OBL
Aster brachyactis	ASTBRA	S.F. Blake	0 syn	WESTERN ANNUAL ASTER	Asteraceae		(FAC)	forb	AN	advent	SYCI2		DI	adventive	FAC	FAC	FAC
Aster cordifolius	ASTCOR	L.	4 syn	BLUE WOOD ASTER	Asteraceae		(UPL)	forb	PE	shade	SYCO4		DI	native			
Aster divaricatus	ASTDIV	L.	5 syn	WHITE WOOD ASTER	Asteraceae		(UPL)	forb	PE	shade	EUDI16		DI	native			
Aster drummondii	ASTDRU	Lindl.	6 syn	DRUMMOND'S ASTER	Asteraceae		(UPL)	forb	PE	shade	SYDRD	T	DI	native			
Aster dumosus	ASTDUM	L.	9 syn	BUSHY ASTER	Asteraceae	33	FAC	forb	PE	full	SYDUD2	T	DI	native	FAC	FAC	FAC
Aster ericoides	ASTERI	L.	2 syn	WHITE HEATH ASTER	Asteraceae	34	FACU	forb	PE	full	SYERE		DI	native	FACU	FACU	FACU
Aster firmus	ASTFIR	Nees	7 syn	SHINING ASTER	Asteraceae	35	(OBL)	forb	PE	full	SYPUP		DI	native	OBL	OBL	OBL
Aster infirmus	ASTINF	Michx.	8 syn	WEAK ASTER	Asteraceae		(UPL)	forb	PE	shade	DOIN2		DI	native			
Aster laevis	ASTLAE	L.	6 syn	SMOOTH ASTER	Asteraceae		UPL	forb	PE	full	SYLAL3		DI	native	FACU	FACU	FACU
Aster lanceolatus	ASTLAN	Willd.	3 syn	EASTERN LINED ASTER	Asteraceae	36	(FACW)	forb	PE	full	SYLAL4		DI	native	FACW	FAC	FACW
Aster lateriflorus	ASTLAT	(L.) Britton	2 syn	CALICO ASTER	Asteraceae		FACW-	forb	PE	shade	SYLAL7		DI	native	FACW	FACW	FAC
Aster linariifolius	ASTLIN	L.	8 syn	STIFF ASTER	Asteraceae		(UPL)	forb	PE	shade	IOLI2		DI	native			
Aster lowrieanus	ASTLOW	T.C. Porter	6 syn	LOWRIES' ASTER	Asteraceae	37	(UPL)	forb	PE	shade	SYLO2		DI	native			
Aster macrophyllus	ASTMAC	L.	5 syn	BIG-LEAVED ASTER	Asteraceae		UPL	forb	PE	shade	EUMA27		DI	native	UPL	FACU	UPL
Aster novae-angliae	ASTNOV	L.	2 syn	NEW ENGLAND ASTER	Asteraceae		FACW-	forb	PE	full	SYNO2		DI	native	FACW	FACW	FACW
Aster oblongifolius	ASTOBL	Nutt.	7 syn	SHALE BARREN A.	Asteraceae		(UPL)	forb	PE	full	SYOB	T	DI	native			
Aster ontarionis	ASTONT	Wiegand	7 syn	BOTTOMLAND ASTER	Asteraceae	554	FAC	forb	PE	shade	SYON2		DI	native			
Aster oolentangiensis	ASTOOL	Riddell	7 syn	SKY BLUE ASTER	Asteraceae	38	(UPL)	forb	PE	full	SYOOO		DI	native			
Aster patens	ASTPAT	Aiton	6 syn	CLASPING-LEAVED ASTER	Asteraceae	39	(UPL)	forb	PE	partial	SYPAP2		DI	native			
Aster paternus	ASTPTR	Cronquist	4 syn	TOOTHED WHITE-TOPPED ASTER	Asteraceae		(UPL)	forb	PE	shade	SEAS3		DI	native			
Aster pilosus	ASTPIL	Willd.	1 syn	AWL ASTER	Asteraceae	40	UPL	forb	PE	full	SYPIP3		DI	native	FAC	FACU	FACU
Aster praealtus	ASTPRA	Poir.	6 syn	VEINY LINED ASTER	Asteraceae		FACW	forb	PE	full	SYPRP		DI	native	FACW	FACW	FACW
Aster prenanthoides	ASTPRE	Muhl. ex Willd.	4 syn	ZIGZAG ASTER	Asteraceae		FAC	forb	PE	partial	SYPR6		DI	native	FAC	FAC	FAC
Aster puniceus	ASTPUN	L.	7 syn	FEN ASTER	Asteraceae	41	OBL	forb	PE	full	SYPUP		DI	native	OBL	OBL	OBL
Aster racemosus	ASTRAC	Elliott	2 syn	SMALL-HEADED ASTER	Asteraceae		FACW	forb	PE	full	SYRA5		DI	native	FACW	FACW	FACW
Aster sagittifolius	ASTSAG	Wedem. ex Willd.	3 syn	ARROW-LEAVED ASTER	Asteraceae	555	(UPL)	forb	PE	shade	SYCO4		DI	native			
Aster schreberi	ASTSCH	Nees	5 syn	LARGE-LEAVED ASTER	Asteraceae		(FACU+)	forb	PE	shade	EUSC5		DI	native			
Aster shortii	ASTSHO	Lindl.	4 syn	SHORT'S ASTER	Asteraceae		(UPL)	forb	PE	shade	SYSH		DI	native			
Aster solidagineus	ASTSOL	Michx.	8 syn	NARROW-LEAVED ASTER	Asteraceae		(UPL)	forb	PE	partial	SELI5	T	DI	native			
Aster sp.	ASTER	L.		ASTER	Asteraceae		ND	forb	PE	ND	ASTER		DI				
Aster subulatus	ASTSUB	Michx.	0 syn	ANNUAL SALT-MARSH ASTER	Asteraceae		OBL	forb	AN	advent	SYSU5		DI	adventive	OBL	OBL	FACW
Aster surculosus	ASTSUR	Michx.	9 syn	CREEPING ASTER	Asteraceae		(UPL)	forb	PE	full	EUSU7	E	DI	native			
Aster umbellatus	ASTUMB	Mill.	3 syn	FLAT-TOPPED WHITE ASTER	Asteraceae		FACW	forb	PE	partial	DOUMU		DI	native	FACW	FACW	FACW
Aster undulatus	ASTUND	L.	3 syn	CLASPING HEART-LEAVED ASTER	Asteraceae		(UPL)	forb	PE	full	SYUN		DI	native			
Astragalus canadensis	ASTCAN	L.	3	CANADA MILK-VETCH	Fabaceae		FAC	forb	PE	full	ASCA11	P	DI	native	FAC	FAC	FAC
Astragalus neglectus	ASTNEG	(Torr. & A. Gray) E. Sheld.	10	COOPER'S MILK-VETCH	Fabaceae		FACU	forb	PE	full	ASNE2	E	DI	native	FACU	FACU	FACU
Athyrium filix-femina	ATHFEL	(L.) Roth ex Mert.	5	COMMON LADY FERN	Dryopteridaceae	42	FAC	fern	PE	shade	ATFI		SVP	native	FAC	FAC	FAC
Athyrium pycnocarpon	ATHPYC	(Spreng.) Tidestr.	8 syn	NARROW-LEAVED GLADE FERN	Dryopteridaceae		FAC	fern	PE	shade	DIPY		SVP	native	FAC	FACU	FAC
Athyrium sp.	ATHYRI	Roth		LADY FERN	Dryopteridaceae		FAC	fern	PE	shade	ATHYR		SVP				
Athyrium thelypteroides	ATHTHE	(Michx.) Desv.	6 syn	SILVERY GLADE FERN	Dryopteridaceae		FAC	fern	PE	shade	DEAC4		SVP	native			
Atriplex patula	ATRPAT	L.	0	SPEAR-SCALE	Chenopodiaceae	43	FACW	forb	AN	advent	ATPA4		DI	adventive	FACW	FACW	FACW
Atriplex rosea	ATRROS	L.	0	SALTBUSH	Chenopodiaceae		(UPL)	forb	AN	advent	ATRO		DI	adventive	FACU	FACU	FACU
Aureolaria flava	AURFLA	(L.) Farw.	7 syn	SMALL FALSE FOXGLOVE	Scrophulariaceae	44	(UPL)	forb	PE	full	AUFL		DI	native			
Aureolaria laevigata	AURLAE	(Raf.) Raf.	8 syn	APPALACHIAN FALSE FOXGLOVE	Scrophulariaceae		(UPL)	forb	PE	full	AULA		DI	native			
Aureolaria pedicularia (L.) Raf. var. ambigens	AURPEDA	(Fernald) Farw.	10 syn	PRAIRIE FERN-LEAVED FALSE F.	Scrophulariaceae		(UPL)	forb	AN	full	AUPEA	E	DI	native			
Aureolaria pedicularia var. pedicularia	AURPEDP	(L.) Raf.	8 syn	WOODLAND FERN-L. FALSE F.	Scrophulariaceae		(UPL)	forb	AN	shade	AUPEP	E	DI	native			
Aureolaria sp.	AUEROL	Raf.		FALSE FOXGLOVE	Scrophulariaceae		UPL	forb	PE	full	AUREO		DI				
Aureolaria virginica	AURVIR	(L.) Pennell	8 syn	DOWNY FALSE FOXGLOVE	Scrophulariaceae		(UPL)	forb	PE	full	AUVI		DI	native			
Avena fatua	AVEFAT	L.	0	WILD OATS	Poaceae		(UPL)	grass	AN	advent	AVFA		MO	adventive			
Avena sativa	AVESAT	L.	0	OATS	Poaceae		(UPL)	grass	AN	advent	AVSA		MO	adventive	UPL	UPL	UPL
Azolla caroliniana	AZOCAR	Willd.	0	MOSQUITO-FERN	Salviniaceae	45	OBL	fern	PE	advent	AZCA		SVP	adventive			
Ballota nigra	BALNIG	L.	0	BLACK HOREHOUND	Lamiaceae		(FACU)	forb	PE	advent	BANI		DI	adventive			
Baptisia australis	BAPAUS	(L.) R. Br.	6	BLUE FALSE INDIGO	Fabaceae		(FACU-)	forb	PE	full	BAAU	E	DI	native	FACU		
Baptisia lactea	BAPLAC	(Raf.) Thieret	8 syn	WHITE FALSE INDIGO	Fabaceae		FACU	forb	PE	full	BAALM	P	DI	native			
Baptisia sp.	BAPTIS	Vent.		WILD INDIGO	Fabaceae		ND	forb	PE	full	BAPTI		DI				
Baptisia tinctoria	BAPTIN	(L.) R. Br.	6	YELLOW FALSE INDIGO	Fabaceae	46	(UPL)	forb	PE	full	BATI		DI	native			
Barbarea sp.	BARBAR	W.T. Aiton		YELLOW ROCKET	Brassicaceae		ND	forb	BI	advent	BARBA		DI				
Barbarea verna	BARVER	(Mill.) Asch.	0	EARLY WINTER CRESS	Brassicaceae		(UPL)	forb	BI	advent	BAVE		DI	adventive			
Barbarea vulgaris	BARVUL	R. Br.	0	GARDEN YELLOW ROCKET	Brassicaceae		FACU	forb	BI	advent	BAVU		DI	adventive	FACU	FAC	FAC
Bartonia paniculata	BARPAN	(Michx.) Muhl.	10	TWINING SCREWSTEM	Gentianaceae	47	OBL	forb	AN	full	BAPA2	E	DI	native	OBL	OBL	OBL
Bartonia sp.	BARTON	Muhl. ex Willd.		SCREW-STEM	Gentianaceae		ND	forb	AN	full	BARTO		DI				
Bartonia virginica	BARVIR	(L.) B.S.P.	6	YELLOW SCREW-STEM	Gentianaceae		FACW	forb	AN	full	BAVI3		DI	native	FACW	FACW	FACW
Beckmannia syzigachne	BECSYZ	(Steud.) Fernald	0	AMERICAN SLOUGH GRASS	Poaceae		OBL	grass	AN	advent	BESY		MO	adventive	OBL	OBL	OBL
Belamcanda chinensis	BELCHI	(L.) DC.	0	BLACKBERRY-LILY	Iridaceae		(UPL)	forb	PE	advent	BECH		MO	adventive			
Bellis perennis	BELPER	L.	0	ENGLISH DAISY	Asteraceae		(UPL)	forb	PE	advent	BEPE2		DI	adventive			

Berberis sp.	BERBER	L.	0	BARBERRY	Berberidaceae	FACU	shrub	W	advent	BERBE		DI				
Berberis thunbergii	BERTHU	DC.	0	JAPANESE BARBERRY	Berberidaceae	FACU	shrub	W	advent	BETH		DI	adventive	FACU	FACU	FACU
Berberis vulgaris	BERVUL	L.	0	COMMON BARBERRY	Berberidaceae	FACU	shrub	W	advent	BEVU		DI	adventive	FACU	FACU	FACU
Berteroa incana	BERINC	(L.) DC.	0	HOARY-ALYSSUM	Brassicaceae	(UPL)	forb	AN	advent	BEIN2		DI	adventive			
Besseya bullii	BESBUL	(Eaton) Rydb.	9	KITTEN-TAILS	Scrophulariaceae	(UPL)	forb	PE	full	BEBU	X	DI	native			
Betula alba	BETALB	L.	0	WHITE BIRCH	Betulaceae	FAC+	tree	W	advent	BEPUP5		DI	adventive	FAC	FACU	FACW
Betula alleghaniensis	BETALL	Britton	7 syn	YELLOW BIRCH	Betulaceae	FAC	tree	W	tree	BEAL2		DI	native	FAC	FAC	FAC
Betula lenta	BETLEN	L.	7	SWEET BIRCH	Betulaceae	FACU	tree	W	tree	BELE		DI	native	FACU	FACU	FACU
Betula nigra	BETNIG	L.	9	RIVER BIRCH	Betulaceae	FACW	tree	W	tree	BENI		DI	native	FACW	FACW	FACW
Betula papyrifera	BETPAP	Marshall	0	PAPER BIRCH	Betulaceae	FACU	tree	W	advent	BEPA		DI	adventive	FACU	FACU	FACU
Betula pendula	BETPEN	Roth	0	EUROPEAN WHITE BIRCH	Betulaceae	(FACW)	tree	W	advent	BEPE3		DI	adventive			FACU
Betula populifolia	BETPOP	Marshall	5	GRAY BIRCH	Betulaceae	FAC	tree	W	tree	BEPO		DI	native	FAC	FAC	FAC
Betula pumila	BETPUM	L.	10	SWAMP BIRCH	Betulaceae	OBL	shrub	W	full	BEPU4	T	DI	native	OBL	OBL	OBL
Betula sp.	BETULA	L.		BIRCH	Betulaceae	ND	tree	W	tree	BETUL		DI				
Bidens aristosa	BIDARI	(Michx.) Britton	4	MIDWEST TICKSEED-SUNFLOWER	Asteraceae	FACW-	forb	AN	full	BIAR		DI	native	FACW	FACW	FACW
Bidens beckii	BIDBEC	Torr. ex Spreng.	10 syn	WATER-MARIGOLD	Asteraceae	OBL	forb	PE	full	BIBE2	X	DI	native	OBL	OBL	OBL
Bidens bipinnata	BIDBIP	L.	2	SPANISH-NEEDLES	Asteraceae	(FACU)	forb	AN	full	BIBI7		DI	native	FACU	FAC	FACU
Bidens cernua	BIDCER	L.	3	NODDING BEGGAR'S-TICK	Asteraceae	48 OBL	forb	AN	full	BICE		DI	native	OBL	OBL	OBL
Bidens comosa	BIDCOM	(A. Gray) Wiegand	3	SWAMP TICKSEED	Asteraceae	FACW	forb	AN	full	BITR		DI	native	FACW	OBL	FACW
Bidens connata	BIDCON	Muhl. ex Willd.	3 syn	PURPLE-STEMMED BEGGAR'S-TICK	Asteraceae	49 FACW+	forb	AN	full	BICO5		DI	native			
Bidens coronata	BIDCOR	(L.) Britton	3	NORTHERN TICKSEED-SUNFLOWER	Asteraceae	OBL	forb	AN	full	BICO		DI	native	OBL	OBL	OBL
Bidens discoidea	BIDDIS	(Torr. & A. Gray) Britton	7	FEW-BRACTED BEGGAR'S-TICK	Asteraceae	FACW	forb	AN	partial	BIDI		DI	native	FACW	FACW	FACW
Bidens frondosa	BIDFRO	L.	2	DEVIL'S BEGGAR'S-TICK	Asteraceae	FACW	forb	AN	full	BIFR		DI	native	FACW	FACW	FACW
Bidens polylepis	BIDPOL	S.F. Blake	0	OZARK TICKSEED-SUNFLOWER	Asteraceae	50 FACW	forb	AN	advent	BIAR		DI	adventive			
Bidens sp.	BIDENS	L.		BEGGAR'S-TICKS	Asteraceae	ND	forb	AN	ND	BIDEN		DI				
Bidens vulgata	BIDVUL	Greene	2	TALL BEGGAR'S-TICKS	Asteraceae	(FACW)	forb	AN	full	BIVU		DI	native	FAC	FACW	FAC
Bignonia capreolata	BIGCAP	L.	7	CROSS-VINE	Bignoniaceae	FAC+	vine	W		BICA		DI	native	FAC	FACW	
Blephilia ciliata	BLECIL	(L.) Benth.	4	DOWNY WOODMINT	Lamiaceae	(UPL)	forb	PE	shade	BLCI		DI	native			
Blephilia hirsuta	BLEHIR	(Pursh) Benth.	4	HAIRY WOODMINT	Lamiaceae	FACU-	forb	PE	shade	BLHI		DI	native	FACU	FACU	FACU
Blephilia sp.	BLEPHI	L.		PAGODA-PLANT	Lamiaceae	ND	forb	PE	shade	BLEPH5		DI				
Boechera grahamii	BOEGRA	(Lehmann) Windham & Al-Shehbaz	9 syn	LIMESTONE ROCKCRESS	Brassicaceae	FACU	forb	BI	full	ARDI2	E	DI	native		FACU	FACU
Boechera missouriensis	BOEMIS	(Greene) Al-Shehbaz	9 syn	MISSOURI ROCK CRESS	Brassicaceae	(UPL)	forb	BI	shade	ARMI5	E	DI	native			
Boechera stricta	BOESTR	(Graham) Al-Shehbaz	9 syn	DRUMMOND'S ROCKCRESS	Brassicaceae	FACU	forb	BI	partial	ARDR	E	DI	native	FACU	FACU	FACU
Boehmeria cylindrica	BOECYL	(L.) Sw.	4	FALSE NETTLE	Urticaceae	FACW+	forb	PE	shade	BOCY		DI	native	FACW	OBL	OBL
Bolboschoenus fluviatilis	BOLFLU	(Torr.) Sojak	5 syn	RIVER BULRUSH	Cyperaceae	51 OBL	sedge	PE	full	SCFL11		MO	native	OBL	OBL	OBL
Boltonia asteroides	BOLAST	(L.) L'Her	7	FALSE ASTER	Asteraceae	FACW	forb	PE	full	BOAS		DI	native	FACW	OBL	FACW
Borago officinalis	BOROFF	L.	0	TALEWORT	Boraginaceae	(UPL)	forb	AN	advent	BOOF		DI	adventive			
Bothriochloa bladhii	BOTBLA	(Retz.) S.T. Blake	0	CAUCASIAN BLUESTEM	Poaceae	568 FAC	grass	PE	advent			MO	adventive	FACU	FACU	
Bothriochloa ischaemum	BOTISC	(L.) Keng	0	YELLOW BLUESTEM	Poaceae	569 (FACU)	grass	PE	advent			MO	adventive			
Botrychium biternatum	BOTBIT	(Savigny) Underw.	4	SPARSE-LOBED GRAPE FERN	Ophioglossaceae	FAC	fern	PE	shade	BOBI	E	SVP	native	FAC	FAC	
Botrychium dissectum	BOTDIS	Spreng.	3	LACE-FROND GRAPE FERN	Ophioglossaceae	52 FAC	fern	PE	shade	BODI2		SVP	native			
Botrychium lanceolatum	BOTLAN	(S.G. Gmelin) Angstr.	8	TRIANGLE GRAPE FERN	Ophioglossaceae	53 FACW	fern	PE	shade	BOLA	T	SVP	native	FACW	FACW	FACW
Botrychium matricariifolium	BOTMAT	(Doll) A. Braun ex W. D. J. Koch	5	DAISY-LEAVED GRAPE FERN	Ophioglossaceae	FACU	fern	PE	shade	BOMA2		SVP	native	FACU	FACU	FACU
Botrychium multifidum	BOTMUL	(S.G. Gmelin) Rupr.	4	LEATHERY GRAPE FERN	Ophioglossaceae	FACU	fern	PE	shade	BOMU	E	SVP	native			
Botrychium oneidense	BOTONE	(Gilbert) House	4	BLUNT-LOBED GRAPE FERN	Ophioglossaceae	(UPL)	fern	PE	shade	BOON		SVP	native			
Botrychium simplex	BOTSIM	E. Hitchc.	7	LEAST GRAPE FERN	Ophioglossaceae	FACU	fern	PE	shade	BOSI	E	SVP	native	FACU	FAC	FAC
Botrychium sp.	BOTRYC	Sw.		GRAPE FERN	Ophioglossaceae	ND	fern	PE	shade	BOTRY		SVP				
Botrychium virginianum	BOTVIR	(L.) Sw.	4	RATTLESNAKE FERN	Ophioglossaceae	FACU	fern	PE	shade	BOVI		SVP	native			
Bouteloua curtipendula	BOUCUR	(Michx.) Torr.	8	SIDE-OATS GRAMA GRASS	Poaceae	(UPL)	grass	PE	full	BOCU		MO	native			
Bouteloua gracilis	BOUGRA	(Willd. ex Kunth) Lag. ex Griffiths	0	BLUE GRAMA GRASS	Poaceae	(UPL)	grass	PE	advent	BOGR2		MO	adventive			
Bouteloua hirsuta	BOUHIR	Lag.	0	HAIRY GRAMA GRASS	Poaceae	(UPL)	grass	PE	advent	BOHI2		MO	adventive			
Brachyelytrum aristosum	BRAARI	(Michx.) Trel.	7 syn	NORTHERN SHORTHUSK	Poaceae	54 (FAC)	grass	PE	shade	BRAR9		MO	native			
Brachyelytrum erectum	BRAERE	(Schreb.ex Spreng.) P. Beauv.	5	LONG-AWNED WOOD GRASS	Poaceae	(UPL)	grass	PE	shade	BRER2		MO	native	FACU		
Brachyelytrum sp.	BRACHY	Michx.		SHORTHUSK GRASS	Poaceae	ND	grass	PE	shade	BRACH2		MO				
Brasenia schreberi	BRASCH	J.F. Gmel.	7	WATER-SHIELD	Cabombaceae	OBL	forb	PE	full	BRSC		DI	native	OBL	OBL	OBL
Brassica alba	BRAALB	(L.) Rabenh.	0	WHITE MUSTARD	Brassicaceae	(UPL)	forb	AN	advent	SIAL5		DI	adventive			
Brassica juncea	BRAJUN	(L.) Czern.	0	BROWN MUSTARD	Brassicaceae	(UPL)	forb	AN	advent	BRJU		DI	adventive	UPL	UPL	UPL
Brassica napus	BRANAP	L.	0	RAPE	Brassicaceae	55 (UPL)	forb	AN	advent	BRNA		DI	adventive			
Brassica nigra	BRANIG	(L.) K. Koch	0	BLACK MUSTARD	Brassicaceae	(UPL)	forb	AN	advent	BRNI		DI	adventive			
Brassica oleracea	BRAOLE	L.	0	CABBAGE	Brassicaceae	(FACU)	forb	PE	advent	BROL		DI	adventive			
Brassica rapa	BRARAP	L.	0	FIELD MUSTARD	Brassicaceae	(UPL)	forb	AN	advent	BRRA		DI	adventive	UPL	UPL	UPL
Brassica sp.	BRASSI	L.		MUSTARD	Brassicaceae	UPL	forb	AN	advent	BRASS2		DI				
Bromus arvensis	BROARV	L.	0	FIELD BROME	Poaceae	(FACU)	grass	AN	advent	BRAR5		MO	adventive	FACU	FACU	FACU
Bromus brizaeformis	BROBRI	Fisch. & C.A. Mey.	0	RATTLESNAKE-CHESS	Poaceae	(FACU)	grass	AN	advent	BRBR5		MO	adventive	FACU	UPL	UPL
Bromus ciliatus	BROCIL	L.	7	FRINGED BROME	Poaceae	FACW	grass	PE	full	BRCI2		MO	native	FACW	FACW	FACW
Bromus commutatus	BROCOM	Schrad.	0	HAIRY CHESS	Poaceae	(UPL)	grass	AN	advent	BRRA2		MO	adventive			

Bromus hordeaceus	BROHOR	L.	0	SOFT CHESS	Poaceae	(UPL)	grass	AN	advent	BRHO2		MO	adventive	UPL	UPL	UPL
Bromus inermis	BROINE	Leyss.	0	HUNGARIAN BROME	Poaceae	UPL	grass	PE	advent	BRIN2		MO	adventive	UPL	FACU	UPL
Bromus japonicus	BROJAP	Thunb. ex Murray	0	JAPANESE BROME	Poaceae	FACU-	grass	AN	advent	BRAR5		MO	adventive			
Bromus kalmii	BROKAL	A. Gray	8	KALM'S BROME	Poaceae	FAC-	grass	PE	full	BRKA2	P	MO	native	FACU	FAC	FAC
Bromus latiglumis	BROALT	(Scribn. ex Shear) Hitchc.	6 syn	EAR-LEAVED BROME	Poaceae	FACW	grass	PE	shade	BRLA4		MO	native	FACW	FACW	FACW
Bromus nottowayanus	BRONOT	Fernald	7	SATIN BROME	Poaceae	(FACU+)	grass	PE	shade	BRNO		MO	native			
Bromus pubescens	BROPUB	Muhl. ex Willd.	4	CANADA BROME	Poaceae	56 (FACU)	grass	PE	shade	BRPU6		MO	native	FACU	FACU	FACU
Bromus secalinus	BROSEC	L.	0	CHEAT	Poaceae	(UPL)	grass	AN	advent	BRSE		MO	adventive			
Bromus sp.	BROMUS	L.		BROME	Poaceae	ND	grass	ND	ND	BROMU		MO				
Bromus tectorum	BROTEC	L.	0	DOWNY BROME	Poaceae	(UPL)	grass	AN	advent	BRTE		MO	adventive			
Broussonetia papyrifera	BROPAP	(L.) Vent	0	PAPER-MULBERRY	Moraceae	(UPL)	tree	W	advent	BRPA4		DI	adventive	UPL	FACU	UPL
Browallia americana	BROAME	L.	0	BUSH-VIOLET	Solanaceae	(FACU)	forb	AN	advent	BRAM		DI	adventive	FACU	FACU	FACU
Buchnera americana	BUCAME	L.	8	BLUEHEARTS	Scrophulariaceae	FACU	forb	PE	full	BUAM	T	DI	native	FACU	FAC	FAC
Buddleja davidii	BUDDAV	Franch.	0	BUTTERFLY-BUSH	Buddlejaceae	(UPL)	shrub	W	advent	BUDA2		DI	adventive	FACU	FACU	FACU
Bulbostylis capillaris	BULCAP	(L.) Kunth ex C.B. Clarke	3	THREAD-LEAVED SEDGE	Cyperaceae	FACU	sedge	AN	full	BUCA2		MO	native	FACU	FACU	FACU
Bunias orientalis	BUNORI	L.	0	TURKISH ROCKET	Brassicaceae	(UPL)	forb	PE	advent	BUOR		DI	adventive			
Bupleurum lancifolium	BUPLAN	Hornem.	0	ROUGH-FRUITED THOROUGHWAX	Apiaceae	(UPL)	forb	AN	advent	BULA3		DI	adventive			
Bupleurum rotundifolium	BUPROT	L.	0	THOROUGHWAX	Apiaceae	(UPL)	forb	AN	advent	BURO		DI	adventive			
Butomus umbellatus	BUTUMB	L.	0	FLOWERING-RUSH	Butomaceae	OBL	forb	PE	full	BUUM		MO	adventive	OBL	OBL	OBL
Buxus sempervirens	BUXSEM	L.	0	COMMON BOXWOOD	Buxaceae	(UPL)	shrub	W	advent	BUSE2		DI	adventive			
Cabomba caroliniana	CABCAR	A. Gray	0	FANWORT	Cabombaceae	OBL	forb	PE	full	CACA		DI	adventive	OBL	OBL	OBL
Cacalia atriplicifolia	CACATR	L.	6 syn	PALE INDIAN-PLANTAIN	Asteraceae	(UPL)	forb	PE	full	ARAT		DI	native			
Cacalia muhlenbergii	CACMUH	(Schultz-Bip.) Fernald	6 syn	GREAT INDIAN-PLANTAIN	Asteraceae	(UPL)	forb	PE	full	ARRE6		DI	native			
Cacalia plantaginea	CACPLA	(Raf.) Shinners	10 syn	FEN INDIAN-PLANTAIN	Asteraceae	FACW	forb	PE	full	ARPL4	P	DI	native			
Cacalia sp.	CACALI	L.		INDIAN-PLAINTAIN	Asteraceae	ND	forb	PE	full	ARNOG		DI				
Cacalia suaveolens	CACSUA	L.	7 syn	SWEET INDIAN-PLANTAIN	Asteraceae	FAC-	forb	PE	full	HASU3		DI	native	FACW	FACW	FACW
Cakile edentula	CAKEDE	(Bigelow) Hook.	10	SEA ROCKET	Brassicaceae	57 FACU	forb	AN	full	CAED	P	DI	native	FACU	FACU	FACU
Calamagrostis canadensis	CALCAN	(Michx.) P. Beauv.	4	CANADA BLUEJOINT	Poaceae	FACW+	grass	PE	full	CACA4		MO	native	FACW	OBL	OBL
Calamagrostis cinnoides	CALCIN	(Muhl.) Barton	0	EASTERN BLUEJOINT	Poaceae	OBL	grass	PE	advent	CACO71		MO	adventive			
Calamagrostis insperata	CALINS	Swallen	8 syn	BARTLEY'S REED GRASS	Poaceae	(UPL)	grass	PE	shade	CAPOI	T	MO	native			
Calamagrostis sp.	CALAMA	Adans.		REED GRASS	Poaceae	ND	grass	PE	ND	CALAM		MO				
Calamagrostis stricta	CALSTR	(Timm) Koeler	7 syn	NORTHERN REED GRASS	Poaceae	58 FACW	grass	PE	full	CAST36		MO	native	FACW	FACW	FACW
Calamintha arkansana	CALARK	(Nutt.) Shinners	8 syn	LIMESTONE SAVORY	Lamiaceae	FACU	forb	PE	full	CLAR5	T	DI	native	FACU	FACW	FACW
Calla palustris	CLLPAL	L.	10	WILD CALLA	Araceae	OBL	forb	PE	partial	CAPA	P	MO	native	OBL	OBL	OBL
Callitriche heterophylla	CALHET	Pursh	4	LARGER WATER-STARWORT	Callitrichaceae	OBL	forb	AN	full	CAPA52	T	DI	native	OBL	OBL	OBL
Callitriche palustris	CALPAL	L.	9 syn	VERNAL WATER-STARWORT	Callitrichaceae	OBL	forb	AN	full	CALLI6		DI	native	OBL	OBL	OBL
Callitriche sp.	CALLIT	L.		WATER-STARWORT	Callitrichaceae	OBL	forb	AN	full	CAHE3		DI				
Callitriche terrestris	CALTER	Raf.	6	TERRESTRIAL WATER-STARWORT	Callitrichaceae	FACW+	forb	AN	full	CATE19		DI	native	FACW	FACW	FACW
Calopogon tuberosus	CALTUB	(L.) B.S.P.	9	GRASS-PINK	Orchidaceae	59 FACW+	forb	PE	full	CATU5	T	MO	native	FACW	OBL	OBL
Caltha palustris	CLTPAL	L.	6	MARSH-MARIGOLD	Ranunculaceae	OBL	forb	PE	shade	CAPA5		DI	native	OBL	OBL	OBL
Calycanthus floridus L. var. glaucus	CALFLOG	(Willd.) Torr. & A. Gray	6 syn	SWEET-SHRUB	Calycanthaceae	(FACU)	shrub	W	shade	CAFLG	X	DI	native	FACU	FACU	FACU
Calystegia hederacea	CALHED	Wall.	0	JAPANESE BINDWEED	Convolvulaceae	(UPL)	forb	PE	advent	CAHE21		DI	adventive			
Calystegia sepium	CALSEP	(L.) R. Br.	1	HEDGE BINDWEED	Convolvulaceae	FAC-	forb	PE	full	CASE13		DI	native	FAC	FAC	FAC
Calystegia sp.	CALYST	R. Br.		BINDWEED	Convolvulaceae	ND	forb	PE	ND	CALYS		DI				
Calystegia spithamaea	CALSPI	(L.) Pursh	4	UPRIGHT BINDWEED	Convolvulaceae	(UPL)	forb	PE	full	CASP14		DI	native			
Camassia scilloides	CAMSCI	(Raf.) Cory	6	WILD HYACINTH	Liliaceae	FAC	forb	PE	partial	CASC5		MO	native	FAC	FAC	FAC
Camelina microcarpa	CAMMIC	Andrz. ex DC.	0	SMALL-SEEDED FALSE FLAX	Brassicaceae	(UPL)	forb	AN	advent	CAMI2		DI	adventive	FACU	FACU	UPL
Camelina sativa	CAMSAT	(L.) Crantz	0	LARGE-SEEDED FALSE FLAX	Brassicaceae	UPL	forb	AN	advent	CASA2		DI	adventive	UPL	FACU	FACU
Camelina sp.	CAMELI	Crantz		FALSE FLAX	Brassicaceae	UPL	forb	AN	advent	CAMEL		DI				
Campanula americana	CAMAME	L.	4	TALL BELLFLOWER	Campanulaceae	FAC	forb	BI	shade	CAAM18		DI	native	FACU	FAC	FAC
Campanula aparinoides	CAMAPA	Pursh	7	MARSH BELLFLOWER	Campanulaceae	60 OBL	forb	PE	full	CAAP2		DI	native	OBL	OBL	OBL
Campanula rapunculoides	CAMRAP	L.	0	EUROPEAN BELLFLOWER	Campanulaceae	(UPL)	forb	PE	advent	CARA		DI	adventive			
Campanula rotundifolia	CAMROT	L.	10	HAREBELL	Campanulaceae	FACU	forb	PE	full	CARO2	T	DI	native	FACU	FACU	FACU
Campanula sp.	CAMPAN	L.		BELLFLOWER	Campanulaceae	ND	forb	ND	ND	CAMPA		DI				
Campanula trachelium	CAMTRA	L.	0	THROATWORT	Campanulaceae	(UPL)	forb	PE	advent	CATR4		DI	adventive			
Campsis radicans	CAMRAD	(L.) See. ex Bureau	1	TRUMPET-CREEPER	Bignoniaceae	61 FAC	vine	W	full	CARA2		DI	native	FAC	FACU	FAC
Cannabis sativa	CANSAT	L.	0	HEMP	Cannabaceae	FACU	forb	AN	advent	CASA3		DI	adventive	FACU	FACU	FACU
Capsella bursa-pastoris	CAPBUR	(L.) Medik.	0	SHEPHERD'S-PURSE	Brassicaceae	FACU	forb	AN	advent	CABU2		DI	adventive	FACU	FACU	FACU
Cardamine angustata	CARANG	O.E. Schulz	7 syn	APPALACHIAN TOOTHWORT	Brassicaceae	FACU	forb	PE	shade	CAAN11		DI	native	FACU	FAC	FACU
Cardamine concatenata	CARCON	(Michx.) O. Schwarz	3 syn	CUT-LEAVED TOOTHWORT	Brassicaceae	FACU	forb	PE	shade	CACO26		DI	native	FACU	FACU	FACU
Cardamine diphylla	CARDIP	(Michx.) A.W. Wood	4 syn	TWO-LEAVED TOOTHWORT	Brassicaceae	FACU	forb	PE	shade	CADI10		DI	native	FACU	FACU	FACU
Cardamine dissecta	CARDIS	(Leavenw.) Al-Sheh.	7 syn	NARROW-LEAVED TOOTHWORT	Brassicaceae	(FACU+)	forb	PE	shade	CADI28	P	DI	native			
Cardamine douglassii	CARDOU	Britton	5	PURPLE SPRING CRESS	Brassicaceae	FACW+	forb	PE	shade	CADO		DI	native	FACW	FACW	FACW
Cardamine flexuosa	CARFLE	With.	0	BENDING BITTER CRESS	Brassicaceae	62 OBL	forb	PE	advent	CAFL14		DI	adventive	OBL	FACU	FAC
Cardamine hirsuta	CARHIR	L.	0	HOARY BITTER CRESS	Brassicaceae	FACU	forb	AN	advent	CAHI3		DI	adventive	FACU	FACU	FACU
Cardamine impatiens	CARIMP	L.	0	EUROPEAN BITTER CRESS	Brassicaceae	(UPL)	forb	AN	advent	CAIM		DI	adventive	FAC		

Cardamine parviflora	CARPAR	L.	2	DRY-LAND BITTER CRESS	Brassicaceae	63	FACU	forb	AN	full	CAPA12		DI	native	FACU	FAC	FAC
Cardamine pensylvanica	CARPEN	Muhl. ex Willd.	3	PENNSYLVANIA BITTER CRESS	Brassicaceae		OBL	forb	AN	partial	CAPE3		DI	native	OBL	FACW	FACW
Cardamine pratensis	CARPRA	L.	9	AMERICAN CUCKOO-FLOWER	Brassicaceae	64	OBL	forb	PE	partial	CAPR3	E	DI	native		FAC	
Cardamine rhomboidea	CARRHO	(Pers.) DC.	5 syn	SPRING CRESS	Brassicaceae		OBL	forb	PE	shade	CABU3		DI	native			
Cardamine rotundifolia	CARROT	Michx.	9	TRAILING BITTER CRESS	Brassicaceae		OBL	forb	PE	partial	CARO3		DI	native	OBL	OBL	OBL
Cardamine sp.	CARDAM	L.		BITTERCRESS	Brassicaceae		ND	forb	ND	ND	CARDA		DI				
Cardaria draba	CARDRA	(L.) Desv.	0	HOARY-CRESS	Brassicaceae		(UPL)	forb	PE	advent	CADR		DI	adventive			
Cardiospermum halicacabum	CARHAL	L.	0	BALLOON-VINE	Sapindaceae		FACU	vine	BI	advent	CAHA13		DI	adventive	FACU	FAC	FAC
Carduus acanthoides	CARACA	L.	0	SPINY PLUMELESS THISTLE	Asteraceae		(UPL)	forb	BI	advent	CAAC		DI	adventive			
Carduus nutans	CARNUT	L.	0	NODDING PLUMELESS THISTLE	Asteraceae		(UPL)	forb	BI	advent	CANU4		DI	adventive	UPL	FACU	FACU
Carduus sp.	CARDUU	L.		PLUMELESS THISTLE	Asteraceae		UPL	forb	BI	advent	CARDU		DI				
Carex X subimpressa	CXSUBI	Clokey	5	CLOKEY'S LAKE SEDGE	Cyperaceae	138	(OBL)	sedge	PE	partial	CASU14		MO	native		OBL	OBL
Carex aggregata	CXAGGR	Mack.	2 syn	GLOMERATE SEDGE	Cyperaceae	65	(UPL)	sedge	PE	full	CAAG2		MO	native			
Carex alata	CXALAT	Torr.	7	BROAD-WINGED SEDGE	Cyperaceae		OBL	sedge	PE	full	CAAL3	P	MO	native	OBL	OBL	OBL
Carex albicans Willd. ex Spreng. var. emmonsii	CXALBEE	(Dewey ex Torr.) Rettig	8 syn	EMMONS' SEDGE	Cyperaceae		(UPL)	sedge	PE	shade	CAALE		MO	native	UPL	UPL	UPL
Carex albicans var. albicans	CXALBAA	Willd. ex Spreng.	4 syn	OAK SEDGE	Cyperaceae		(UPL)	sedge	PE	shade	CAALA		MO	native	UPL	UPL	UPL
Carex albolutescens	CXALBO	Schwein.	7	PALE STRAW SEDGE	Cyperaceae	66	FACW	sedge	PE	shade	CAAL5	P	MO	native	FACW	FACW	FACW
Carex albursina	CXALBU	E. Sheld.	6	WING-STEMMED WOOD SEDGE	Cyperaceae		(UPL)	sedge	PE	shade	CAAL11		MO	native			
Carex alopecoidea	CXALOP	Tuck.	5	NORTHERN FOX SEDGE	Cyperaceae		FACW	sedge	PE	full	CAAL8	E	MO	native	FACW	FACW	FACW
Carex amphibola	CXAMPH	Steud.	5 syn	E. NARROW-LEAVED SEDGE	Cyperaceae	67	FAC	sedge	PE	shade	CAAM8		MO	native	FAC	FAC	FAC
Carex annectens	CXANNE	(E.P. Bicknell) E.P. Bicknell	3 syn	YELLOW FOX SEDGE	Cyperaceae	68	FACW	sedge	PE	full	CAAN6		MO	native	FACW	FACW	FACW
Carex appalachica	CXAPPA	J.M. Webber & P.W. Ball	8 syn	APPALACHIAN SEDGE	Cyperaceae	69	(UPL)	sedge	PE	shade	CAAP5		MO	native			
Carex aquatilis	CXAQUA	Wahlenb.	9	LEAFY TUSSOCK SEDGE	Cyperaceae	70	OBL	sedge	PE	full	CAAQ	P	MO	native	OBL	OBL	OBL
Carex arctata	CXARCT	W. Boott ex Hook.	10	DROOPING WOOD SEDGE	Cyperaceae		(UPL)	sedge	PE	shade	CAAR3	E	MO	native			
Carex argyrantha	CXARGY	Tuck.	10	SILVERY SEDGE	Cyperaceae	71	(FACU)	sedge	PE	full	CAAR4	T	MO	native			
Carex atherodes	CXATHE	Spreng.	7	WHEAT SEDGE	Cyperaceae		OBL	sedge	PE	full	CAAT2	P	MO	native	OBL	OBL	OBL
Carex atlantica L.H. Bailey subsp. capillacea	CXATLAC	(L.H. Bailey) Reznicek	9 syn	HOWE'S SEDGE	Cyperaceae		OBL	sedge	PE	full	CAATC	P	MO	native	FACW	FACW	FACW
Carex atlantica subsp. atlantica	CXATLAA	L.H. Bailey	8 syn	BOG SEDGE	Cyperaceae	72	FACW+	sedge	PE	full	CAATA2		MO	native	FACW	FACW	FACW
Carex aurea	CXAURE	Nutt.	7	GOLDEN-FRUITED SEDGE	Cyperaceae	73	FACW	sedge	PE	full	CAAU3	P	MO	native	FACW	FACW	FACW
Carex austrina	CXAUST	(Small) Mack.	0	SOUTHERN SEDGE	Cyperaceae	558	(UPL)	sedge	PE	advent	CAAU6		MO	adventive	FACU	FACU	
Carex bebbii	CXBEBB	Olney ex Fernald	7	BEBB'S SEDGE	Cyperaceae	74	OBL	sedge	PE	full	CABE2	P	MO	native	OBL	OBL	OBL
Carex bicknellii	CXBICK	Britton	9	BICKNELL'S SEDGE	Cyperaceae		FACU	sedge	PE	full	CABI3	T	MO	native	FAC	FACU	FAC
Carex blanda	CXBLAN	Dewey	1	COMMON WOOD SEDGE	Cyperaceae	75	FAC	sedge	PE	shade	CABL		MO	native	FAC	FAC	FAC
Carex brevior	CXBREV	(Dewey) Mack. ex Lunell	8	TUFTED-FESCUE SEDGE	Cyperaceae	76	UPL	sedge	PE	full	CABR10	T	MO	native	UPL	FAC	FAC
Carex bromoides	CXBROM	Schkuhr ex Willd.	7	BROME SEDGE	Cyperaceae	77	FACW	sedge	PE	shade	CABR14		MO	native	FACW	FACW	FACW
Carex brunnescens	CXBRUN	(Pers.) Poir.	9	BROWNISH SEDGE	Cyperaceae	78	FACW	sedge	PE	partial	CABR15	E	MO	native	FACW	FACW	FACW
Carex bushii	CXBUSH	Mack.	8	BUSH'S SEDGE	Cyperaceae	79	FACW	sedge	PE	shade	CABU5	T	MO	native	FACW	FAC	FAC
Carex buxbaumii	CXBUXB	Wahlenb.	8	BUXBAUM'S SEDGE	Cyperaceae		OBL	sedge	PE	full	CABU6		MO	native	OBL	OBL	OBL
Carex canescens	CXCANE	L.	7	GLAUCOUS SEDGE	Cyperaceae	80	OBL	sedge	PE	shade	CACA11		MO	native	OBL	OBL	OBL
Carex careyana	CXCARE	Torr. ex Dewey	7	CAREY'S SEDGE	Cyperaceae	81	(UPL)	sedge	PE	shade	CACA14		MO	native			
Carex caroliniana	CXCARO	Schwein.	4	CAROLINA SEDGE	Cyperaceae		FACU	sedge	PE	full	CACA15		MO	native	FACU	FACW	FAC
Carex cephaloidea	CXCPHLO	(Dewey) Dewey	7 syn	THIN-LEAVED SEDGE	Cyperaceae		FAC+	sedge	PE	shade	CACE2	P	MO	native	FAC	FACU	FACU
Carex cephalophora	CXCPHLA	Muhl. ex Willd.	5 syn	OVAL-HEADED SEDGE	Cyperaceae		FACU	sedge	PE	shade	CACE		MO	native	FACU	FACU	FACU
Carex cherokeensis	CXCHER	Schwein.	0	CHEROKEE SEDGE	Cyperaceae	559	(FACU)	sedge	PE	advent	CACH3		MO	adventive	FACW	FACW	
Carex communis	CXCOMM	L.H. Bailey	4	BEECH SEDGE	Cyperaceae	82	(UPL)	sedge	PE	partial	CACO7		MO	native			
Carex comosa	CXCOMO	Boott	2	BEARDED SEDGE	Cyperaceae		OBL	sedge	PE	full	CACO8		MO	native	OBL	OBL	OBL
Carex complanata	CXCOMP	Torr. & Hook.	5 syn	COASTAL-PLAIN HIRSUTE SEDGE	Cyperaceae	542	(FACU)	sedge	PE	partial	CACO9	A	MO	native	FACU	FACU	FACU
Carex conjuncta	CXCONJ	Boott	5	SOFT FOX SEDGE	Cyperaceae		FACW	sedge	PE	full	CACO13		MO	native	FACW	FACW	FACW
Carex conoidea	CXCONO	Schkuhr ex Willd.	8	FIELD SEDGE	Cyperaceae		FACU	sedge	PE	full	CACO14	T	MO	native	FACU	FACW	FACW
Carex crawei	CXCRAW	Dewey	8	CRAWE'S SEDGE	Cyperaceae		FACW	sedge	PE	full	CACR3		MO	native	FACW	FACW	FACW
Carex crinita Lam. var. brevicrinis	CXCRINB	Fernald	3	SHORT-FRINGED SEDGE	Cyperaceae	83	(OBL)	sedge	PE	shade	CACRB	T	MO	native	OBL	OBL	OBL
Carex crinita var. crinita	CXCRINC	Lam.	3	TASSELED SEDGE	Cyperaceae	84	OBL	sedge	PE	shade	CACRC2		MO	native	OBL	OBL	OBL
Carex cristatella	CXCRIS	Britton	3	CRESTED SEDGE	Cyperaceae	85	FACW	sedge	PE	full	CACR7		MO	native	FACW	FACW	FACW
Carex crus-corvi	CXCRUS	Shuttlew. ex Kunze	8	RAVEN-FOOT SEDGE	Cyperaceae		OBL	sedge	PE	shade	CACR8	P	MO	native	OBL	OBL	OBL
Carex cryptolepis	CXCRYP	Mack.	9	LITTLE YELLOW SEDGE	Cyperaceae		OBL	sedge	PE	full	CACR9	P	MO	native	OBL	OBL	OBL
Carex cumberlandensis	CXCUMB	Naczi% Cral & Bryson	6 syn	THICKET SEDGE	Cyperaceae	86	(FAC)	sedge	PE	shade	CACU26		MO	native			
Carex davisii	CXDAVI	Schwein & Torr.	5	DAVIS' SEDGE	Cyperaceae		FAC-	sedge	PE	shade	CADA		MO	native	FAC	FAC	FAC
Carex debilis Michx. var. rudgei	CXDEBIR	L.H. Bailey	8	RUDGE'S SEDGE	Cyperaceae	87	(FAC)	sedge	PE	shade	CADER		MO	native	FAC	FACW	FACW
Carex debilis var. debilis	CXDEBID	Michx.	7	WEAK SEDGE	Cyperaceae		FAC	sedge	PE	shade	CADED		MO	native	FAC	FACW	FACW
Carex decomposita	CXDECO	Muhl.	10	CYPRESS-KNEE SEDGE	Cyperaceae		OBL	sedge	PE	partial	CADE6	E	MO	native	OBL	OBL	OBL
Carex deweyana	CXDEWE	Schwein.	10	DEWEY'S SEDGE	Cyperaceae	88	FACU	sedge	PE	shade	CADE9	X	MO	native	FACU	FACU	FACU
Carex diandra	CXDIAN	Schrank	9	LESSER PANICLED SEDGE	Cyperaceae	89	OBL	sedge	PE	full	CADI4	T	MO	native	OBL	OBL	OBL
Carex digitalis	CXDIGI	Willd.	4	SLENDER WOOD SEDGE	Cyperaceae	90	(UPL)	sedge	PE	shade	CADI5		MO	native	UPL	UPL	UPL
Carex disperma	CXDISP	Dewey	10	TWO-SEEDED SEDGE	Cyperaceae		FACW+	sedge	PE	partial	CADI6	E	MO	native	FACW	OBL	OBL
Carex eburnea	CXEBUR	Boott	8	BRISTLE-LEAVED SEDGE	Cyperaceae		FACU	sedge	PE	shade	CAEB2		MO	native	FACU	FACU	FACU
Carex echinata	CXECHI	Murray	10	LITTLE PRICKLY SEDGE	Cyperaceae	91	OBL	sedge	PE	full	CAEC	E	MO	native	OBL	OBL	OBL

Carex emoryi	CXEMOR	Dewey	8	EMORY'S SEDGE	Cyperaceae	92	OBL	sedge	PE	partial	CAEM2		MO	native	OBL	OBL	OBL
Carex festucacea	CXFEST	Schkuhr ex Willd.	7	FESCUE SEDGE	Cyperaceae	93	FAC	sedge	PE	partial	CAFE3		MO	native	FAC	FACW	FAC
Carex flava	CXFLAV	L.	8	YELLOW SEDGE	Cyperaceae		OBL	sedge	PE	full	CAFL4	P	MO	native	OBL	OBL	OBL
Carex folliculata	CXFOLL	L.	7	LONG-FRUITED SEDGE	Cyperaceae		OBL	sedge	PE	partial	CAFO6		MO	native	OBL	OBL	OBL
Carex formosa	CXFORM	Dewey	10	HANDSOME SEDGE	Cyperaceae		FAC	sedge	PE	shade	CAFO4	X	MO	native	FAC	FAC	FAC
Carex frankii	CXFRAN	Kunth	2	FRANK'S SEDGE	Cyperaceae		OBL	sedge	PE	full	CAFR3		MO	native	OBL	OBL	OBL
Carex garberi	CXGARB	Fernald	9	GARBER'S SEDGE	Cyperaceae	94	FACW	sedge	PE	partial	CAGA3	E	MO	native		FACW	FACW
Carex gigantea	CXGIGA	Rudge	9	LARGE SEDGE	Cyperaceae	560	OBL	sedge	PE	shade	CAGI4	E	MO	native	OBL	OBL	
Carex glaucodea	CXGLAU	Tuck. ex Olney	5 syn	BLUE-GREEN SEDGE	Cyperaceae	95	FAC	sedge	PE	shade	CAGL6		MO	native	FAC	FAC	FAC
Carex gracilescens	CXGRCLE	Steud.	3	SLENDER WOOD SEDGE	Cyperaceae		(UPL)	sedge	PE	shade	CAGR8		MO	native			
Carex gracillima	CXGRCLI	Schwein.	4	GRACEFUL SEDGE	Cyperaceae		FACU	sedge	PE	shade	CAGR2		MO	native	FACU	FACU	FACU
Carex granularis	CXGRAN	Muhl. ex Willd.	3	MEADOW SEDGE	Cyperaceae	96	FACW+	sedge	PE	full	CAGR3		MO	native	FACW	FACW	FACW
Carex grayi	CXGRAY	J. Carey	5	GRAY'S SEDGE	Cyperaceae	97	FACW+	sedge	PE	shade	CAGR5		MO	native	FACW	FACW	FACW
Carex grisea	CXGRIS	Wahlenb.	4 syn	NARROW-LEAVED SEDGE	Cyperaceae	98	(FAC)	sedge	PE	shade	CAGR24		MO	native	FACU	FAC	FAC
Carex gynandra	CXGYNA	Schwein.	6 syn	NODDING SEDGE	Cyperaceae	99	OBL	sedge	PE	shade	CAGY4	E	MO	native	OBL	FACW	OBL
Carex haydenii	CXHAYD	Dewey	7	HAYDEN'S SEDGE	Cyperaceae	100	OBL	sedge	PE	partial	CAHA7	X	MO	native	OBL	OBL	OBL
Carex hirsutella	CXHIRS	Mack.	2 syn	HIRSUTE SEDGE	Cyperaceae	543	FACU	sedge	PE	partial	CAHI6		MO	native			
Carex hirtifolia	CXHIRT	Mack.	3	HAIRY-LEAVED SEDGE	Cyperaceae		(UPL)	sedge	PE	shade	CAHI5		MO	native			
Carex hitchcockiana	CXHITC	Dewey	7	HITCHCOCK'S SEDGE	Cyperaceae	101	(UPL)	sedge	PE	shade	CAHI8		MO	native			
Carex hyalinolepis	CXHYAL	Steud.	5	SWEET MARSH SEDGE	Cyperaceae		OBL	sedge	PE	partial	CAHY3		MO	native	OBL	OBL	OBL
Carex hystericina	CXHYST	Muhl. ex Willd.	5	PORCUPINE SEDGE	Cyperaceae		OBL	sedge	PE	full	CAHY4		MO	native	OBL	OBL	OBL
Carex interior	CXINTE	L.H. Bailey	8	INTERIOR SEDGE	Cyperaceae		OBL	sedge	PE	full	CAIN11		MO	native	OBL	OBL	OBL
Carex intumescens	CXINTU	Rudge	5	BLADDER SEDGE	Cyperaceae		FACW+	sedge	PE	shade	CAIN12		MO	native	FACW	FACW	FACW
Carex jamesii	CXJAME	Schwein.	6	JAMES' SEDGE	Cyperaceae		(UPL)	sedge	PE	shade	CAJA2		MO	native			
Carex juniperorum	CXJUNI	Catling% Reznicek% & Crins	10	JUNIPER SEDGE	Cyperaceae		(UPL)	sedge	PE	partial	CAJU2		MO	native			
Carex kraliana	CXKRAL	Naczi & Bryson	4	KRAL'S SEDGE	Cyperaceae	102	(FACU)	sedge	PE	shade			MO	native			
Carex lacustris	CXLACU	Willd.	5	LAKE SEDGE	Cyperaceae		OBL	sedge	PE	partial	CALA16		MO	native	OBL	OBL	OBL
Carex laevivaginata	CXLAEV	(Kuk.) Mack.	6	SMOOTH-SHEATHED FOX SEDGE	Cyperaceae		OBL	sedge	PE	shade	CALA14		MO	native	OBL	OBL	OBL
Carex lasiocarpa	CXLASI	Ehrh.	8 syn	QUILL-LEAVED SEDGE	Cyperaceae	103	OBL	sedge	PE	full	CALA11	P	MO	native	OBL	OBL	OBL
Carex laxiculmis	CXLAXC	Schwein.	3	SPREADING SEDGE	Cyperaceae	104	(UPL)	sedge	PE	shade	CALA18		MO	native			
Carex laxiflora	CXLAXF	Lam.	3	TWO-EDGED WOOD SEDGE	Cyperaceae	105	FACU	sedge	PE	shade	CALA19		MO	native	FACU	UPL	UPL
Carex leavenworthii	CXLEAV	Dewey	3	LEAVENWORTH'S SEDGE	Cyperaceae	106	(UPL)	sedge	PE	partial	CALE6		MO	native			
Carex leptalea	CXLEPTA	Wahlenb.	7	DELICATE SEDGE	Cyperaceae		OBL	sedge	PE	full	CALE10		MO	native	OBL	OBL	OBL
Carex leptonervia	CXLPTON	(Fernald) Fernald	4	NERVELESS WOOD SEDGE	Cyperaceae		FACW	sedge	PE	shade	CALE11		MO	native	FACW	FAC	FAC
Carex limosa	CXLIM	L.	10	MUD SEDGE	Cyperaceae	109	OBL	sedge	PE	full	CALI7	E	MO	native	OBL	OBL	OBL
Carex longii	CXLONG	Mack.	10	LONG'S SEDGE	Cyperaceae		OBL	sedge	PE	full	CALO5	E	MO	native	OBL	OBL	OBL
Carex louisianica	CXLOUS	L.H. Bailey	10	LOUISIANA SEDGE	Cyperaceae		OBL	sedge	PE	shade	CALO6	E	MO	native	OBL	OBL	OBL
Carex lucorum	CXLUCO	Willd. ex Link	9	FIRE SEDGE	Cyperaceae	107	(UPL)	sedge	PE	full	CALU17	E	MO	native			
Carex lupuliformis	CXLUPF	Sartwell ex Dewey	9	FALSE HOP SEDGE	Cyperaceae		FACW+	sedge	PE	partial	CALU3	P	MO	native	FACW	OBL	OBL
Carex lupulina	CXLUPL	Muhl. ex Willd.	3	HOP SEDGE	Cyperaceae		OBL	sedge	PE	full	CALU4		MO	native	OBL	OBL	OBL
Carex lurida	CXLURI	Wahlenb.	3	BOTTLEBRUSH SEDGE	Cyperaceae	108	OBL	sedge	PE	full	CALU5		MO	native	OBL	OBL	OBL
Carex meadii	CXMEAD	Dewey	7 syn	MEAD'S SEDGE	Cyperaceae	110	FAC	sedge	PE	full	CAME2		MO	native	FAC	FAC	FAC
Carex merritt-fernaldii	CXMERF	Mack.	10	FERNALD'S SEDGE	Cyperaceae	111	(UPL)	sedge	PE	full	CAME12	E	MO	native			
Carex mesochorea	CXMESO	Mack.	6 syn	MIDLAND SEDGE	Cyperaceae		(UPL)	sedge	PE	full	CAME13	E	MO	native			
Carex mitchelliana	CXMITC	M.A. Curtis	6 syn	MITCHELL'S SEDGE	Cyperaceae	550	(FACW)	sedge	PE	shade	CAMI18	E	MO	native	OBL		OBL
Carex molesta	CXMOLE	Mack. ex Bright	3	TROUBLESOME SEDGE	Cyperaceae	112	(FACU)	sedge	PE	full	CAMO11		MO	native	FAC	FAC	FAC
Carex molestiformis	CXMOLS	Reznicek & P.E. Rothrock	0	FRIGHTFUL SEDGE	Cyperaceae		(UPL)	sedge	PE	full	CAMO35	A	MO	adventive			
Carex muehlenbergii	CXMUHL	Schkuhr ex Willd.	7	MUHLENBERG'S SEDGE	Cyperaceae	113	(UPL)	sedge	PE	full	CAMU4		MO	native			
Carex muskingumensis	CXMUSK	Schwein.	7	MUSKINGUM SEDGE	Cyperaceae		OBL	sedge	PE	shade	CAMU9		MO	native	OBL	OBL	OBL
Carex nigromarginata	CXNIGR	Schwein.	8	BLACK-MARGINED SEDGE	Cyperaceae		(UPL)	sedge	PE	partial	CANI3		MO	native	UPL	UPL	UPL
Carex normalis	CXNORM	Mack.	4	LARGE STRAW SEDGE	Cyperaceae		FACU	sedge	PE	shade	CANO		MO	native	FACU	FACW	FACW
Carex oligocarpa	CXOLIGC	Schkuhr ex Willd.	6	FEW-FRUITED SEDGE	Cyperaceae		(UPL)	sedge	PE	shade	CAOL2		MO	native			
Carex oligosperma	CXOLIGS	Michx.	10	FEW-SEEDED SEDGE	Cyperaceae		OBL	sedge	PE	shade	CAOL3	T	MO	native	OBL	OBL	OBL
Carex pallescens	CXPALL	L.	5	PALE SEDGE	Cyperaceae		(FACU)	sedge	PE	full	CAPA17	P	MO	native	FACW	FACW	FAC
Carex peckii	CXPECK	Howe	10	PECK'S SEDGE	Cyperaceae		(UPL)	sedge	PE	shade	CAPE11	X	MO	native			
Carex pedunculata	CXPEDU	Muhl. ex Willd.	7	LONG-STALKED SEDGE	Cyperaceae		(UPL)	sedge	PE	shade	CAPE4		MO	native	OBL	OBL	FACU
Carex pellita	CXPELL	Muhl.	6 syn	WOOLLY SEDGE	Cyperaceae		OBL	sedge	PE	full	CAPE42		MO	native	OBL	OBL	OBL
Carex pensylvanica	CXPENS	Lam.	3	PENNSYLVANIA SEDGE	Cyperaceae		(UPL)	sedge	PE	shade	CAPE6		MO	native			
Carex planispicata	CXPLAN	Naczi	6 syn	FLAT-SPIKED SEDGE	Cyperaceae	114	(FACU)	sedge	PE	shade	CAPL18	P	MO	native			
Carex plantaginea	CXPLNT	Lam.	8	PLANTAIN SEDGE	Cyperaceae	115	(FACU-)	sedge	PE	shade	CAPL4		MO	native			
Carex platyphylla	CXPLAT	J. Carey	6	BROAD-LEAVED WOOD SEDGE	Cyperaceae	116	(UPL)	sedge	PE	shade	CAPL5		MO	native			
Carex praegracilis	CXPRAE	Boott	0	FREEWAY SEDGE	Cyperaceae	117	UPL	sedge	PE	advent	CAPR5		MO	adventive	UPL	FACW	FACW
Carex prairea	CXPRAI	Dewey ex A.W. Wood	9	PRAIRIE SEDGE	Cyperaceae		FACW	sedge	PE	full	CAPR6		MO	native	FACW	OBL	FACW
Carex prasina	CXPRAS	Wahlenb.	8	DROOPING SEDGE	Cyperaceae		OBL	sedge	PE	shade	CAPR12		MO	native	OBL	OBL	OBL
Carex projecta	CXPROJ	Mack.	8	NECKLACE SEDGE	Cyperaceae	118	FACW	sedge	PE	partial	CAPR9	T	MO	native	FACW	FACW	FACW
Carex pseudocyperus	CXPSEU	L.	6	NORTHERN BEARDED SEDGE	Cyperaceae	119	OBL	sedge	PE	full	CAPS	E	MO	native	OBL	OBL	OBL

Carex purpurifera	CXPURP	Mack.	9	PURPLE WOOD SEDGE	Cyperaceae	(UPL)	sedge	PE	shade	CAPU12	T	MO	native			
Carex radiata	CXRADI	(Wahlenb.) Small	6 syn	RADIATE SEDGE	Cyperaceae	120 (FAC)	sedge	PE	shade	CARA8		MO	native	FAC		FAC
Carex retroflexa	CXRTRF	Muhl. ex Willd.	4 syn	REFLEXED SEDGE	Cyperaceae	121 (UPL)	sedge	PE	full	CARE9	P	MO	native	FACU		
Carex retrorsa	CXRTRS	Schwein.	9	REFLEXED BLADDER SEDGE	Cyperaceae	122 FACW+	sedge	PE	full	CARE4	E	MO	native	FACW	OBL	OBL
Carex reznicekii	CXREZN	Werier	7	REZNICEK'S SEDGE	Cyperaceae	549 (UPL)	sedge	PE	partial		E	MO	native			
Carex richardsonii	CXRICH	R. Br.	10	RICHARDSON'S SEDGE	Cyperaceae	(UPL)	sedge	PE	shade	CARI	X	MO	native	UPL	UPL	UPL
Carex rosea	CXROSE	Schkuhr ex Willd.	3 syn	ROSE SEDGE	Cyperaceae	(UPL)	sedge	PE	shade	CARO22		MO	native	FACU		
Carex sartwellii	CXSART	Dewey	8	SARTWELL'S SEDGE	Cyperaceae	OBL	sedge	PE	full	CASA8		MO	native	OBL	FACW	OBL
Carex scabrata	CXSCAB	Schwein.	6	ROUGH SEDGE	Cyperaceae	OBL	sedge	PE	partial	CASC13		MO	native	OBL	OBL	OBL
Carex scoparia	CXSCOP	Schkuhr ex Willd.	3	POINTED BROOM SEDGE	Cyperaceae	123 FACW	sedge	PE	full	CASC11		MO	native	FACW	FACW	FACW
Carex seorsa	CXSEOR	Howe	7	WEAK STELLATE SEDGE	Cyperaceae	FACW	sedge	PE	shade	CASE6		MO	native	FACW	FACW	FACW
Carex shortiana	CXSHOR	Dewey	2	SHORT'S SEDGE	Cyperaceae	FAC	sedge	PE	full	CASH2		MO	native	FAC	FACW	FACW
Carex siccata	CXSICC	Dewey	8 syn	HAY SEDGE	Cyperaceae	124 (UPL)	sedge	PE	full	CASI12	E	MO	native	FACU	UPL	UPL
Carex sp.	CAREX	L.		SEDGE	Cyperaceae	ND	sedge	PE	ND	CAREX		MO	native			
Carex sp2.	CAREX	L.		SEDGE	Cyperaceae	ND	sedge	PE	ND	CAREX		MO	native			
Carex sp3.	CAREX	L.		SEDGE	Cyperaceae	ND	sedge	PE	ND	CAREX		MO	native			
Carex sp4.	CAREX	L.		SEDGE	Cyperaceae	ND	sedge	PE	ND	CAREX		MO	native			
Carex sp5.	CAREX	L.		SEDGE	Cyperaceae	ND	sedge	PE	ND	CAREX		MO	native			
Carex sparganioides	CXSPAR	Muhl. ex Willd.	3 syn	BUR-REED SEDGE	Cyperaceae	FACU	sedge	PE	shade	CASP3		MO	native	FACU	FAC	FACU
Carex spicata	CXSPIC	Huds.	0	SPIKED SEDGE	Cyperaceae	(UPL)	sedge	PE	advent	CASP10		MO	adventive	FAC	FACU	FACU
Carex sprengelii	CXSPRE	Dewey ex Spreng.	8	SPRENGEL'S SEDGE	Cyperaceae	125 FACU	sedge	PE	shade	CASP7	T	MO	native	FACU	FAC	FAC
Carex squarrosa	CXSQUA	L.	4	SQUARROSE SEDGE	Cyperaceae	FACW	sedge	PE	shade	CASQ2		MO	native	FACW	OBL	OBL
Carex sterilis	CXSTER	Willd.	8	FEN SEDGE	Cyperaceae	OBL	sedge	PE	full	CAST16		MO	native	OBL	OBL	OBL
Carex stipata	CXSTIP	Muhl. ex Willd.	2	CROWDED SEDGE	Cyperaceae	126 OBL	sedge	PE	partial	CAST5		MO	native	OBL	OBL	OBL
Carex straminea	CXSTRM	Willd. ex Schkuhr	4	STRAW SEDGE	Cyperaceae	OBL	sedge	PE	full	CAST6	P	MO	native	OBL	OBL	OBL
Carex striatula	CXSTRT	Michx.	5	LINED SEDGE	Cyperaceae	127 (UPL)	sedge	PE	shade	CAST17	E	MO	native			
Carex stricta	CXSTRC	Lam.	5	TUSSOCK SEDGE	Cyperaceae	128 OBL	sedge	PE	full	CAST8		MO	native	OBL	OBL	OBL
Carex styloflexa	CXSTYL	Buckley	8	LOWLAND WOOD SEDGE	Cyperaceae	FACW-	sedge	PE	shade	CAST9	X	MO	native	FACW	FAC	FAC
Carex suberecta	CXSUBE	(Olney) Britton	8	PRAIRIE STRAW SEDGE	Cyperaceae	OBL	sedge	PE	full	CASU5		MO	native	OBL	OBL	OBL
Carex swanii	CXSWAN	(Fernald) Mack.	4	SWAN'S SEDGE	Cyperaceae	FACU	sedge	PE	shade	CASW		MO	native	FACU	FACU	FACU
Carex tenera Dewey var. echinodes	CXTENE	(Fernald) Wiegand	6	BRISTLY SLENDER SEDGE	Cyperaceae	129 (FAC)	sedge	PE	shade	CATE3		MO	native	FAC	FACW	FAC
Carex tenera var. tenera	CXTENT	Dewey	8	SLENDER SEDGE	Cyperaceae	130 (FAC)	sedge	PE	shade	CATE3		MO	native	FAC	FACW	FAC
Carex tenuiflora	CXTENU	Wahlenb.	10	THIN-FLOWERED SEDGE	Cyperaceae	OBL	sedge	PE	full	CATE5	X	MO	native	OBL	OBL	OBL
Carex tetanica	CXTETA	Schkuhr	7 syn	RIGID SEDGE	Cyperaceae	131 FACW	sedge	PE	full	CATE6		MO	native	FACW	FACW	FACW
Carex texensis	CXTEXE	(Torr. ex L.H. Bailey) L.H. Bailey	0 syn	TEXAS SEDGE	Cyperaceae	132 (UPL)	sedge	PE	advent	CATE7		MO	adventive			
Carex timida	CXTIMI	Naczi & B.A. Ford	5	TIMID SEDGE	Cyperaceae	(UPL)	sedge	PE	shade	CATI6	T	MO	native			
Carex tonsa	CXTONS	(Fernald) E.P. Bicknell	8 syn	LOW SAND SEDGE	Cyperaceae	133 (UPL)	sedge	PE	full	CATO10		MO	native			
Carex torta	CXTORT	Boott ex Tuck.	8	TWISTED SEDGE	Cyperaceae	FACW	sedge	PE	full	CATO4		MO	native	FACW	OBL	OBL
Carex tribuloides	CXTRIB	Wahlenb.	4	BLUNT BROOM SEDGE	Cyperaceae	134 FACW+	sedge	PE	partial	CATR7		MO	native	FACW	OBL	FACW
Carex trichocarpa	CXTRIC	Willd.	8	HAIRY-FRUITED SEDGE	Cyperaceae	OBL	sedge	PE	full	CATR8		MO	native	OBL	OBL	OBL
Carex trisperma	CXTRIS	Dewey	8	THREE-SEEDED SEDGE	Cyperaceae	OBL	sedge	PE	shade	CATR10		MO	native	OBL	OBL	OBL
Carex tuckermanii	CXTUCK	Dewey	8	TUCKERMAN'S SEDGE	Cyperaceae	OBL	sedge	PE	shade	CATU2		MO	native	OBL	OBL	OBL
Carex typhina	CXTYPH	Michx.	5	CAT-TAIL SEDGE	Cyperaceae	FACW+	sedge	PE	shade	CATY		MO	native	FACW	OBL	OBL
Carex umbellata	CXUMBE	Schkuhr ex Willd.	4	CLUSTERED SEDGE	Cyperaceae	(UPL)	sedge	PE	full	CAUM4		MO	native			
Carex utriculata	CXUTRI	Boott	7 syn	BEAKED SEDGE	Cyperaceae	135 (OBL)	sedge	PE	full	CAUT		MO	native	OBL	OBL	OBL
Carex vesicaria	CXVESI	L.	7	INFLATED SEDGE	Cyperaceae	136 OBL	sedge	PE	partial	CAVE6		MO	native	OBL	OBL	OBL
Carex virescens	CXVIRE	Muhl. ex Willd.	6	GREENISH SEDGE	Cyperaceae	(FACU)	sedge	PE	shade	CAVI4		MO	native			
Carex viridula	CXVIRI	Michx.	8	LITTLE GREEN SEDGE	Cyperaceae	137 OBL	sedge	PE	full	CAVI5	P	MO	native	OBL	OBL	OBL
Carex vulpinoidea	CXVULP	Michx.	1 syn	FOX SEDGE	Cyperaceae	OBL	sedge	PE	full	CAVU2		MO	native	OBL	FACW	OBL
Carex willdenowii	CXWILL	Schkuhr ex Willd.	6	WILLDENOW'S SEDGE	Cyperaceae	UPL	sedge	PE	shade	CAWI2		MO	native	UPL	FACU	UPL
Carex woodii	CXWOOD	Dewey	7	WOOD'S SEDGE	Cyperaceae	UPL	sedge	PE	shade	CAWO2		MO	native	UPL	FAC	FACU
Carpinus caroliniana	CRPCAR	Walter	5	BLUE-BEECH	Betulaceae	139 FAC	sm tree	W	shade	CACA18		DI	native	FAC	FAC	FAC
Carum carvi	CARCAR	L.	0	CARAWAY	Apiaceae	(UPL)	forb	BI	advent	CACA19		DI	adventive	UPL	FACU	UPL
Carya cordiformis	CARCOR	(Wangenh.) K. Koch	5	BITTERNUT HICKORY	Juglandaceae	FACU+	tree	W	tree	CACO15		DI	native	FACU	FACU	FAC
Carya glabra	CARGLA	(Mill.) Sweet	5	PIGNUT HICKORY	Juglandaceae	FACU-	tree	W	tree	CAGL8		DI	native	FACU	FACU	FACU
Carya illinoensis	CARILL	(Wangenh.) K. Koch	0	PECAN	Juglandaceae	FACU	tree	W	advent	CAIL2		DI	adventive	FACU	FACW	FACW
Carya laciniosa	CARLAC	(F. Michx.) Loudon	7	SHELLBARK HICKORY	Juglandaceae	FAC	tree	W	tree	CALA21		DI	native	FAC	FACW	FACW
Carya ovalis	CAROVL	(Wangenh.) Sarg.	5	SWEET PIGNUT HICKORY	Juglandaceae	140 (UPL)	tree	W	tree	CAOV3		DI	native	FACU	FACU	FACU
Carya ovata	CAROVT	(Miller) K. Koch	6	SHAGBARK HICKORY	Juglandaceae	FACU-	tree	W	tree	CAOV2		DI	native	FACU	FACU	FACU
Carya sp.	CARYA	Nutt.		HICKORY	Juglandaceae	ND	tree	W	tree	CARYA		DI				
Carya tomentosa	CARTOM	(Poir.) Nutt.	6	MOCKERNUT HICKORY	Juglandaceae	(UPL)	tree	W	tree	CAAL27		DI	native			
Castanea dentata	CASDEN	(Marshall) Borkh.	6	AMERICAN CHESTNUT	Fagaceae	(UPL)	tree	W	tree	CADE12	P	DI	native			
Castanea pumila	CASPUM	(L.) Miller	0	CHINQUAPIN	Fagaceae	(UPL)	tree	W	advent	CAPU9		DI	adventive			
Castilleja coccinea	CASCOC	(L.) Spreng.	6	INDIAN PAINTBRUSH	Scrophulariaceae	FAC	forb	AN	full	CACO17		DI	native	FAC	FAC	FAC
Catalpa bignoniodes	CATBIG	Walter	0	SOUTHERN CATALPA	Bignoniaceae	UPL	tree	W	advent	CABI8		DI	adventive			
Catalpa ovata	CATOVA	G. Don	0	CHINESE CATALPA	Bignoniaceae	(UPL)	tree	W	advent	CAOV5		DI	adventive			

Catalpa sp.	CATALP	Scop.		CATALPA	Bignoniaceae	ND	tree	W	advent	CATAL		DI				
Catalpa speciosa	CATSPE	(Warder) Warder ex Engelm.	0	NORTHERN CATALPA	Bignoniaceae	FAC	tree	W	advent	CASP8		DI	adventive	FAC	FACU	FACU
Caulophyllum thalictroides	CAUTHA	(L.) Michx.	7	BLUE COHOSH	Berberidaceae	141 (UPL)	forb	PE	shade	CATH2		DI	native			
Ceanothus americanus	CEAAME	L.	5	NEW JERSEY TEA	Rhamnaceae	142 (UPL)	shrub	W	full	CEAM		DI	native			
Ceanothus herbaceus	CEAHER	Raf.	9	PRAIRIE-REDROOT	Rhamnaceae	(UPL)	shrub	W	full	CEHE	X	DI	native			
Celastrus orbiculatus	CELORB	Thunb.	0	ORIENTAL BITTERSWEET	Celastraceae	FACU	vine	W	advent	CEOR7		DI	adventive	FACU	UPL	UPL
Celastrus scandens	CELSCA	L.	2	BITTERSWEET	Celastraceae	FACU-	vine	W	shade	CESC		DI	native	FACU	FACU	FACU
Celosia argentea	CELARG	L.	0	COCK'S COMB	Amaranthaceae	(UPL)	forb	AN	advent	CEAR3		DI	adventive	FACU	UPL	UPL
Celtis laevigata	CELLAE	Willd.	5	SUGARBERRY	Ulmaceae	545 FACW	tree	W	tree	CELA	A	DI	native	FACW	FACW	
Celtis occidentalis	CELOCC	L.	4	HACKBERRY	Ulmaceae	143 FACU	tree	W	tree	CEOC		DI	native	FACU	FAC	FAC
Celtis sp.	CELTIS	L.		HACBERRY	Ulmaceae	ND	tree	W	tree	CELTI		DI				
Celtis tenuifolia	CELTEN	Nutt.	8	DWARF HACKBERRY	Ulmaceae	144 (UPL)	tree	W	tree	CETE		DI	native			
Cenchrus longispinus	CENLON	(Hack.) Fernald	3 syn	COMMON SANDBUR	Poaceae	(UPL)	grass	AN	full	CELO3		MO	native	UPL	UPL	UPL
Centaurea cyanus	CENCYA	L.	0	CORNFLOWER	Asteraceae	(UPL)	forb	AN	advent	CECY2		DI	adventive	FACU	FACU	UPL
Centaurea dubia	CENDUB	Suter	0 syn	SHORT-FRINGED KNAPWEED	Asteraceae	(UPL)	forb	PE	advent	CETR6		DI	adventive			
Centaurea jacea	CENJAC	L.	0	BROWN KNAPWEED	Asteraceae	(UPL)	forb	PE	advent	CEJA		DI	adventive			FACU
Centaurea maculosa	CENMAC	Lam.	0 syn	SPOTTED KNAPWEED	Asteraceae	(UPL)	forb	BI	advent	CESTM		DI	adventive			
Centaurea nigra	CENNIG	L.	0	BLACK KNAPWEED	Asteraceae	(UPL)	forb	PE	advent	CENI2		DI	adventive			
Centaurea repens	CENREP	L.	0	RUSSIAN KNAPWEED	Asteraceae	(UPL)	forb	PE	advent	ACRE3		DI	adventive			
Centaurea scabiosa	CENSCA	L.	0	HARD-HEADS	Asteraceae	(UPL)	forb	PE	advent	CESC2		DI	adventive			
Centaurea solstitialis	CENSOL	L.	0	YELLOW STAR-THISTLE	Asteraceae	(UPL)	forb	AN	advent	CESO3		DI	adventive			
Centaurea sp.	CENTAU	L.		KNAPWEED	Asteraceae	UPL	forb	ND	advent	CENTA		DI				
Centaurium erythraea	CENERY	Raf.	0	FORKING CENTAURY	Asteraceae	(UPL)	forb	BI	advent	CEER5		DI	adventive	FAC	FACU	FAC
Centaurium pulchellum	CENPUL	(Sw.) Druce	0	BRANCHING CENTAURY	Gentianaceae	FAC	forb	AN	advent	CEPU3		DI	adventive	FAC	FACU	FAC
Centunculus minimus	CENMIN	L.	8 syn	CHAFFWEED	Primulaceae	FACW	forb	AN	full	ANMI4	X	DI	native	FACW	FACW	FACU
Cephalanthus occidentalis	CEPOCC	L.	6	BUTTONBUSH	Rubiaceae	145 OBL	shrub	W	full	CEOC2		DI	native	OBL	OBL	OBL
Cerastium arvense	CERARV	L.	2	FIELD CHICKWEED	Caryophyllaceae	UPL	forb	PE	full	CEAR4		DI	native	UPL	FACU	FACU
Cerastium brachypetalum	CERBRA	Pers.	0	GRAY CHICKWEED	Caryophyllaceae	(UPL)	forb	AN	advent	CEBR2		DI	adventive			
Cerastium nutans	CERNUT	Raf.	3	NODDING MOUSE-EAR CHICKWEED	Caryophyllaceae	146 FAC	forb	AN	full	CENU2		DI	native	FAC	FACU	FACU
Cerastium pumilum	CERPUM	Curtis	0	CURTIS' MOUSE-EAR CHICKWEED	Caryophyllaceae	(UPL)	forb	AN	advent	CEPU4		DI	adventive			
Cerastium semidecandrum	CERSEM	L.	0	SMALL MOUSE-EAR CHICKWEED	Caryophyllaceae	(UPL)	forb	AN	advent	CESE4		DI	adventive			
Cerastium sp.	CERAST	L.		CHICKWEED	Caryophyllaceae	ND	forb	ND	ND	CERAS		DI				
Cerastium tomentosum	CERTOM	L.	0	SNOW-IN-SUMMER	Caryophyllaceae	(FACU)	forb	AN	advent	CETO2		DI	adventive			
Cerastium viscosum	CERVIS	L.	0 syn	CLAMMY CHICKWEED	Caryophyllaceae	(UPL)	forb	AN	advent	CEGL2		DI	adventive	UPL	FACU	FACU
Cerastium vulgatum	CERVUL	L.	0 syn	COMMON CHICKWEED	Caryophyllaceae	147 FACU-	forb	PE	advent	CEFOV2		DI	adventive	FACU	FACU	FACU
Ceratophyllum demersum	CERDEM	L.	2	COONTAIL	Ceratophyllaceae	OBL	forb	PE	full	CEDE4		DI	native	OBL	OBL	OBL
Ceratophyllum echinatum	CERECH	A. Gray	8	PRICKLY HORNWORT	Ceratophyllaceae	(OBL)	forb	PE	full	CEEC2		DI	native	OBL	OBL	OBL
Ceratophyllum sp.	CERATO	L.		HORNWORT	Ceratophyllaceae	OBL	forb	PE	full	CERAT		DI	adventive			
Cercis canadensis	CERCAN	L.	3	REDBUD	Caesalpiniaceae	FACU-	sm tree	W	shade	CECA4		DI	native	FACU	FACU	FACU
Chaenomeles lagenaria	CHALAG	(Loisel.) Koidz.	0	JAPANESE QUINCE	Rosaceae	(UPL)	shrub	W	advent	CHSP12		DI	adventive			
Chaenorrhinum minus	CHAMIN	(L.) Lange	0	DWARF SNAPDRAGON	Scrophulariaceae	(UPL)	forb	AN	advent	CHMI		DI	adventive			
Chaerophyllum procumbens	CHAPRO	(L.) Crantz	4	WILD CHERVIL	Apiaceae	148 FACW	forb	AN	shade	CHPR		DI	native	FACW	FACW	FAC
Chamaecrista fasciculata	CHAFAS	(Michx.) Greene	3 syn	PARTRIDGE-PEA	Fabaceae	FACU	forb	AN	full	CHFA2		DI	native	FACU	FACU	FACU
Chamaecrista nictitans	CHANIC	(L.) Moench	4 syn	WILD SENSITIVE PLANT	Fabaceae	FACU-	forb	AN	full	CHNI2		DI	native	FACU	FACU	FACU
Chamaecrista sp.	CHAMAE	Moench		SENSITIVE PEA	Fabaceae	ND	forb	AN	full	CHAMA17		DI				
Chamaedaphne calyculata	CHACAL	(L.) Moench	9	LEATHER-LEAF	Ericaceae	149 OBL	shrub	W	full	CHCA2	P	DI	native	OBL	OBL	OBL
Chamaelirium luteum	CHALUT	(L.) A. Gray	7	DEVIL'S BIT	Liliaceae	FAC	forb	PE	shade	CHLU		MO	native	FAC	FACU	FACU
Chasmanthium latifolium	CHALAT	(Michx.) H.O. Yates	7 syn	WILD RIVER OATS	Poaceae	FACU	grass	PE	partial	CHLA5		MO	native	FACU	FACW	FACW
Chelidonium majus	CHEMAJ	L.	0	CELANDINE	Papaveraceae	UPL	forb	BI	advent	CHMA2		DI	adventive	UPL	UPL	UPL
Chelone glabra	CHEGLA	L.	6	TURTLEHEAD	Scrophulariaceae	150 OBL	forb	PE	partial	CHGL2		DI	native	OBL	OBL	OBL
Chenopodium album	CHEALB	L.	0	LAMB'S-QUARTERS	Chenopodiaceae	151 FACU+	forb	AN	advent	CHAL7		DI	adventive	FACU	FACU	FACU
Chenopodium ambrosioides	CHEAMB	L.	0	MEXICAN-TEAW	Chenopodiaceae	FACU	forb	AN	advent	CHAM		DI	adventive	FACU	FAC	FACU
Chenopodium berlandieri	CHEBER	Moq.	1	PITSEED GOOSEFOOT	Chenopodiaceae	152 (UPL)	forb	AN	full	CHBE4		DI	native			
Chenopodium botrys	CHEBOT	L.	0	JERUSALEM-OAK	Chenopodiaceae	UPL	forb	AN	advent	CHBO2		DI	adventive	UPL	FACU	FACU
Chenopodium capitatum	CHECAP	(L.) Asch.	2	STRAWBERRY-BLITE	Chenopodiaceae	(UPL)	forb	AN	full	CHCA4	X	DI	native			
Chenopodium glaucum	CHEGLA	L.	0	OAK-LEAVED GOOSEFOOT	Chenopodiaceae	FACW-	forb	AN	advent	CHGL3		DI	adventive	FACW	FACW	FACW
Chenopodium incanum	CHEINC	(S. Watson) A. Heller	0	HOARY GOOSEFOOT	Chenopodiaceae	(UPL)	forb	AN	advent	CHIN2		DI	adventive			
Chenopodium leptophyllum	CHELEP	(Moq.) Nutt. ex S. Watson	2	SLENDER GOOSEFOOT	Chenopodiaceae	153 FAC	forb	AN	full	CHLE4	X	DI	native		FACU	FACU
Chenopodium murale	CHEMUR	L.	0	NETTLE-LEAVED GOOSEFOOT	Chenopodiaceae	(UPL)	forb	AN	advent	CHMU2		DI	adventive	FACU	FACU	FACU
Chenopodium polyspermum	CHEPOL	L.	0	MANY-SEEDED GOOSEFOOT	Chenopodiaceae	(UPL)	forb	AN	advent	CHPO		DI	adventive			
Chenopodium pratericola	CHENPRA	Rydb.	1	FIELD GOOSEFOOT	Chenopodiaceae	154 (UPL)	forb	AN	full	CHPR5		DI	native			
Chenopodium pumilio	CHEPUM	R. Br.	0	KEELED GOOSEFOOT	Chenopodiaceae	(UPL)	forb	AN	advent	CHPU		DI	adventive			
Chenopodium simplex	CHESIM	(Torr.) Raf.	1 syn	MAPLE-LEAVED GOOSEFOOT	Chenopodiaceae	155 (UPL)	forb	AN	full	CHSI2		DI	native			
Chenopodium sp.	CHENOP	L.		GOOSEFOOT	Chenopodiaceae	ND	forb	AN	ND	CHENO		DI				
Chenopodium standleyanum	CHESTA	Aellen	4	WOODLAND GOOSEFOOT	Chenopodiaceae	(UPL)	forb	AN	full	CHST2		DI	native			
Chenopodium urbicum	CHEURB	L.	0	CITY GOOSEFOOT	Chenopodiaceae	(UPL)	forb	AN	advent	CHUR		DI	adventive			

Chenopodium vulvaria	CHEVUL	L.	0	STINKING GOOSEFOOT	Chenopodiaceae	(UPL)	forb	AN	advent	CHVU		DI	adventive			
Chimaphila maculata	CHIMAC	(L.) Pursh	7	SPOTTED WINTERGREEN	Pyrolaceae	(UPL)	forb	PE	shade	CHMA3		DI	native			
Chimaphila sp.	CHIMAP	Pursh.		PRINCE'S PINE	Pyrolaceae	UPL	forb	PE	shade	CHIMA		DI				
Chimaphila umbellata	CHIUMB	(L.) W.P.C. Barton	8	PIPSISSEWA	Pyrolaceae	156 (UPL)	forb	PE	shade	CHUM	T	DI	native			
Chionanthus virginicus	CHIVIR	L.	6	FRINGE-TREE	Oleaceae	FAC+	sm tree	W	partial	CHVI3	P	DI	native	FAC	FAC	FAC
Chloris virgata	CHLVIR	SW.	0	FEATHER FINGER GRASS	Poaceae	570 (FACU)	grass	AN	advent			MO	adventive	FACU	FACU	FACU
Chorispora tenella	CHOTEN	(Pallas) DC	0	BLUE MUSTARD	Brassicaceae	(UPL)	forb	AN	advent	CHTE2		DI	adventive			
Chrysanthemum balsamita	CHRBAL	L.	0 syn	COSTMARY	Asteraceae	(UPL)	forb	PE	advent	TABA		DI	adventive			
Chrysanthemum leucanthemum	CHRLEU	L.	0 syn	OX-EYE DAISY	Asteraceae	(UPL)	forb	PE	advent	LEVU		DI	adventive	UPL	UPL	UPL
Chrysanthemum maximum	CHRMAX	Ramond	0	CHRYSANTHEMUM	Asteraceae	(FACU-)	forb	AN	advent	LEMA8		DI	adventive			
Chrysanthemum parthenium	CHRPAR	(L.) Bernh.	0 syn	FEVERFEW	Asteraceae	(UPL)	forb	PE	advent	TAPA6		DI	adventive			
Chrysanthemum sp.	CHRYSA	L.		DAISY	Asteraceae	UPL	forb	PE	advent	CHRYS2		DI				
Chrysogonum virginianum	CHRVIR	L.	6	GOLDEN-KNEES	Asteraceae	(UPL)	forb	PE	shade	CHVI5	T	DI	native			
Chrysopsis camporum	CHRCAM	Greene	0	PRAIRIE GOLDEN ASTER	Asteraceae	(FACU)	forb	PE	advent	HECAC2		DI	adventive			
Chrysopsis graminifolia	CHRGRA	(Michx.) Elliott	9 syn	GRASS-LEAVED GOLDEN ASTER	Asteraceae	(UPL)	forb	PE	full	PIGRG	E	DI	native	UPL	UPL	
Chrysopsis mariana	CHRMAR	(L.) Elliott	6 syn	MARYLAND GOLDEN ASTER	Asteraceae	UPL	forb	PE	full	CHMA14		DI	native	UPL	UPL	UPL
Chrysopsis sp.	CHRYSO	(Nutt.) Elliott		GOLDEN ASTER	Asteraceae	UPL	forb	PE	full	CHRYS7		DI				
Chrysosplenium americanum	CHRAME	Schwein. ex Hook.	8	GOLDEN-SAXIFRAGE	Saxifragaceae	OBL	forb	PE	shade	CHAM2		DI	native	OBL	OBL	OBL
Cichorium intybus	CICINT	L.	0	CHICORY	Asteraceae	(UPL)	forb	PE	advent	CIIN		DI	adventive	FACU	FACU	FACU
Cicuta bulbifera	CICBUL	L.	3	BULBLET-BEARING WATER-HEML.	Apiaceae	OBL	forb	PE	full	CIBU		DI	native	OBL	OBL	OBL
Cicuta maculata	CICMAC	L.	3	SPOTTED WATER-HEMLOCK	Apiaceae	OBL	forb	PE	full	CIMA2		DI	native	OBL	OBL	OBL
Cicuta sp.	CICUTA	L.	3	WATER-HEMLOCK	Apiaceae	OBL	forb	PE	full	CICUT		DI				
Cimicifuga racemosa	CIMRAC	(L.) Nutt.	7	BLACK SNAKEROOT	Ranunculaceae	(FACU)	forb	PE	shade	ACRAR		DI	native			
Cinna arundinacea	CINARU	L.	4	COMMON WOOD-REED	Poaceae	FACW	grass	PE	shade	CIAR2		MO	native	FACW	FACW	FACW
Cinna latifolia	CINLAT	(Trevir. ex R. Geopp.) Griseb.	8	NORTHERN WOOD-REED	Poaceae	FACW	grass	PE	shade	CILA2	E	MO	native	FACW	FACW	FACW
Cinna sp.	CINNA	L.		WOOD-REED	Poaceae	FACW	grass	PE	shade	CINNA		MO				
Circaea alpina	CIRALP	L.	9	SMALL ENCHANTER'S NIGHTSH.	Onagraceae	FACW	forb	PE	shade	CIAL		DI	native	FACW	FACW	FACW
Circaea lutetiana	CIRLUT	L.	3 syn	BROAD-LF ENCHANTER'S-NIGHTSH.	Onagraceae	157 FACU	forb	PE	shade	CILU		DI	native	FACU	FACU	FACU
Circaea sp.	CIRCAE	L.		ENCHANTER'S-NIGHTSHADE	Onagraceae	ND	forb	PE	shade	CIRCA		DI				
Cirsium altissimum	CIRALT	(L.) Hill	4	TALL THISTLE	Asteraceae	(UPL)	forb	PE	full	CIAL2		DI	native			
Cirsium arvense	CIRARV	(L.) Scop.	0	CANADA THISTLE	Asteraceae	158 FACU	forb	PE	advent	CIAR4		DI	adventive	FACU	FACU	FACU
Cirsium carolinianum	CIRCAR	(Walt.) Fernald & B.G. Schub.	7	CAROLINA THISTLE	Asteraceae	(UPL)	forb	BI	full	CICA7	T	DI	native			
Cirsium discolor	CIRDIS	(Muhl. ex Willd.) Spreng.	4	FIELD THISTLE	Asteraceae	UPL	forb	PE	full	CIDI		DI	native	UPL	FACU	UPL
Cirsium muticum	CIRMUT	Michx.	8	SWAMP THISTLE	Asteraceae	OBL	forb	BI	full	CIMU		DI	native	OBL	OBL	OBL
Cirsium plattense	CIRPLA	(Rydb.) Cockerell ex Daniels	0	PRAIRIE THISTLE	Asteraceae	(FACU)	forb	BI	advent	CICA11		DI	adventive			
Cirsium pumilum	CIRPUM	(Nutt.) Spreng.	4	PASTURE THISTLE	Asteraceae	159 (UPL)	forb	BI	full	CIPU4		DI	native			
Cirsium sp.	CIRSIU	Mill.		THISTLE	Asteraceae	ND	forb	ND	ND	CIRSI		DI				
Cirsium vulgare	CIRVUL	(Savi) Ten.	0	BULL THISTLE	Asteraceae	FACU-	forb	BI	advent	CIVU		DI	adventive	FACU	FACU	FACU
Citrullus lanatus	CITLAN	(Thunb.) Matsum. & Nakai	0	WATERMELON	Cucurbitaceae	(UPL)	forb	AN	advent	CILA3		DI	adventive	UPL	FACU	UPL
Cladium mariscoides	CLAMAR	(Muhl.) Torr.	9	TWIG-RUSH	Cyperaceae	OBL	sedge	PE	full	CLMA		MO	native	OBL	OBL	OBL
Cladrastis lutea	CLALUT	(Michx.) K. Koch	0	YELLOW-WOOD	Fabaceae	(UPL)	tree	W	advent	CLKE		DI	adventive			
Clarkia pulchella	CLAPUL	Pursh.	0	FAREWELL-TO-SPRING	Onagraceae	(FACU)	forb	AN	advent	CLPU		DI	adventive			
Claytonia caroliniana	CLACAR	Michx.	6	CAROLINA SPRING-BEAUTY	Portulacaceae	FACU	forb	PE	shade	CLCA		DI	native	FACU	FACU	FACU
Claytonia sp.	CLAYTO	L.		SPRING-BEAUTY	Portulacaceae	FACU	forb	PE	shade	CLAYT		DI				
Claytonia virginica	CALVIR	L.	2	VIRGINIA SPRING-BEAUTY	Portulacaceae	FACU	forb	PE	shade	CLVI3		DI	native	FAC	FACU	FACU
Clematis occidentalis	CLEOCC	(Hornem.) DC.	9	PURPLE VIRGIN'S-BOWER	Ranunculaceae	(UPL)	forb	PE	partial	CLOC2	X	DI	native			
Clematis sp.	CLEMAT	L.		CLEMATIS	Ranunculaceae	ND	forb	PE	partial	CLEMA		DI				
Clematis terniflora	CLETER	DC	0	JAPANESE VIRGIN'S-BOWER	Ranunculaceae	(FACU)	vine	PE	advent	CLTE4		DI	adventive	FACU	UPL	UPL
Clematis viorna	CLEVIO	L.	6	LEATHER-FLOWER	Ranunculaceae	(FAC-)	forb	PE	partial	CLVI4		DI	native			
Clematis virginiana	CLEVIR	L.	3	VIRGIN'S-BOWER	Ranunculaceae	FAC	forb	PE	partial	CLVI5		DI	native	FAC	FAC	FAC
Cleome hassleriana	CLEHAS	Chodat	0 syn	SPIDER-FLOWER	Capparaceae	(FACU-)	forb	AN	advent	CLHA		DI	adventive	FACU	FACU	
Cleome serrulata	CLESER	Pursh.	0	STINKING CLOVER	Capparaceae	(FACU-)	forb	AN	advent	CLSE		DI	adventive	FACU	FACU	FACU
Clinopodium vulgare	CLIVUL	L.	2 syn	WILD BASIL	Lamiaceae	(UPL)	forb	PE	shade	CLVU		DI	native			
Clintonia borealis	CLIBOR	(Aiton) Raf.	10	BLUE BEAD-LILY	Liliaceae	FAC	forb	PE	shade	CLBO3	E	MO	native	FAC	FAC	FAC
Clintonia sp.	CLINTO	Raf.	8	BLUE BEAD-LILY	Liliaceae	ND	forb	PE	shade	CLINT		MO				
Clintonia umbellulata	CLIUMB	(Michx.) Morong	8	SPECKLED WOOD-LILY	Liliaceae	(UPL)	forb	PE	shade	CLUM2	T	MO	native			
Clitoria mariana	CLIMAR	L.	6	BUTTERFLY-PEA	Fabaceae	(UPL)	forb	PE	partial	CLMA4	P	DI	native	FACU	FACU	FACU
Coeloglossum viride (L.) Hartman var. virescens	COEVIR	(Muhl. ex Willd.) Luer	8 syn	LONG-BRACTED ORCHID	Orchidaceae	(FACU)	forb	PE	shade	DAVI6	E	MO	native			
Coleataenia longifolia	COLLON	(Torr.) Soreng	9 syn	LONG-LEAVED PANIC GRASS	Poaceae	OBL	grass	PE	full	PARIP	X	MO	native			
Collinsia verna	COLVER	Nutt.	8	BLUE-EYED MARY	Scrophulariaceae	FAC-	forb	AN	shade	COVE2		DI	native	FAC	FACU	FACU
Collinsonia canadensis	COLCAN	L.	5	RICH WEED	Lamiaceae	FAC+	forb	PE	shade	COCA4		DI	native	FAC	FAC	FAC
Collinsonia verticillata	COLVER	Baldwin	9	EARLY STONEROOT	Lamiaceae	(UPL)	forb	PE	shade	COVE3	E	DI	native			
Collomia linearis	COLLIN	Nutt.	0	SLENDER GILIA	Polemoniaceae	FACU	forb	AN	advent	COLI2		DI	adventive	UPL	FACU	FACU
Comandra umbellata	COMUMB	(L.) Nutt.	5	BASTARD TOAD-FLAX	Santalaceae	FACU-	forb	PE	full	COUM		DI	native	FACU	FACU	FACU
Commelina communis	COMCOM	L.	0	COMMON DAY-FLOWER	Commelinaceae	FAC-	forb	AN	advent	COCO3		DI	adventive	FAC	FACU	FAC
Commelina diffusa	COMDIF	Burm. f.	0	SPREADING DAY-FLOWER	Commelinaceae	160 FACW	forb	AN	advent	CODI5		DI	adventive	FACW	FACW	FACW

Commelina sp.	COMMEL	L.		DAY-FLOWER	Commelinaceae	ND	forb	ND	ND	COMME		DI				
Commelina virginica	COMVIR	L.	6	VIRGINIA DAY-FLOWER	Commelinaceae	161 FACW	forb	PE	shade	COVI3		DI	native	FACW	FACW	FACW
Comptonia peregrina	COMPER	(L.) J. M. Coulter	8	SWEET-FERN	Myricaceae	(UPL)	shrub	W	full	COPE80	E	DI	native			
Conioselinum chinense	CONCHI	(L.) B.S.P.	8	HEMLOCK-PARSLEY	Apiaceae	FACW	forb	PE	full	COCH2		DI	native	FACW	FACW	FACW
Conium maculatum	CONMACU	L.	0	POISON-HEMLOCK	Apiaceae	FACW	forb	BI	advent	COMA2		DI	adventive	FACW	FACW	FACW
Conopholis americana	CONAME	(L.) Wallr.	7	SQUAWROOT	Orobanchaceae	(UPL)	forb	AN	shade	COAM		DI	native			
Conringia orientalis	CONORI	(L.) Andrz.	0	HARE'S-EAR MUSTARD	Brassicaceae	(UPL)	forb	AN	advent	COOR		DI	adventive			
Convallaria majalis	CONMAJ	L.	0	LILY-OF-THE-VALLEY	Liliaceae	(UPL)	forb	PE	advent	COMA7		DI	adventive			
Convolvulus arvensis	CONARV	L.	0	FIELD BINDWEED	Convolvulaceae	(UPL)	forb	PE	advent	COAR4		DI	adventive			
Conyza canadensis	CONCAN	(L.) Cronquist	0	HORSEWEED	Asteraceae	162 UPL	forb	AN	full	COCA5		DI	native			
Conyza ramosissima	CONRAM	Cronquist	9	BUSHY HORSEWEED	Asteraceae	(UPL)	forb	AN	full	CORA4	P	DI	native			
Conyza sp.	CONYZA	Less.		HORSEWEED	Asteraceae	UPL	forb	AN	full	CONYZ		DI				
Coptis trifolia	COPTRI	(L.) Salisb.	7	GOLDTHREAD	Ranunculaceae	FACW	forb	PE	shade	COTR2		DI	native	FACW	FACW	FACW
Corallorhiza maculata	CORMAC	(Raf.) Raf.	5	SPOTTED CORAL-ROOT	Orchidaceae	FACU	forb	PE	shade	COMA25	P	MO	native	FACU	FACU	FACU
Corallorhiza odontorhiza	CORODO	(Willd.) Poir.	4	FALL CORAL-ROOT	Orchidaceae	(UPL)	forb	PE	shade	COOD7		MO	native			
Corallorhiza sp.	CORALL	Gagnebin% orth. cons.		CQRAL-ROOT	Orchidaceae	ND	forb	PE	shade	CORAL5		MO				
Corallorhiza trifida	CORTRI	Chatel.	9	EARLY CORAL-ROOT	Orchidaceae	FACW	forb	PE	shade	COTR18	E	MO	native	FACW	FACW	FACW
Corallorhiza wisteriana	CORWIS	Conrad	6	SPRING CORAL-ROOT	Orchidaceae	FAC	forb	PE	shade	COWI5	P	MO	native	FAC	FACU	FACU
Coreopsis grandiflora	CORGRA	R. Hogg. ex Sweet	0	LARGE-FLOWERED TICKSEED	Asteraceae	(UPL)	forb	PE	advent	COGR5		DI	adventive			
Coreopsis lanceolata	CORLAN	L.	0	LONG-STALKED TICKSEED	Asteraceae	163 FACU	forb	PE	advent	COLA5		DI	adventive	FACU	FACU	FACU
Coreopsis major	CORMAJ	Walter	7	FOREST TICKSEED	Asteraceae	(UPL)	forb	PE	shade	COMA6		DI	native			
Coreopsis sp.	COREOP	L.		TICKSEED	Asteraceae	ND	forb	ND	ND	COREO2		DI				
Coreopsis tinctoria	CORTIN	Nutt.	0	PLAINS TICKSEED	Asteraceae	FAC-	forb	AN	advent	COTI3		DI	adventive	FAC	FACU	FACU
Coreopsis tripteris	CORTRP	L.	5	TALL TICKSEED	Asteraceae	FAC	forb	PE	partial	COTR4		DI	native	FAC	FAC	FAC
Coriandrum sativum	CORSAT	L.	0	CORIANDER	Apiaceae	(FACU)	forb	AN	advent	COSA		DI	adventive			
Corispermum hyssopifolium	CORHYS	L.	0 syn	BUGSEED	Chenopodiaceae	FACU	forb	AN	advent	COAMR		DI	adventive			
Corispermum nitidum	CORNIT	Kit. ex Schult.	0 syn	NEAT BUGSEED	Chenopodiaceae	(FACU)	forb	AN	advent	CONI15		DI	adventive			
Corispermum sp.	CORISP	L.		BUGSEED	Chenopodiaceae	FACU	forb	AN	advent	CORIS		DI				
Cornus alternifolia	CORALT	L.f.	5	ALTERNATE-LEAVED DOGWOOD	Cornaceae	(UPL)	shrub	W	shade	COAL2		DI	native	FAC	FAC	FACU
Cornus amomum	CORAMO	Mill.	2 syn	SILKY DOGWOOD	Cornaceae	164 FACW	shrub	W	full	COAM2		DI	native	FACW	FACW	FACW
Cornus canadensis	CORCAN	L.	8	BUNCHBERRY	Cornaceae	FAC-	shrub	W	shade	COCA13	E	DI	native	FAC	FAC	FAC
Cornus drummondii	CORDRU	C.A. Mey.	3	ROUGH-LEAVED DOGWOOD	Cornaceae	FAC	shrub	W	partial	CODR		DI	native	FAC	FAC	FAC
Cornus florida	CORFLO	L.	5	FLOWERING DOGWOOD	Cornaceae	FACU-	sm tree	W	shade	COFL2		DI	native	FACU	FACU	FACU
Cornus racemosa	CORRAC	Lam.	1	GRAY DOGWOOD	Cornaceae	165 FAC-	shrub	W	full	CORA6		DI	native	FAC	FAC	FAC
Cornus rugosa	CORRUG	Lam.	8	ROUND-LEAVED DOGWOOD	Cornaceae	(UPL)	shrub	W	full	CORU	P	DI	native			
Cornus sericea	CORSER	L.	3 syn	RED-OSIER DOGWOOD	Cornaceae	FACW+	shrub	W	full	COSE16		DI	native			
Cornus sp.	CORNUS	L.		DOGWOOD	Cornaceae	ND	ND	W	ND	CORNU		DI				
Coronilla varia	CORVAR	L.	0	CROWN-VETCH	Fabaceae	(UPL)	forb	PE	advent	SEVA4		DI	adventive			
Coronopus didymus	CORDID	(L.) Sm.	0	SWINE CRESS	Brassicaceae	(UPL)	forb	AN	advent	CODI6		DI	adventive			
Corydalis aurea	CORAUR	Willd.	0	GOLDEN CORYDALIS	Fumariaceae	(UPL)	forb	BI	advent	COAU2		DI	adventive			
Corydalis flavula	CORFLA	(Raf.) DC.	4	YELLOW HARLEQUIN	Fumariaceae	FACU	forb	AN	partial	COFL3		DI	native	FACU	FACU	FACU
Corydalis sempervirens	CORSEM	(L.) Pers.	9	ROCK-HARLEQUIN	Fumariaceae	(UPL)	forb	BI	shade	COSE5	P	DI	native			
Corydalis sp.	CORYDA	DC.		FUMEWORT	Fumariaceae	ND	forb	ND	partial	CORYD		DI				
Corylus americana	CORAME	Walter	4	AMERICAN HAZEL	Betulaceae	FACU-	shrub	W	full	COAM3		DI	native	FACU	FACU	FACU
Corylus cornuta	CORCOR	Marshall	7	BEAKED HAZEL	Betulaceae	FACU-	shrub	W	full	COCO6	X	DI	native	FACU	UPL	FACU
Corylus sp.	CORYLU	L.		HAZEL	Betulaceae	ND	shrub	W	full	CORYL		DI				
Cosmos bipinnatus	COSBIP	Cav.	0	COMMON COSMOS	Asteraceae	(UPL)	forb	AN	advent	COBI2		DI	adventive	FACU	FAC	FAC
Cotinus coggygria	COTCOG	Scop.	0	SMOKE-TREE	Anacardiaceae	(UPL)	sm tree	W	advent	COCO10		DI	adventive			
Cotoneaster pyracantha	COTPYR	(L.) Spach	0	FIRE-THORN	Rosaceae	(FACU)	sm tree	PE	advent	PYCO2		DI	adventive			
Crataegus brainerdii	CRABRA	Sarg.	6	BRAINERD'S HAWTHORN	Rosaceae	166 (UPL)	sm tree	W	full	CRBR3	X	DI	native			
Crataegus calpodendron	CRACAL	(Ehrh.) Medik.	4	PEAR HAWTHORN	Rosaceae	167 (UPL)	sm tree	W	full	CRCA		DI	native			
Crataegus chrysocarpa	CRACHR	Ashe	6 syn	FIREBERRY HAWTHORN	Rosaceae	168 (UPL)	sm tree	W	full	CRCH		DI	native			
Crataegus coccinea	CRACOC	L.	3	SCARLET HAWTHORN	Rosaceae	169 (UPL)	sm tree	W	full	CRCHC2		DI	native			
Crataegus crus-galli	CRACRU	L.	3	COCKSPUR	Rosaceae	170 FACU	sm tree	W	full	CRCR2		DI	native	FACU	FAC	FAC
Crataegus flabellata	CRAFLA	(Spach) G. Kirchn.	3	FANLEAVED HAWTHORN	Rosaceae	171 (UPL)	sm tree	W	full	CRFL		DI	native			
Crataegus intricata	CRAINT	Lange	4	BILTMORE HAWTHORN	Rosaceae	172 (UPL)	sm tree	W	full	CRIN3		DI	native			
Crataegus mollis	CRAMOL	Scheele	3	DOWNY HAWTHORN	Rosaceae	173 FACU	sm tree	W	full	CRMO2		DI	native	FACU	FAC	FAC
Crataegus monogyna	CRAMON	Jacq.	0	ONE-SEEDED HAWTHORN	Rosaceae	(UPL)	sm tree	W	advent	CRMO3		DI	adventive	FACU	FACU	FACU
Crataegus phaenopyrum	CRAPHA	(L.f.) Medik.	0	WASHINGTON HAWTHORN	Rosaceae	FAC	sm tree	W	advent	CRPH		DI	adventive	FAC	FAC	FAC
Crataegus pruinosa	CRAPRU	(H.L. Wendl.) K. Koch	2	FROSTED HAWTHORN	Rosaceae	174 (UPL)	sm tree	W	full	CRPR2		DI	native			
Crataegus punctata	CRAPUN	Jacq.	3	DOTTED HAWTHORN	Rosaceae	175 (UPL)	sm tree	W	full	CRPU		DI	native			
Crataegus sp.	CRATAE	L.		HAWTHORN	Rosaceae	ND	sm tree	W	ND	CRATA		DI				
Crataegus succulenta	CRASUC	Schrad. ex Link	4	FLESHY HAWTHORN	Rosaceae	176 (UPL)	sm tree	W	full	CRSU5		DI	native			
Crataegus uniflora	CRAUNI	Muenchh.	8	DWARF HAWTHORN	Rosaceae	(UPL)	sm tree	W	full	CRUN	P	DI	native			
Crepis capillaris	CRECAP	(L.) Wallr.	0	SMOOTH HAWK'S-BEARD	Asteraceae	(UPL)	forb	AN	advent	CRCA3		DI	adventive	UPL	FACU	UPL
Crepis pulchra	CREPUL	L.	0	HANDSOME HAWK'S-BEARD	Asteraceae	(UPL)	forb	AN	advent	CRPU3		DI	adventive			

Crepis sp.	CREPIS	L.		HAWK'S BEARD	Asteraceae		UPL	forb	AN	advent	CREPI		DI				
Crepis tectorum	CRETEC	L.	0	NARROW-LEAF HAWK'S BEARD	Asteraceae		(FACU)	forb	AN	advent	CRTE3		DI	adventive			
Crotalaria sagittalis	CROSAG	L.	0	RATTLEBOX	Fabaceae		(UPL)	forb	AN	advent	CRSA4		DI	adventive			
Croton capitatus	CROCAP	Michx.	0	WOOLLY CROTON	Euphorbiaceae		(UPL)	forb	AN	advent	CRCA6		DI	adventive			
Croton glandulosus	CROGLA	L.	0	NORTHERN CROTON	Euphorbiaceae	177	(UPL)	forb	AN	full	CRGL2	E	DI	native			
Croton monanthogynus	CROMON	Michx.	0	PRAIRIE-TEA	Euphorbiaceae		(UPL)	forb	AN	advent	CRMO6		DI	adventive			
Croton sp.	CROTON	L.		CROTON	Euphorbiaceae		UPL	forb	AN	ND	CROTO		DI				
Croton willdenowii	CROWIL	G.L. Webster	8	WILDENOW'S CROTON	Euphorbiaceae	565	UPL	forb	AN	full			DI	native			
Crypsis schoenoides	CRYSCH	(L.) Lam.	0	FALSE-TIMOTHY	Poaceae		(FACW)	grass	AN	advent	CRSC		MO	adventive	FACU	FACU	OBL
Cryptotaenia canadensis	CRYCAN	(L.) DC.	3	HONEWORT	Apiaceae		FAC	forb	PE	shade	CRCA9		DI	native	FAC	FAC	FAC
Cucumis melo	CUCMEL	L.	0	MUSKMELON	Cucurbitaceae		(FACU)	vine	AN	advent	CUME		DI	adventive			
Cucurbita foetidissima	CUCFOE	Kunth	0	MISSOURI GOURD	Cucurbitaceae		(UPL)	vine	PE	advent	CUFO		DI	adventive			
Cucurbita maxima	CUCMAX	Duchesne	0	SQUASH	Cucurbitaceae		(FACU)	vine	AN	advent	CUMA3		DI	adventive			
Cucurbita pepo	CUCPEP	L.	0	PUMPKIN	Cucurbitaceae		(FACU)	forb	AN	advent	CUPE		DI	adventive			
Cunila origanoides	CUNORI	(L.) Britton	6	DITTANY	Lamiaceae		(UPL)	forb	PE	shade	CUOR		DI	native			
Cuphea viscosissima	CUPVIS	Jacq.	3	BLUE WAX-WEED	Lythraceae		FAC-	forb	AN	full	CUVI		DI	native	FAC	FACU	FACU
Cuscuta cephalanthi	CUSCEP	Engelm.	6	BUTTONBUSH DODDER	Cuscutaceae		(UPL)	forb	AN	full	CUCE		DI	native			
Cuscuta compacta	CUSCOM	Juss ex Choisy	8	SESSILE DODDER	Cuscutaceae		(UPL)	forb	AN	full	CUCO2	X	DI	native			
Cuscuta coryli	CUSCOR	Engelm.	5	HAZEL DODDER	Cuscutaceae		(UPL)	forb	AN	full	CUCO3	X	DI	native			
Cuscuta cuspidata	CUSCUS	Engelm.	8	CUSPIDATE DODDER	Cuscutaceae	178	(FACW)	forb	AN	full	CUCU2	E	DI	native			
Cuscuta epilinum	CUSEPI	Weihe	0	FLAX DODDER	Cuscutaceae		(FACU)	forb	PE	advent	CUEP2		DI	adventive			
Cuscuta epithymum	CUSEPI	L.	0	CLOVER DODDER	Cuscutaceae		(UPL)	forb	AN	advent	CUEP		DI	adventive			
Cuscuta glomerata	CUSGLO	Choisy	9	COMPOSITE DODDER	Cuscutaceae		(FAC)	forb	AN	full	CUGL3	T	DI	native			
Cuscuta gronovii	CUSGRO	Willd. ex Schulte	3	COMMON DODDER	Cuscutaceae		(FACW+)	forb	AN	full	CUGR		DI	native			
Cuscuta indecora	CUSIND	Choisy	8	PRETTY DODDER	Cuscutaceae	179	(FAC)	forb	AN	full	CUIN	E	DI	native			
Cuscuta pentagona	CUSPEN	Engelm.	3 syn	FIVE-ANGLED DODDER	Cuscutaceae		(UPL)	forb	AN	full	CUPE3	T	DI	native			
Cuscuta polygonorum	CUSPOL	Engelm.	5	SMARTWEED DODDER	Cuscutaceae		(UPL)	forb	AN	full	CUPO		DI	native			
Cuscuta sp.	CUSCUT	L.		DODDER	Cuscutaceae		ND	forb	AN	ND	CUSCU		DI				
Cuscuta suaveolens	CUSSUA	Ser.	0	ALFALFA DODDER	Cuscutaceae		(FACU)	forb	PE	advent	CUSU		DI	adventive			
Cycloloma atriplicifolium	CYCATR	(Spreng.) J.M. Coult.	0	WINGED PIGWEED	Chenopodiaceae		FACU-	forb	AN	advent	CYAT		DI	adventive	FACU	FACU	FACU
Cymbalaria muralis	CYMMUR	P. Gaertn.% B. Mey. & Scherb.	0	KENILWORTH-IVY	Scrophulariaceae		(FACU)	forb	PE	advent	CYMU		DI	adventive			
Cynodon dactylon	CYNDAC	(L.) Pers.	0	BERMUDA GRASS	Poaceae		FACU	grass	PE	advent	CYDA		DI	adventive	FACU	FACU	FACU
Cynoglossum officinale	CYNOFF	L.	0	GYPSY FLOWER	Boraginaceae		(UPL)	forb	BI	advent	CYOF		MO	adventive	UPL	FACU	UPL
Cynoglossum sp.	CYNGLO	L.		HOUND'S TONGUE	Boraginaceae		UPL	forb	ND	ND	CYNOG		MO				
Cynoglossum virginianum L. var. boreale	CYNVIRB	(Fernald) Cooperrider	5 syn	NORTHERN WILD COMFREY	Boraginaceae		(UPL)	forb	PE	shade	CYVIB	X	MO	native			
Cynoglossum virginianum var. virginianum	CYNVIRV	L.	5	SOUTHERN WILD COMFREY	Boraginaceae		(UPL)	forb	PE	shade	CYVIV		MO	native			
Cynosurus cristatus	CYNCRI	L.	0	DOG'S-TAIL GRASS	Poaceae		UPL	grass	PE	advent	CYCR		DI	adventive	UPL	FAC	FAC
Cynosurus echinatus	CYNECH	L.	0	LONG-AWNED DOG'S-TAIL GRASS	Poaceae		(FACU)	grass	AN	advent	CYEC		MO	adventive			
Cyperus acuminatus	CYPACU	Torr. & Hook. ex Torr.	8	PALE UMBRELLA-SEDGE	Cyperaceae		OBL	sedge	AN	full	CYAC2	T	MO	native	OBL	OBL	OBL
Cyperus bipartitus	CYPBIP	Torr.	3	UMBRELLA-SEDGE	Cyperaceae	180	FACW+	sedge	AN	full	CYBI6		MO	native	FACW	OBL	FACW
Cyperus diandrus	CYPDIA	Torr.	7	LOW UMBRELLA-SEDGE	Cyperaceae	181	FACW	sedge	AN	full	CYDI3	P	MO	native	FACW	FACW	OBL
Cyperus erythrorhizos	CYPERY	Muhl.	4	RED-ROOTED UMBRELLA-SEDGE	Cyperaceae		FACW+	sedge	AN	full	CYER2		MO	native	FACW	OBL	OBL
Cyperus esculentus	CYPESC	L.	0	YELLOW NUT-SEDGE	Cyperaceae	182	FACW	sedge	PE	full	CYES		MO	native	FACW	FACW	FACW
Cyperus flavescens	CYPFLA	L.	3	YELLOW UMBRELLA-SEDGE	Cyperaceae	183	OBL	sedge	AN	full	CYFL		MO	native	OBL	OBL	OBL
Cyperus lancastriensis	CYPLAN	Porter ex A. Gray	4	MANY-FLOWERED UMBRELLA-S.	Cyperaceae		FACU	sedge	PE	full	CYLA3	X	MO	native	FAC	FAC	FAC
Cyperus lupulinus	CYPLUP	(Spreng.) Marcks	4 syn	SLENDER UMBRELLA-SEDGE	Cyperaceae	184	(UPL)	sedge	PE	full	CYLU2		MO	native	UPL	FACU	FACU
Cyperus odoratus	CYPODO	L.	4 syn	RUSTY UMBRELLA-SEDGE	Cyperaceae	185	FACW	sedge	AN	full	CYOD		MO	native	FACW	FACW	OBL
Cyperus refractus	CYPREF	Engelm. ex Boeck	6	REFLEXED UMBRELLA-SEDGE	Cyperaceae	186	FACU+	sedge	PE	full	CYRE3	E	MO	native	FACU	FACU	
Cyperus retrofractus	CYPRTF	(L.) Torr.	4 syn	ROUGH UMBRELLA-SEDGE	Cyperaceae		(UPL)	sedge	PE	full	CYRE4	E	MO	native	UPL	UPL	UPL
Cyperus schweinitzii	CYPSCH	Torr.	10	SCHWEINITZ'S UMBRELLA-SEDGE	Cyperaceae		FACU	sedge	PE	full	CYSC3	T	MO	native	FACU	FACU	FACU
Cyperus sp.	CYPERU	L.		UMBRELLA-SEDGE	Cyperaceae		ND	sedge	ND	full	CYPER		MO				
Cyperus squarrosus	CYPSQU	L.	3	AWNED UMBRELLA-SEDGE	Cyperaceae	187	FACW+	sedge	AN	full	CYSQ		MO	native	FACW	OBL	OBL
Cyperus strigosus	CYPSTR	L.	1	STRAW-COLORED UMBRELLA-S.	Cyperaceae		FACW	sedge	PE	full	CYST		MO	native	FACW	FACW	FACW
Cypripedium acaule	CYPACA	Aiton	8	MOCCASIN-FLOWER	Orchidaceae		FACU	forb	PE	partial	CYAC3		MO	native	FACU	FACW	FACW
Cypripedium candidum	CYPCAN	Muhl. ex Willd.	9	WHITE LADY'S-SLIPPER	Orchidaceae		OBL	forb	PE	partial	CYCA5	E	MO	native	OBL	OBL	OBL
Cypripedium parviflorum Salisb. var. pubescens	CYPPRPU	(Willd.) O.W. Knight	7 syn	LARGE YELLOW LADY'S-SLIPPER	Orchidaceae		FAC+	forb	PE	partial	CYPAP3		MO	native			
Cypripedium parviflorum var. parviflorum	CYPPRPA	Salisb.	10 syn	SMALL YELLOW LADY'S-SLIPPER	Orchidaceae		FACW-	forb	PE	partial	CYPAP4	E	MO	native	FACW	FACW	FAC
Cypripedium reginae	CYPREG	Walter	10	SHOWY LADY'S-SLIPPER	Orchidaceae		FACW	forb	PE	partial	CYRE6	T	MO	native	FACW	FACW	FACW
Cypripedium sp.	CYPRIP	L.		LADY'S-SLIPPER	Orchidaceae		ND	forb	PE	partial	CYPRI		MO				
Cystopteris bulbifera	CYSBUL	(L.) Bernh.	7	BULBLET FERN	Dryopteridaceae		FAC	fern	PE	shade	CYBU3		SVP	native	FAC	FACW	FACW
Cystopteris fragilis	CYSFRA	(L.) Bernh.	7 syn	BRITTLE BLADDER FERN	Dryopteridaceae		FACU	fern	PE	shade	CYFR2	X	SVP	native	FACU	FACU	FACU
Cystopteris protrusa	CYSPRO	(Weath.) Blasdell	5 syn	LOWLAND BLADDER FERN	Dryopteridaceae		(UPL)	fern	PE	shade	CYPR4		SVP	native	FAC	FACW	FACU
Cystopteris sp.	CYSTOP	Bernh.		BLADDER FERN	Dryopteridaceae		ND	fern	PE	shade	CYSTO		SVP				
Cystopteris tennesseensis	CYSTNN	Shaver	6	TENNESSEE BLADDER FERN	Dryopteridaceae		(UPL)	fern	PE	shade	CYTE3	P	SVP	native			
Cystopteris tenuis	CYSTEN	(Michx.) Desv.	5 syn	UPLAND BRITTLE BLADDER FERN	Dryopteridaceae		(UPL)	fern	PE	shade	CYTE7		SVP	native	FACU	FACU	FACU
Dactylis glomerata	DACGLO	L.	0	ORCHARD GRASS	Poaceae		FACU	grass	PE	advent	DAGL		MO	adventive	FACU	FACU	FACU

Dalea leporina	DALLEP	(Aiton) Bullock	0	HAIR'S-FOOT DALEA	Fabaceae		(FACU)	forb	AN	advent	DALE3		DI	adventive	UPL	FACU	UPL
Dalea purpurea	DALPUR	Vent.	9	PURPLE PRAIRIE-CLOVER	Fabaceae		(UPL)	forb	PE	full	DAPU5	X	MO	native			
Dalibarda repens	DALREP	L.	8	ROBIN-RUN-AWAY	Rosaceae		FAC	forb	PE	shade	DARE	E	DI	native	FAC		FAC
Danthonia compressa	DANCOM	Austin ex Peck	4	FLATTENED WILD OAT GRASS	Poaceae		FACU-	grass	PE	shade	DACO		MO	native	FACU	FACU	FACU
Danthonia sp.	DANTHO	DC.	4	OAT GRASS	Poaceae		ND	grass	PE	shade	DANTH		MO				
Danthonia spicata	DANSPI	(L.) P. Beauv. ex Roem. & Schult.	4	POVERTY OAT GRASS	Poaceae		(UPL)	grass	PE	shade	DASP2		MO	native			
Daphne mezereum	DAPMEZ	L.	0	MEZEREON	Thymelaceae		(FAC)	shrub	PE	advent	DAME3		DI	adventive			FACU
Dasistoma macrophylla	DASMAC	(Nutt.) Raf.	5	MULLEIN-FOXGLOVE	Scrophulariaceae		FACU	forb	PE	shade	DAMA		DI	native	FACU	FACU	FACU
Datura stramonium	DATSTR	L.	0	JIMSONWEED	Solanaceae		(UPL)	forb	AN	advent	DAST		DI	adventive			
Datura wrightii	DATWRI	Regel	0	INDIAN APPLE	Solanaceae		(FACU-)	forb	PE	advent	DAWR2		DI	adventive	FACU	FACU	FACU
Daucus carota	DAUCAR	L.	0	QUEEN-ANNE'S-LACE	Apiaceae		(UPL)	forb	BI	advent	DACA6		DI	adventive	UPL	UPL	UPL
Decodon verticillatus	DECVER	(L.) Elliott	6	SWAMP LOOSESTRIFE	Lythraceae	188	OBL	forb	PE	full	DEVE		DI	native	OBL	OBL	OBL
Delphinium ambiguum	DELAMB	L.	0 syn	ROCKET LARKSPUR	Ranunculaceae		(UPL)	forb	AN	advent	COAJ		DI	adventive			
Delphinium exaltatum	DELEXA	Aiton	7	TALL LARKSPUR	Ranunculaceae		(FACU)	forb	PE	shade	DEEX	P	DI	native			
Delphinium sp.	DELPHI	L.		LARKSPUR	Ranunculaceae		ND	forb	ND	ND	DELPH		DI				
Delphinium tricorne	DELTRI	Michx.	4	DWARF LARKSPUR	Ranunculaceae		(UPL)	forb	PE	shade	DETR		DI	native			
Dennstaedtia punctilobula	DENPUN	(Michx.) T. Moore	6	HAY-SCENTED FERN	Dennstaedtiaceae		UPL	fern	PE	shade	DEPU2		SVP	native	FACU	UPL	UPL
Deschampsia cespitosa	DESCES	(L.) P. Beauv.	10	TUFTED HAIRGRASS	Poaceae		FACW	grass	PE	full	DECE	P	MO	native	FACW	FACW	FACW
Deschampsia flexuosa	DESFLE	(L.) Trin.	8	CRINKLED HAIRGRASS	Poaceae		(UPL)	grass	PE	full	DEFL	P	MO	native	FACU		
Deschampsia sp.	DESCHA	P. Beauv.		HAIRGRASS	Poaceae		ND	grass	PE	full	DESCH		MO				
Descurainia pinnata (Walt.) Britt. var. brachycarpa	DESPINB	(Richardson) Fernald	8	SOUTHERN TANSY-MUSTARD	Brassicaceae	189	(UPL)	forb	AN	full	DEPIB	P	DI	native			
Descurainia pinnata var. pinnata	DESPINP	(Walt.) Britt.	0	WESTERN TANSY-MUSTARD	Brassicaceae	190	(UPL)	forb	AN	advent	DEPIP3		DI	adventive			
Descurainia sophia	DESSOP	(L.) Webb ex Prantl	0	HERB SOPHIA	Brassicaceae		(UPL)	forb	AN	advent	DESO2		DI	adventive			
Descurainia sp.	DESCUR	Webb & Bethel		TANSY-MUSTARD	Brassicaceae		UPL	forb	AN	ND	DESCU		DI				
Desmanthus illinoensis	DSMILL	(Michx.) MacMill.	3	PRAIRIE BUNDLE-FLOWER	Mimosaceae	191	FAC	forb	PE	full	DEIL		DI	native	FAC	FACU	FACU
Desmodium canadense	DESCNA	(L.) DC.	4	CANADA TICK-TREFOIL	Fabaceae		FAC	forb	PE	full	DECA7		DI	native	FAC	FACU	FAC
Desmodium canescens	DESCNE	(L.) DC.	4	HOARY TICK-TREFOIL	Fabaceae		(UPL)	forb	PE	full	DECA8		DI	native			
Desmodium ciliare	DESCIL	(Muhl.) DC.	6 syn	LITTLE-LEAVED TICK-TREFOIL	Fabaceae		(UPL)	forb	PE	full	DECI		DI	native			
Desmodium cuspidatum	DESCUS	(Muhl. ex Willd.) DC. ex Loudon	4	BIG TICK-TREFOIL	Fabaceae		(UPL)	forb	PE	partial	DECU		DI	native			
Desmodium glabellum	DESGLA	(Michx.) DC.	6	HAIRY TICK-TREFOIL	Fabaceae	192	(UPL)	forb	PE	shade	DEGL4	E	DI	native			
Desmodium glutinosum	DESGLU	(Muhl. ex Willd.) A.W. Wood	5	CLUSTERED-LEAVED TICK-TREFOIL	Fabaceae		(UPL)	forb	PE	shade	DEGL5		DI	native			
Desmodium illinoense	DESILL	A. Gray	9	PRAIRIE TICK-TREFOIL	Fabaceae		(UPL)	forb	PE	full	DEIL2	X	DI	native			
Desmodium laevigatum	DESLAE	(Nutt.) DC.	5	SMOOTH TICK-TREFOIL	Fabaceae		(UPL)	forb	PE	shade	DELA2		DI	native			
Desmodium marilandicum	DESMAR	(L.) DC.	5	MARYLAND TICK-TREFOIL	Fabaceae		(UPL)	forb	PE	partial	DEMA2		DI	native			
Desmodium nudiflorum	DESNUD	(L.) DC.	5	NAKED TICK-TREFOIL	Fabaceae		(UPL)	forb	PE	shade	DENU4		DI	native			
Desmodium obtusum	DESOBT	(Muhl. ex Willd.) DC.	7 syn	STIFF TICK-TREFOIL	Fabaceae		(FACU)	forb	PE	full	DEOB5		DI	native			
Desmodium paniculatum	DESPAN	(L.) DC.	3	SHOWY TICK-TREFOIL	Fabaceae		UPL	forb	PE	shade	DEPA6		DI	native	FACU	FACU	FACU
Desmodium pauciflorum	DESPAU	(Nutt.) DC.	6	FEW-FLOWERED TICK-TREFOIL	Fabaceae		(FACU)	forb	PE	shade	DEPA7		DI	native			
Desmodium rotundifolium	DESROT	DC.	6	ROUND-LEAVED TICK-TREFOIL	Fabaceae		(UPL)	forb	PE	shade	DERO3		DI	native			
Desmodium sessilifolium	DESSES	(Torr.) Torr. & A. Gray	8	SESSILE TICK-TREFOIL	Fabaceae		(UPL)	forb	PE	full	DESE	T	DI	native			
Desmodium sp.	DESMOD	Desv.		TICK-TREFOIL	Fabaceae		ND	forb	PE	ND	DESMO		DI				
Desmodium viridiflorum	DESVIR	(L.) DC.	5	VELVETY TICK-TREFOIL	Fabaceae	193	(UPL)	forb	PE	shade	DEVI4		DI	native			
Dianthus armeria	DIAARM	L.	0	DEPTFORD-PINK	Caryophyllaceae		UPL	forb	AN	advent	DIAR		DI	adventive	UPL	UPL	UPL
Dianthus barbatus	DIABAR	L.	0	SWEET WILLIAM	Caryophyllaceae		(UPL)	forb	PE	advent	DIBA		DI	adventive			
Dianthus caryophyllus	DIACAR	L.	0	CARNATION	Caryophyllaceae		(FACU)	forb	PE	advent	DICA26		DI	adventive			
Dianthus deltoides	DIADEL	L.	0	MAIDEN-PINK	Caryophyllaceae		(UPL)	forb	PE	advent	DIDE		DI	adventive	UPL	FACU	UPL
Dianthus sp.	DIANTH	L.		PINK	Caryophyllaceae		UPL	forb	ND	advent	DIANT		DI				
Diarrhena americana	DIAAME	P. Beauv. (sensu stricto)	7 syn	AMERICAN BEAK GRASS	Poaceae	194	(FAC+)	grass	PE	shade	DIAM		MO	native			FACU
Diarrhena obovata	DIAOBO	(Gleason) Brandenburg	7 syn	OBOVATE BEAK GRASS	Poaceae		(FAC+)	grass	PE	shade	DIOB3		MO	native			FACU
Diarrhena sp.	DIARRH	P. Beauv.	7	BEAK GRASS	Poaceae		FAC+	grass	PE	shade	DIARR		MO				
Dicentra canadensis	DICCAN	(Goldie) Walp.	6	SQUIRREL-CORN	Fumariaceae		(UPL)	forb	PE	shade	DICA		DI	native			
Dicentra cucullaria	DICCUC	(L.) Bernh.	6	DUTCHMAN'S-BREECHES	Fumariaceae		(UPL)	forb	PE	shade	DICU		DI	native			
Dicentra eximia	DICEXI	(Ker Gawl.) Torr.	0	WILD BLEEDING-HEART	Fumariaceae		(FACU)	forb	PE	advent	DIEX		DI	adventive			
Dicentra sp.	DICENT	L.	6	BLEEDING-HEART	Fumariaceae		UPL	forb	PE	shade	DICEN		DI				
Dichanthelium boreale	DICBOR	(Nash) Freckmann	6 syn	NORTHERN PANIC GRASS	Poaceae	195	FACU	grass	PE	full	DIBO	P	MO	native	FACU	FAC	FAC
Dichanthelium boscii	DICBOS	(Poir.) Gould & Clark	6 syn	BOSC'S PANIC GRASS	Poaceae		(UPL)	grass	PE	shade	DIBO2		MO	native			
Dichanthelium clandestinum	DICCLA	(L.) Gould	2 syn	DEER'S-TONGUE PANIC GRASS	Poaceae		FAC+	grass	PE	shade	DICL		MO	native	FAC	FACW	FACW
Dichanthelium columbianum	DICCOL	(Scribn.) Freckmann	6 syn	AMERICAN PANIC GRASS	Poaceae		FACU	grass	PE	full	DISAT		MO	native			
Dichanthelium commutatum	DICCOM	(Schult.) Gould	5 syn	VARIABLE PANIC GRASS	Poaceae	196	FACU+	grass	PE	shade	DICO2		MO	native	FACU	FAC	FAC
Dichanthelium depauperatum	DICDEP	(Muhl.) Gould	8 syn	STARVED PANIC GRASS	Poaceae		(UPL)	grass	PE	shade	DIDE4		MO	native			
Dichanthelium dichotomum	DICDIC	(L.) Gould	4 syn	FORKING PANIC GRASS	Poaceae		FAC	grass	PE	partial	DIDID		MO	native	FAC	FAC	FAC
Dichanthelium implicatum	DICIMP	(Scribn.) Kerguelen	9 syn	SOUTHERN HAIRY PANIC GRASS	Poaceae		(FACW)	grass	PE	full	DIACF		MO	native			
Dichanthelium lanuginosum	DICLAN	(Elliott) Gould	3 syn	WESTERN PANIC GRASS	Poaceae		FAC	grass	PE	full	DIACF		MO	native	FAC	FAC	FAC
Dichanthelium latifolium	DICLAT	(L) Harvill	4 syn	BROAD-LEAVED PANIC GRASS	Poaceae		FACU-	grass	PE	shade	DILA8		MO	native	FACU	FACU	FACU
Dichanthelium laxiflorum	DICLAX	(Lam.) Gould	7 syn	PALE GREEN PANIC GRASS	Poaceae		FACU	grass	PE	shade	DILA9		MO	native	FACU	FACU	FACU
Dichanthelium leibergii	DICLEI	(Vasey) Freckmann	8 syn	LEIBERG'S PANIC GRASS	Poaceae		FACU	grass	PE	full	DILE2	T	MO	native	FACU	FACU	FACU

Dichanthelium lindheimeri	DICLIN	(Nash) Gould	9	syn	LINDHEIMER'S PANIC GRASS	Poaceae		(OBL)	grass	PE	full	DIACL	T	MO	native	FAC	FAC	FAC
Dichanthelium linearifolium	DICLINE	(Scribn.) Gould	4	syn	LINEAR-LEAVED PANIC GRASS	Poaceae		(UPL)	grass	PE	full	DILI2		MO	native			
Dichanthelium meridionale	DICMER	(Ashe) Freckmann	9	syn	SOUTHERN HAIRY PANIC GRASS	Poaceae		(UPL)	grass	PE	full	DIME2	T	MO	native			
Dichanthelium microcarpon	DICMIC	(Muhl. ex Elliott) Mohlenbr.	5	syn	SMALL-FRUITED PANIC GRASS	Poaceae	197	(FACU)	grass	PE	full	DIDID		MO	native	FAC	FAC	FAC
Dichanthelium oligosanthes	DICOLI	(Schult.) Gould	6	syn	FEW-FLOWERED PANIC GRASS	Poaceae	199	FACU	grass	PE	partial	DIOLO		MO	native	FACU	FACU	FACU
Dichanthelium perlongum	DICPER	(Nash) Freckmann	9	syn	LONG-PANICLED PANIC GRASS	Poaceae	200	(UPL)	grass	PE	full	DILI2	E	MO	native			
Dichanthelium polyanthes	DICPOL	(Schult.) Mohlen.	3	syn	MANY-FLOWERED PANIC GRASS	Poaceae		(FACU)	grass	PE	shade	DISPI		MO	native	FACU	FACU	FACU
Dichanthelium praecocius	DICPRA	(Hitchc. & Chase) Mohlenbr.	9	syn	EARLY PANIC GRASS	Poaceae		(UPL)	grass	PE	full	DIVIP	E	MO	native			
Dichanthelium scoparium	DICSCO	(Lam.) Gould	6	syn	VELVET PANIC GRASS	Poaceae	201	FACW	grass	PE	full	DIOLS	E	MO	native	FACW	FACW	FACW
Dichanthelium sp.	DICHAN	(Hitchc. & Chase) Gould			PANIC GRASS	Poaceae		ND	grass	ND	ND	PANIC		MO				
Dichanthelium sphaerocarpon	DICSPH	(Elliott) Gould	4	syn	ROUND-FRUITED PANIC GRASS	Poaceae		FACU	grass	PE	shade	DISPS3		MO	native	FACU	FACU	FACU
Dichanthelium spretum	DICSPR	(Schult.) Freckmann	9	syn	NARROW-HEADED PANIC GRASS	Poaceae		(FAC)	grass	PE	full	DISP4	E	MO	native	FAC	FAC	FAC
Dichanthelium villosissimum	DICVIL	(Nash) Freckmann	6	syn	VILLOUS PANIC GRASS	Poaceae	556	(UPL)	grass	PE	partial	DIVIV	E	MO	native	FACU	FACU	FACU
Dichanthelium yadkinense	DICYAD	(Ashe) Mohlenbr.	7	syn	SPOTTED PANIC GRASS	Poaceae	198	(FAC)	grass	PE	shade	DIDID	T	MO	native	FAC	FAC	FAC
Diervilla lonicera	DIELON	Mill.	7		BUSH-HONEYSUCKLE	Caprifoliaceae		(UPL)	shrub	W	full	DILO		DI	native			
Digitalis grandiflora	DIGGRA	Mill.	0		LARGE-FLOWERED FOXGLOVE	Scrophulariaceae		(FACU)	forb	PE	advent	DIGR4		DI	adventive			
Digitalis lanata	DIGLAN	Ehrh.	0		GRECIAN FOXGLOVE	Scrophulariaceae		(FACU)	forb	PE	advent	DILA3		DI	adventive			
Digitalis lutea	DIGLUT	L.	0		YELLOW FOXGLOVE	Scrophulariaceae		(FACU)	forb	PE	advent	DILU		DI	adventive			
Digitalis purpurea	DIGPUR	L.	0		PURPLE FOXGLOVE	Scrophulariaceae		(FAC-)	forb	BI	advent	DIPU		DI	adventive	UPL		FACU
Digitalis sp.	DIGITI	L.			FOXGLOVE	Scrophulariaceae		ND	forb	BI	advent	DIPU		DI				
Digitaria filiformis	DIGFIL	(L.) Koeler	4		SLENDER CRAB GRASS	Poaceae		(UPL)	grass	AN	full	DIFI	X	MO	native			
Digitaria ischaemum	DIGISC	(Schreb.) Muhl.	0		SMOOTH CRAB GRASS	Poaceae		UPL	grass	AN	advent	DIIS		MO	adventive	UPL	FACU	FACU
Digitaria sanguinalis	DIGSAN	(L.) Scop.	0		NORTHERN CRAB GRASS	Poaceae		FACU-	grass	AN	advent	DISA		MO	adventive	FACU	FACU	FACU
Digitaria sp.	DIGITA	Haller			CRAB GRASS	Poaceae		ND	grass	AN	ND	DIGIT2		MO				
Diodia sp.	DIODIA	L.			BUTTONWEED	Rubiaceae		ND	forb	AN	full	DIODI		DI				
Diodia teres	DIOTER	Walter	3		ROUGH BUTTONWEED	Rubiaceae		(UPL)	forb	AN	full	DITE2		DI	native	UPL	FACU	FACU
Diodia virginiana	DIOVIR	L.	8		VIRGINIA BUTTONWEED	Rubiaceae		FACW	forb	AN	full	DIVI3		DI	native	FACW	FACW	FACW
Dioscorea batatas	DIOBAT	Decne.	0		CINNAMON-VINE	Dioscoreaceae		(FACU)	vine	PE	advent	DIOP		DI	adventive			
Dioscorea quaternata	DIOQUA	J.F. Gmel.	5		WHORLED-LEAVED YAM	Dioscoreaceae		FACU	vine	PE	partial	DIQU		DI	native	FAC	FAC	FAC
Dioscorea sp.	DIOSCO	L.			YAN	Dioscoreaceae		ND	vine	PE	ND	DIOSC		DI				
Dioscorea villosa	DIOVIL	L.	4		WILD YAM	Dioscoreaceae		FAC+	vine	PE	partial	DIVI4		DI	native	FAC	FAC	FAC
Diospyros virginiana	DSPVIR	L.	4		PERSIMMON	Ebenaceae		FAC-	sm tree	W	shade	DIVI5		DI	native	FAC	FAC	FAC
Diphasiastrum digitatum	DIPDIG	(Dill. ex A. Braun) Holub	1	syn	GROUND-PINE	Lycopodiaceae	202	FACU-	fern	PE	shade	LYDI3		SVP	native			
Diphasiastrum sp.	DIPHAS	Holub			GROUND-PINE	Lycopodiaceae		ND	fern	PE	shade	LYCOP2		SVP				
Diphasiastrum tristachyum	DIPTRI	(Pursh) Holub	3	syn	BLUE GROUND-PINE	Lycopodiaceae		(UPL)	fern	PE	shade	LYTR		SVP	native			
Diplotaxis muralis	DIPMUR	(L.) DC.	0		SAND ROCKET	Brassicaceae		(UPL)	forb	AN	advent	DIMU2		DI	adventive			
Diplotaxis sp.	DIPLOT	DC.			WALL ROCKET	Brassicaceae		UPL	forb	ND	advent	DIPLO		DI				
Diplotaxis tenuifolia	DIPTEN	(L.) DC.	0		PERENNIAL WALL ROCKET	Brassicaceae		(UPL)	forb	PE	advent	DITE4		DI	adventive			
Dipsacus fullonum	DIPFUL	L.	0	syn	WILD TEASEL	Dipsacaceae		FACU-	forb	BI	advent	DIFU2		DI	adventive	FACU	FACU	FACU
Dipsacus laciniatus	DIPLAC	L.	0		CUT-LEAVED TEASEL	Dipsacaceae		(UPL)	forb	BI	advent	DILA4		DI	adventive		UPL	FACU
Dipsacus sativus	DIPSAT	(L.) Honck.	0		INDIAN TEASEL	Dipsacaceae		(UPL)	forb	BI	advent	DISA9		DI	adventive			
Dipsacus sp.	DIPSAC	L.			TEASEL	Dipsacaceae		ND	forb	BI	advent	DIPSA		DI				
Dirca palustris	DIRPAL	L.	7		LEATHERWOOD	Thymelaeaceae		FAC	sm tree	W	shade	DIPA9		DI	native	FAC	FAC	FAC
Dodecatheon meadia	DODMEA	L.	7		SHOOTING STAR	Primulaceae		FACU	forb	PE	partial	DOME		DI	native	FACU	FACU	FACU
Doellingeria infirma	DOEINF	(Michx.) Greene	8	syn	WEAK ASTER	Asteraceae		(UPL)	forb	PE	shade	DOIN2		DI	native			
Doellingeria sp.	DOELLI	Nees			ASTER	Asteraceae		ND	forb	PE	ND	ASTER		DI				
Doellingeria umbellata	DOEUMB	(Mill.) Nees	3	syn	FLAT-TOPPED WHITE ASTER	Asteraceae		FACW	forb	PE	partial	DOUMU		DI	native	FACW	FACW	FACW
Dolichos lablab	DOLLAB	L.	0		HYACINTH BEAN	Fabaceae		(FACU)	vine	PE	advent	LAPUP3		DI	adventive			
Draba brachycarpa	DRABRA	Nutt. ex Torr. & A. Gray	9		LITTLE WHITLOW-GRASS	Brassicaceae		(UPL)	forb	AN	full	DRBR	E	DI	native			
Draba cuneifolia	DRACUN	Nutt. ex Torr. & A. Gray	9		WEDGE-LEAVED WHITLOW-GR.	Brassicaceae		(UPL)	forb	AN	full	DRCU	T	DI	native			
Draba reptans	DRAREP	(Lam.) Fernald	7		CAROLINA WHITLOW-GRASS	Brassicaceae		(UPL)	forb	AN	full	DRRE2	T	DI	native			
Draba sp.	DRABA	L.			DRABA	Brassicaceae		UPL	forb	AN	full	DRABA		DI				
Dracocephalum parviflorum	DRAPAR	Nutt.	0		AMERICAN DRAGONHEAD	Lamiaceae		(UPL)	forb	PE	advent	DRPA2		DI	adventive	FACU	FACU	FACU
Drosera intermedia	DROINT	Hayne	9		NARROW-LEAVED SUNDEW	Droseraceae		OBL	forb	PE	full	DRIN3	E	DI	native	OBL	OBL	OBL
Drosera rotundifolia	DROROT	L.	7		ROUND-LEAVED SUNDEW	Droseraceae		OBL	forb	PE	full	DRRO		DI	native	OBL	OBL	OBL
Drosera sp.	DROSER	L.			SUNDEW	Droseraceae		OBL	forb	PE	full	DROSE		DI				
Dryopteris carthusiana	DRYCAR	(Vill.) H.P. Fuchs	5	syn	SPINULOSE WOOD FERN	Dryopteridaceae	203	FAC+	fern	PE	shade	DRCA11		SVP	native	FAC	FACW	FACW
Dryopteris celsa	DRYCEL	(W. Palmer) Small	8		LOG WOOD FERN	Dryopteridaceae		OBL	fern	PE	shade	DRCE	E	SVP	native	OBL	OBL	OBL
Dryopteris clintoniana	DRYCLI	(DC. Eaton) Dowell	8	syn	CLINTON'S WOOD FERN	Dryopteridaceae		FACW+	fern	PE	shade	DRCL	E	SVP	native	FACW	FACW	FACW
Dryopteris cristata	DRYCRI	(L.) A. Gray	8		CRESTED WOOD FERN	Dryopteridaceae		FACW+	fern	PE	shade	DRCR4		SVP	native	FACW	OBL	OBL
Dryopteris filix-mas	DRYFIL	L.	8		MALE FERN	Dryopteridaceae		(UPL)	fern	PE	shade	DRFI2	E	SVP	native			
Dryopteris goldiana	DRYGOL	(Hook. ex Goldie) A. Gray	7		GOLDIE'S FERN	Dryopteridaceae		FAC+	fern	PE	shade	DRGO		SVP	native	FAC	FAC	FAC
Dryopteris intermedia	DRYINT	(Muhl. ex Willd.) A. Gray	6	syn	EVERGREEN WOOD FERN	Dryopteridaceae		FACU	fern	PE	shade	DRIN5		SVP	native	FACU	FAC	FAC
Dryopteris marginalis	DRYMAR	(L.) A. Gray	5		MARGINAL WOOD FERN	Dryopteridaceae		FACU-	fern	PE	shade	DRMA4		SVP	native	FACU	FACU	FACU
Dryopteris sp.	DRYOPT	Adans.			WOOD FERN	Dryopteridaceae		ND	fern	PE	shade	DRYOP		SVP				
Duchesnea indica	DUCIND	(Andrews) Focke	0		INDIAN-STRAWBERRY	Rosaceae		FACU-	forb	PE	advent	DUIN		DI	adventive	FACU	FACU	FACU

Dulichium arundinaceum	DULARU	(L.) Britton	6	THREE-WAY SEDGE	Cyperaceae	204	OBL	sedge	PE	full	DUAR3		MO	native	OBL	OBL	OBL
Dyssodia papposa	DYSPAP	(Vent.) Hitchc.	0	STINKING-MARIGOLD	Asteraceae		(UPL)	forb	PE	advent	DYPA		DI	adventive			
Echinacea purpurea	ECHPUR	(L.) Moench	6	PURPLE CONEFLOWER	Asteraceae		(UPL)	forb	PE	full	ECPU		DI	native			
Echinochloa crus-galli	ECHCRU	(L.) P. Beauv.	0	BARNYARD GRASS	Poaceae		FACU	grass	AN	advent	ECCR		MO	adventive	FAC	FACW	FAC
Echinochloa muricata	ECHMUR	(P. Beauv.) Fernald	3	ROUGH BARNYARD GRASS	Poaceae	205	FACW+	grass	AN	full	ECMU2		MO	native	FACW	OBL	OBL
Echinochloa sp.	ECHINO	P. Beauv.		COCKSPUR GRASS	Poaceae		ND	grass	AN	ND	ECHIN4		MO				
Echinochloa walteri	ECHWAL	(Pursh) A. Heller	6	WALTER'S MILLET	Poaceae		FACW+	grass	AN	full	ECWA		MO	native	FACW	OBL	OBL
Echinocystis lobata	ECHLOB	(Michx.) Torr. & A. Gray	2	WILD CUCUMBER	Cucurbitaceae		FAC	vine	AN	shade	ECLO		DI	native	FAC	FACW	FACW
Echinodorus berteroi	ECHBER	(Spreng.) Fassett	9 syn	BUR-HEAD	Alismataceae		OBL	forb	AN	full	ECBE2	T	DI	native	OBL	OBL	OBL
Echium vulgare	ECHVUL	L.	0	VIPER'S BUGLOSS	Boraginaceae	206	(UPL)	forb	BI	advent	ECVU		DI	adventive			
Eclipta prostrata	ECLPRO	(L.) L.	3	YERBA-DE-TAJO	Asteraceae	207	FAC	forb	AN	full	ECPR		DI	native	FAC	FACW	FACW
Elaeagnus angustifolia	ELAANG	L.	0	RUSSIAN-OLIVE	Elaeagnaceae		FACU	sm tree	W	advent	ELAN		DI	adventive	FACU	FACU	FACU
Elaeagnus multiflora	ELAMUL	Thunb.	0	RUSSIAN-OLIVE	Eleagnaceae		(UPL)	sm tree	W	advent	ELMU		DI	adventive			
Elaeagnus sp.	ELAEAG	L.		OLEASTER	Elaeagnaceae		FACU	sm tree	W	advent	ELAEA		DI				
Elaeagnus umbellata	ELAUMB	Thun.	0	AUTUMN-OLIVE	Elaeagnaceae		(FACU)	sm tree	W	advent	ELUM		DI	adventive			
Elatine triandra	ELATRI	Schkuhr	10 syn	WATERWORT	Elatinaceae		OBL	forb	AN	full	ELTR	X	DI	native			OBL
Eleocharis acicularis	ELEACI	(L.) Roem. & Schult.	5	NEEDLE SPIKE-RUSH	Cyperaceae		OBL	sedge	PE	full	ELAC		MO	native	OBL	OBL	OBL
Eleocharis compressa	ELECOM	Sull.	7 syn	FLAT-STEM SPIKE-RUSH	Cyperaceae	208	FACW+	sedge	PE	full	ELCO2	P	MO	native	OBL	FACW	FACW
Eleocharis elliptica	ELEELL	Kunth	7 syn	YELLOW-SEEDED SPIKE-RUSH	Cyperaceae		(FACW+)	sedge	PE	full	ELEL4		MO	native	FACW	OBL	OBL
Eleocharis engelmannii	ELEENG	Steud.	9 syn	ENGELMANN'S SPIKE-RUSH	Cyperaceae	209	FACW+	sedge	AN	full	ELEN	E	MO	native	FACW	FACW	FACW
Eleocharis erythropoda	ELEERY	Steud.	4 syn	RED-FOOTED SPIKE-RUSH	Cyperaceae	210	OBL	sedge	PE	full	ELER		MO	native			
Eleocharis flavescens (Poir.) Urban var. olivacea	ELEFLAO	(Torr.) Gleason	8 syn	OLIVACEOUS SPIKE-RUSH	Cyperaceae		OBL	sedge	PE	full	ELOLO	T	MO	native	OBL		OBL
Eleocharis geniculata	ELEGEN	(L.) Roem. & Schult.	9 syn	CARIBBEAN SPIKE-RUSH	Cyperaceae	211	FACW	sedge	AN	full	ELGE	E	MO	native		FACW	OBL
Eleocharis intermedia	ELEINT	Schult.	7	MATTED SPIKE-RUSH	Cyperaceae		FACW+	sedge	AN	full	ELIN		MO	native	FACW	OBL	OBL
Eleocharis obtusa	ELEOBT	(Willd.) Schult.	1	BLUNT SPIKE-RUSH	Cyperaceae	212	OBL	sedge	AN	full	ELOB2		MO	native	OBL	OBL	OBL
Eleocharis ovata	ELEOVA	(Roth) Roem. & Schult.	9	OVATE SPIKE-RUSH	Cyperaceae		OBL	sedge	AN	full	ELOV	E	MO	native	OBL	OBL	OBL
Eleocharis palustris	ELEPAL	Britton	5 syn	SMALL'S SPIKE-RUSH	Cyperaceae	213	OBL	sedge	PE	full	ELPA3		MO	native	OBL	OBL	OBL
Eleocharis parvula	ELEPAR	(Roem. & Schult.) Link	9	LEAST SPIKE-RUSH	Cyperaceae		OBL	sedge	PE	full	ELPA5	E	MO	native	OBL	OBL	OBL
Eleocharis quadrangulata	ELEQUA	(Michx.) Roem. & Schult.	4	FOUR-ANGLED SPIKE-RUSH	Cyperaceae	214	OBL	sedge	PE	full	ELQU		MO	native	OBL	OBL	OBL
Eleocharis quinqueflora	ELEQUI	(Hartmann) O. Scharz	10	FEW-FLOWERED SPIKE-RUSH	Cyperaceae		OBL	sedge	PE	full	ELQU2	T	MO	native	OBL	OBL	OBL
Eleocharis robbinsii	ELEROB	Oakes	10	ROBBINS' SPIKE-RUSH	Cyperaceae		OBL	sedge	PE	full	ELRO	E	MO	native	OBL	OBL	OBL
Eleocharis rostellata	ELEROS	(Torr.) Torr.	10	WALKING SPIKE-RUSH	Cyperaceae		OBL	sedge	PE	full	ELRO2		MO	native	OBL	OBL	OBL
Eleocharis sp.	ELEOCH	R. Br.		SPIKE-RUSH	Cyperaceae		ND	sedge	ND	full	ELEOC		MO				
Eleocharis tenuis (Willd.) Schult. var. verrucosa	ELETENV	(Svenson) Svenson	7 syn	VERRUCOSE SPIKE-RUSH	Cyperaceae		(FACW+)	sedge	PE	full	ELTEV		MO	native	FACW	FACW	FACW
Eleocharis tenuis var. tenuis	ELETENT	(Willd.) Schult.	9 syn	SLENDER SPIKE-RUSH	Cyperaceae	215	FACW+	sedge	PE	full	ELTET		MO	native	FACW	FACW	FACW
Eleocharis wolfii	ELEWOL	(A. Gray) A. Gray ex Britton	9	WOLF'S SPIKE-RUSH	Cyperaceae		OBL	sedge	PE	full	ELWO	E	MO	native	OBL	OBL	OBL
Elephantopus carolinianus	ELPCAR	Raeusch.	4	ELEPHANT'S-FOOT	Asteraceae		FACU	forb	PE	shade	ELCA3		DI	native	FACU	FAC	
Eleusine indica	ELEIND	(L.) Gaertn.	0	GOOSE GRASS	Poaceae		FACU-	grass	AN	advent	ELIN3		MO	adventive	FACU	FACU	FACU
Ellisia nyctelea	ELLNYC	(L.) L.	0	WATER-POD	Hydrophyllaceae		FACU	forb	AN	advent	ELNY		DI	adventive	FACU	FAC	FAC
Elodea canadensis	ELOCAN	Michx.	3	COMMON WATERWEED	Hydrocharitaceae		OBL	forb	PE	full	ELCA7		MO	native	OBL	OBL	OBL
Elodea nuttallii	ELONUT	(Planch.) St. John	5	NUTTALL'S WATERWEED	Hydrocharitaceae		OBL	forb	PE	full	ELNU2		MO	native	OBL	OBL	OBL
Elodea sp.	ELODEA	Michx.		WATERWEED	Hydrocharitaceae		OBL	forb	PE	full	ELODE		MO				
Elymus canadensis	ELYCAN	L.	6	CANADA WILD RYE	Poaceae		FACU+	grass	PE	full	ELCA4		MO	native	FACU	FACU	FACU
Elymus hystrix	ELYHYS	L.	4 syn	BOTTLEBRUSH GRASS	Poaceae		UPL	grass	PE	shade	ELHY		MO	native	UPL	FACU	FACU
Elymus macgregorii	ELYMAC	R. Brooks & J.J.N. Campb.	6	MACGREGOR'S WILD RYE	Poaceae	541	(FACW)	grass	PE	shade			MO	native			
Elymus riparius	ELYRIP	Wiegand	5	RIVERBANK WILD RYE	Poaceae		FACW	grass	PE	partial	ELRI		MO	native	FACW	FACW	FACW
Elymus sp.	ELYMUS	L.		WILD RYE	Poaceae		ND	grass	PE	ND	ELYMU		MO				
Elymus trachycaulus	ELYTRA	(Link) Gould ex Shinners	7 syn	BEARDED WHEAT GRASS	Poaceae		FACU	grass	PE	partial	ELTR7	T	MO	native	FACU	FACU	FACU
Elymus villosus	ELYVIL	Muhl. ex Willd.	4	HAIRY WILD RYE	Poaceae		FACU-	grass	PE	partial	ELVI		MO	native	FACU	FACU	FACU
Elymus virginicus	ELYVIR	L.	3	VIRGINIA WILD RYE	Poaceae	216	FACW-	grass	PE	partial	ELVI3		MO	native	FACW	FACW	FACW
Elytrigia repens	ELYREP	(L.) Desv. ex B.D. Jacks	0 syn	QUACKGRASS	Poaceae		FACU-	grass	PE	advent	ELRE4		MO	adventive	FACU	FACU	FACU
Elytrigia smithii	ELYSMI	(Rydb.) Nevski	0 syn	WESTERN WHEAT GRASS	Poaceae		(UPL)	grass	PE	advent	PASM		MO	adventive	UPL	FACU	FACU
Elytrigia sp.	ELYTRI	Desv.		WHEAT GRASS	Poaceae		ND	grass	PE	advent			MO				
Epifagus virginiana	EPIVIR	(L.) Barton	10	BEECH DROPS	Orobanchaceae		(UPL)	forb	AN	shade	EPVI2		DI	native			
Epigaea repens	EPIREP	L.	8	TRAILING ARBUTUS	Ericaceae	217	(UPL)	shrub	W	shade	EPRE2		DI	native			
Epilobium angustifolium	EPIANG	L.	7	FIREWEED	Onagraceae	218	FAC	forb	PE	full	CHANC	E	DI	native			
Epilobium ciliatum	EPICIL	Raf.	4	NORTHERN WILLOW-HERB	Onagraceae		FAC-	forb	PE	full	EPCI		DI	native	FAC	FACW	FACW
Epilobium coloratum	EPICOL	Biehler	1	PURPLE-LEAVED WILLOW-HERB	Onagraceae		OBL	forb	PE	full	EPCO		DI	native	FACW	OBL	OBL
Epilobium hirsutum	EPIHIR	L.	0	HAIRY WILOW-HERB	Onagraceae		FACW	forb	PE	advent	EPHI		DI	adventive	FACW	FACW	FACW
Epilobium leptophyllum	EPILEP	Raf.	7	NARROW-LEAVED WILLOW-HERB	Onagraceae		OBL	forb	PE	full	EPLE2		DI	native	OBL	OBL	OBL
Epilobium parviflorum	EPIPAR	Schreb.	0	SMALL-FLOWERED WILLOW-HERB	Onagraceae		(FACW)	forb	PE	advent	EPPA5		DI	adventive	OBL		
Epilobium sp.	EPILOB	L.		WILLOW-HERB	Onagraceae		ND	forb	PE	ND	EPILO		DI				
Epilobium strictum	EPISTR	Muhl. ex Spreng.	9	SIMPLE WILLOW-HERB	Onagraceae		OBL	forb	PE	shade	EPST	T	DI	native	OBL	OBL	OBL
Epipactis helleborine	EPIHEL	(L.) Crantz	0	HELLEBORINE	Equisetaceae		(UPL)	forb	PE	advent	EPHE		DI	adventive	UPL	FACU	UPL
Equisetum arvense	EQUARV	L.	0	FIELD HORSETAIL	Equisetaceae		FAC	fern	PE	full	EQAR		SVP	native	FAC	FAC	FAC
Equisetum fluviatile	EQUFLU	L.	7	WATER HORSETAIL	Equisetaceae		OBL	fern	PE	full	EQFL		SVP	native	OBL	OBL	OBL

Equisetum hyemale	EQUHYE	L.	2	SCOURING-RUSH	Equisetaceae	219	FACW	fern	PE	full	EQHY		SVP	native	FACW	FACW	FAC
Equisetum laevigatum	EQULAE	A. Braun	6	SMOOTH SCOURING-RUSH	Equisetaceae		FACW	fern	PE	full	EQLA		SVP	native	FACW	FACW	FACW
Equisetum sp.	EQUISE	L.		HORSE-TAIL	Equisetaceae		ND	fern	PE	ND	EQUIS		SVP				
Equisetum sylvaticum	EQUSYL	L.	7	WOODLAND HORSETAIL	Equisetaceae		FACW	fern	PE	partial	EQSY	P	SVP	native	FACW	FACW	FACW
Equisetum variegatum	EQUVAR	Schleich. ex F. Weber & D. Mohr	8	VARIEGATED SCOURING-RUSH	Equisetaceae		FACW	fern	PE	full	EQVA	E	SVP	native	FACW	FACW	FACW
Eragrostis capillaris	ERACAP	(L.) Nees	3	LACE GRASS	Poaceae		(UPL)	grass	AN	partial	ERCA		MO	native			
Eragrostis cilianensis	ERACIL	(All.) Vignolo ex Janch.	0	STINK GRASS	Poaceae	220	FACU	grass	AN	advent	ERCI		MO	adventive	FACU	FACU	FACU
Eragrostis curvula	ERACUR	(Schrad.) Nees	0	WEEPING LOVEGRASS	Poaceae		(FACU)	grass	PE	advent	ERCU2		MO	adventive			
Eragrostis frankii	ERAFRA	C.A. Mey. ex Steud.	3	FRANK'S LOVE GRASS	Poaceae		FACW	grass	AN	full	ERFR		MO	native	FACW	FACW	FACW
Eragrostis hypnoides	ERAHYP	(Lam.) B.S.P.	4	CREEPING LOVE GRASS	Poaceae		OBL	grass	AN	full	ERHY		MO	native	OBL	OBL	OBL
Eragrostis minor	ERAMIN	Host	0	LOW LOVE GRASS	Poaceae	221	(UPL)	grass	AN	advent	ERMI5		MO	adventive			
Eragrostis pectinacea	ERAPEC	(Michx.) Nees ex Steud.	1	CAROLINA LOVE GRASS	Poaceae		FAC	grass	AN	full	ERPE		MO	native	FAC	FAC	FAC
Eragrostis pilosa	ERAPIL	(L.) P. Beauv.	0	INDIA LOVE GRASS	Poaceae		FACU	grass	PE	advent	ERPI2		MO	adventive	FACU	FACU	FACU
Eragrostis sp.	ERIGRO	von Wolf		LOVE GRASS	Poaceae		ND	grass	ND	ND	ERAGR		MO				
Eragrostis spectabilis	ERASPE	(Pursh) Steud.	2	PURPLE LOVE GRASS	Poaceae		(UPL)	grass	PE	partial	ERSP		MO	native	UPL	UPL	UPL
Eranthis hyemalis	ERAHYE	(L.) Salisb.	0	WINTER ACONITE	Ranunculaceae		(FACU)	forb	PE	advent	ERHY4		DI	adventive			
Erechtites hieracifolia	EREHIE	(L.) Raf. ex DC.	2	PILEWORT	Asteraceae	222	FACU	forb	AN	full	ERHI2		DI	native			
Erica tetralix	ERITET	L.	0	CROSS-LEAVED HEATHER	Ericaceae		(OBL)	shrub	W	advent	ERTE4		DI	adventive	FACU		FACU
Erigenia bulbosa	ERIBUL	(Michx.) Nutt.	6	HARBINGER-OF-SPRING	Apiaceae		(UPL)	forb	PE	shade	ERBU		DI	native			
Erigeron annuus	ERIANN	(L.) Pers.	0	DAISY FLEABANE	Asteraceae		FACU	forb	AN	full	ERAN		DI	native	FACU	FACU	FACU
Erigeron philadelphicus	ERIPHI	L.	2	PHILADELPHIA FLEABANE	Asteraceae		FACU	forb	BI	full	ERPH		DI	native	FACU	FACW	FAC
Erigeron pulchellus	ERIPUL	Michx.	5	ROBIN'S-PLANTAIN	Asteraceae	223	FACU	forb	PE	full	ERPU		DI	native	FACU	FACU	FACU
Erigeron sp.	ERIGER	L.		FLEABANE	Asteraceae		ND	forb	ND	full	ERIGE2		DI				
Erigeron strigosus	ERISTR	Muhl. ex Willd.	1	ROUGH FLEABANE	Asteraceae		FACU+	forb	AN	full	ERST3		DI	native	FACU	FACU	FACU
Eriocaulon aquaticum	ERIAQU	(Hill) Druce	10 syn	WHITE-BUTTONS	Eriocaulaceae	224	OBL	forb	PE	full	ERAQ2	E	DI	native	OBL	OBL	OBL
Eriophorum gracile	ERIOGR	W.D.J. Koch	10	SLENDER COTTON-GRASS	Cyperaceae	564	OBL	sedge	PE	full	ERGR8	X	MO	native	OBL	OBL	OBL
Eriophorum sp.	ERIOPH	L.	10	COTTON-GRASS	Cyperaceae		OBL	sedge	PE	full	ERIOP		MO				
Eriophorum virginicum	ERIVRG	L.	10	TAWNY COTTON-GRASS	Cyperaceae		OBL	sedge	PE	full	ERVI8	P	MO	native	OBL	OBL	OBL
Eriophorum viridicarinatum	ERIVRD	(Englem.) Fernald	10	GREEN COTTON-GRASS	Cyperaceae		OBL	sedge	PE	full	ERVI9	P	MO	native	OBL	OBL	OBL
Erodium cicutarium	EROCIC	(L.) L'Her ex Aiton	0	REDSTEMMED-FILAREE	Geraniaceae		(UPL)	forb	AN	advent	ERCI6		DI	adventive			
Erophila verna	EROVER	(L.) Besser	0 syn	WHITLOW-GRASS	Brassicaceae		(UPL)	forb	AN	advent	DRVE2		DI	adventive			
Erucastrum gallicum	ERUGAL	(Willd.) O.E. Schulz	0	DOG-MUSTARD	Brassicaceae		(UPL)	forb	AN	advent	ERGA		DI	adventive			
Eryngium yuccifolium	ERYYUC	Michx.	7	RATTLESNAKE-MASTER	Apiaceae		FAC	forb	PE	full	ERYU	P	DI	native	FAC	FAC	FAC
Erysimum capitatum	ERYCAP	(Douglas ex Hooker) Greene	10 syn	WESTERN WALLFLOWER	Brassicaceae		(UPL)	forb	BI	full	ERAS2	E	DI	native			
Erysimum cheiranthoides	ERYCHE	L.	0	WORMSEED-MUSTARD	Brassicaceae		FAC	forb	AN	advent	ERCH9		DI	adventive	FAC	FACU	FACU
Erysimum inconspicuum	ERYINC	(S. Watson) MacMill.	0	PLAINS WALLFLOWER	Brassicaceae		(UPL)	forb	PE	advent	ERIN7		DI	adventive			
Erysimum repandum	ERYREP	L.	0	BUSHY WALLFLOWER	Brassicaceae		(UPL)	forb	AN	advent	ERRE4		DI	adventive			
Erysimum sp.	ERYSIM	L.		WALLFLOWER	Brassicaceae		ND	forb	ND	ND	ERYSI		DI				
Erythronium albidum	ERYALB	Nutt.	5	WHITE TROUT-LILY	Liliaceae		FACU	forb	PE	shade	ERAL9		MO	native	FACU	FACU	FACU
Erythronium americanum	ERYAME	Ker Gawl.	4	YELLOW TROUT-LILY	Liliaceae		(UPL)	forb	PE	shade	ERAM5		MO	native			
Erythronium rostratum	ERYROS	W. Wolf	9	GOLDENSTAR	Liliaceae		UPL	forb	PE	shade	ERRO5	E	MO	native	UPL	FACU	
Erythronium sp.	ERYTHR	L.		TROUT-LILY	Liliaceae		ND	forb	PE	shade	ERYTH3		MO				
Eschscholzia californica	ESCCAL	Cham.	0	CALIFORNIA POPPY	Papaveraceae		(UPL)	forb	PE	advent	ESCA2		DI	adventive			
Euonymus alatus	EUOALA	(Thunb.) Siebold	0	WINGED WAHOO	Celastraceae		(UPL)	shrub	W	advent	EUAL13		DI	adventive			
Euonymus americanus	EUOAME	L.	6	AMERICAN STRAWBERRY-BUSH	Celastraceae		FAC	shrub	W	partial	EUAM9		DI	native	FAC	FAC	FAC
Euonymus atropurpureus	EUOATR	Jacq.	3	BURNING-BUSH	Celastraceae		FACU	shrub	W	partial	EUAT5		DI	native	FACU	FAC	FACU
Euonymus europaeus	EUOEUR	L.	0	EUROPEAN SPINDLE TREE	Celastraceae		(UPL)	shrub	W	advent	EUEU7		DI	adventive			
Euonymus fortunei	EUOFOR	(Turcz.) Hand.-Mazz.	0	WINTERCREEPER	Celastraceae		(UPL)	vine	W	advent	EUFO5		DI	adventive			
Euonymus obovatus	EUOOBO	Nutt.	5	RUNNING STRAWBERRY-BUSH	Celastraceae		(FAC)	shrub	W	full	EUOB8		DI	native	FAC	FAC	FACU
Euonymus sp.	EUONYM	L.		SPINDLE TREE	Celastraceae		ND	shrub	W	ND	EUONY2		DI				
Eupatorium album	EUPALB	L.	8	WHITE THOROUGHWORT	Asteraceae		(UPL)	forb	PE	shade	EUAL2	E	DI	native			
Eupatorium altissimum	EUPALT	L.	0	TALL BONESET	Asteraceae		(UPL)	forb	PE	partial	EUAL3		DI	native			
Eupatorium aromaticum	EUPARO	L.	6 syn	SMOOTH WHITE SNAKEROOT	Asteraceae		(UPL)	forb	PE	shade	AGARA	E	DI	native			
Eupatorium coelestinum	EUPCOE	L.	3	MISTFLOWER	Asteraceae		FAC	forb	PE	partial	COCO13		DI	native	FAC	FACW	FAC
Eupatorium fistulosum	EUPFIS	Barratt	6	HOLLOW-STEMMED JOE-PYE W.	Asteraceae		FACW	forb	PE	partial	EUFI2		DI	native	FACW	OBL	FACW
Eupatorium godfreyanum	EUPGOD	Cronquist	8	GODFREY'S THOROUGHWORT	Asteraceae	566	(UPL)	forb	PE	partial			DI	native			
Eupatorium hyssopifolium	EUPHYS	L.	4	HYSSOP THOROUGHWORT	Asteraceae	225	(UPL)	forb	PE	full	EUHY	E	DI	native			
Eupatorium incarnatum	EUPINC	Walter	4 syn	PINK THOROUGHWORT	Asteraceae		FAC	forb	PE	shade	FLIN2	P	DI	native			
Eupatorium maculatum	EUPMAC	L.	6	SPOTTED JOE-PYE WEED	Asteraceae	226	FACW	forb	PE	full	EUMAM3		DI	native	FACW	OBL	OBL
Eupatorium perfoliatum	EUPPER	L.	3	COMMON BONESET	Asteraceae		FACW+	forb	PE	full	EUPE3		DI	native	FACW	OBL	FACW
Eupatorium purpureum	EUPPUR	L.	5	PURPLE JOE-PYE WEED	Asteraceae		FAC	forb	PE	partial	EUPU10		DI	native	FAC	FAC	FAC
Eupatorium rotundifolium	EUPROT	L.	6	ROUND-LEAVED THOROUGHWORT	Asteraceae	227	FAC-	forb	PE	shade	EURO4		DI	native	FAC	FAC	FAC
Eupatorium rugosum	EUPRUG	Houtt.	3 syn	WHITE SNAKEROOT	Asteraceae		(FACU)	forb	PE	shade	AGALA		DI	native	FACU	FACU	FACU
Eupatorium serotinum	EUPSER	Michx.	2	LATE-FLOWERING BONESET	Asteraceae		FAC-	forb	PE	shade	EUSE2		DI	native	FAC	FAC	FAC
Eupatorium sessilifolium	EUPSES	L.	4	UPLAND BONESET	Asteraceae		(UPL)	forb	PE	shade	EUSE3		DI	native			
Eupatorium sp.	EUPTOR	L.		THOROUGHWORT	Asteraceae		ND	forb	PE	ND	EUPAT		DI				

Euphorbia commutata	EUPHCM	Engelm.	5	WOOD SPURGE	Euphorbiaceae		FACU	forb	PE	shade	EUCO8		DI	native	FACU	UPL	UPL
Euphorbia corollata	EUPHCO	L.	4	FLOWERING SPURGE	Euphorbiaceae		(UPL)	forb	PE	full	EUCO10		DI	native			
Euphorbia cyathophora	EUPCYA	Murray	0	FIRE-ON-THE-MOUNTAIN	Euphorbiaceae		(FACU)	forb	PE	advent	EUCY		DI	adventive	UPL	FACU	FACU
Euphorbia cyparissias	EUPHCY	L.	0	CYPRESS SPURGE	Euphorbiaceae		(UPL)	forb	PE	advent	EUCY2		DI	adventive			
Euphorbia dentata	EUPHDE	Michx.	0	TOOTHED SPURGE	Euphorbiaceae	228	(UPL)	forb	AN	advent	EUDA5		DI	adventive			
Euphorbia esula	EUPHES	L.	0	LEAFY SPURGE	Euphorbiaceae		(UPL)	forb	PE	advent	EUES		DI	adventive			
Euphorbia falcata	EUPFAL	L.	0	FALCATE SPURGE	Euphorbiaceae		(UPL)	forb	AN	advent	EUFA2		DI	adventive			
Euphorbia helioscopia	EUPHEL	L.	0	SUN SPURGE	Euphorbiaceae		(UPL)	forb	AN	advent	EUHE2		DI	adventive			
Euphorbia humistrata	EUPHHU	Engelm.	3	SPREADING SPURGE	Euphorbiaceae		FACU	forb	AN	partial	CHHU3		DI	native	FAC	FACW	FACW
Euphorbia maculata	EUPHMA	L.	0	SPOTTED SPURGE	Euphorbiaceae		FACU-	forb	AN	full	CHMA15		DI	native	FACU	FACU	FACU
Euphorbia marginata	EUPHMR	Pursh	0	SNOW-ON-MOUNTAIN	Euphorbiaceae		UPL	forb	AN	advent	EUMA8		DI	adventive	UPL	FACU	FACU
Euphorbia nutans	EUPHNU	Lagasca	0	EYEBANE	Euphorbiaceae		FACU-	forb	AN	full	CHNU9		DI	native	FACU	FACU	FACU
Euphorbia obtusata	EUPHOB	Pursh	4	BLUNT-LEAVED SPURGE	Euphorbiaceae		FACU-	forb	AN	shade	EUSP		DI	native	FACU	FACU	FACU
Euphorbia peplus	EUPHPE	L.	0	PETTY SPURGE	Euphorbiaceae		(UPL)	forb	AN	advent	EUPE6		DI	adventive			
Euphorbia platyphyllos	EUPHPL	L.	0	BROAD-LEAVED SPURGE	Euphorbiaceae		(UPL)	forb	AN	advent	EUPL		DI	adventive			
Euphorbia polygonifolia	EUPHPO	L.	10	SEASIDE SPURGE	Euphorbiaceae		FACU	forb	AN	full	CHPO6	P	DI	native	FACU	UPL	UPL
Euphorbia prostrata	EUPPRO	Aiton	0	GROUND-FIG SPURGE	Euphorbiaceae		(UPL)	forb	AN	advent	CHPR6		DI	adventive	FACU	FACU	FACU
Euphorbia purpurea	EUPHPU	(Raf.) Fernald	9	GLADE SPURGE	Euphorbiaceae		FAC	forb	PE	shade	EUPU4	E	DI	native	FAC	FAC	
Euphorbia serpens	EUPHSE	Kunth	8	ROUND LEAVED SPURGE	Euphorbiaceae		(FACW)	forb	AN	full	CHSE4	E	DI	native	FACW	FACW	FACW
Euphorbia sp.	EUPHOR	L.		SPURGE	Euphorbiaceae		ND	forb	ND	ND	EUPHO		DI				
Euphorbia vermiculata	EUPHVE	Raf.	0	HAIRY SPURGE	Euphorbiaceae		(UPL)	forb	AN	full	CHVE5		DI	native			
Eurybia divaricata	EURDIV	(L.) G.L. Nesom	5	WHITE WOOD ASTER	Asteraceae		(UPL)	forb	PE	shade	EUDI16		DI	native			
Eurybia macrophylla	EURMAC	(L.) Cass	5	BIG-LEAVED ASTER	Asteraceae		UPL	forb	PE	shade	EUMA27		DI	native	UPL	FACU	UPL
Eurybia schreberi	EURSCH	(Nees) Nees	5	LARGE-LEAVED ASTER	Asteraceae		(FACU+)	forb	PE	shade	EUSC5		DI	native			
Eurybia sp.	EURYBI	(Cass.) Cass.		ASTER	Asteraceae		ND	forb	PE	ND	ASTER		DI				
Eurybia surculosa	EUBSUR	(Michx.) G.L. Nesom	9	CREEPING ASTER	Asteraceae		(UPL)	forb	PE	full	EUSU7	E	DI	native			
Euthamia graminifolia	EUTGRA	(L.) Nutt.	2	FLAT-TOPPED GOLDENROD	Asteraceae	229	FAC	forb	PE	full	EUGR5		DI	native	FAC	FACW	FAC
Euthamia remota	EUTREM	Greene	9	GREAT LAKES FLAT-TOPPED G.	Asteraceae	230	FAC	forb	PE	full	EUGY	T	DI	native	FAC	FACW	FAC
Euthamia sp.	EUTHAM	Nutt. ex Cass.		FLAT-TOPPED GOLDENROD	Asteraceae		FAC	forb	PE	full	EUTHA		DI				
Fagopyrum esculentum	FAGESC	Moench	0	BUCKWHEAT	Polygonaceae		(UPL)	forb	AN	advent	FAES2		DI	adventive			
Fagus grandifolia	FAGGRA	Ehrh.	7	AMERICAN BEECH	Fagaceae	231	FACU	tree	W	tree	FAGR		DI	native	FACU	FACU	FACU
Fallopia cilinodis	FALCLI	(Michx.) Holub	8	MOUNTAIN BINDWEED	Polygonaceae		(UPL)	vine	PE	shade	POCI	E	DI	native			
Fallopia convolvulus	FALCON	(L.) A. Love	0	BLACK BINDWEED	Polygonaceae		FACU	vine	AN	advent	POCO10		DI	adventive	FACU	FACU	FACU
Fallopia japonica	FALJAP	(Houttuyn) Ronse Decraene	0	JAPANESE KNOTWEED	Polygonaceae		FACU-	forb	PE	advent	POCU6		DI	adventive	FACU	FACU	FACU
Fallopia sachalinensis	FALSAC	(F. Schmidt) Ronse Decraene	0	GIANT KNOTWEED	Polygonaceae		(UPL)	forb	PE	advent	POSA4		DI	adventive	UPL	UPL	UPL
Fallopia scandens	FALSCA	(L.) Holub	2	CLIMBING FALSE BUCKWHEAT	Polygonaceae	373	FAC	vine	PE	partial	POSC3		DI	native	FAC	FAC	FAC
Fallopia sp.	FALLOP	ND		KNOTWEEDS	Polygonaceae		ND	forb	ND				DI				
Festuca elatior	FESELA	L.	0	TALL FESCUE	Poaceae	232	FACU	grass	PE	advent	SCPR4		MO	adventive	FACU	FACU	FACU
Festuca ovina	FESOVI	L.	0	SHEEP FESCUE	Poaceae	233	(UPL)	grass	PE	advent	41677		MO	adventive	UPL	FACU	UPL
Festuca pratensis	FESPRA	Huds.	0	MEADOW FESCUE	Poaceae		FACU-	grass	PE	advent	SCPR4		MO	adventive	FACU	FACU	FACU
Festuca rubra	FESRUB	L.	0	RED FESCUE	Poaceae		FACU	grass	PE	advent	FERU2		MO	adventive	FACU	FACU	FACU
Festuca sp.	FESTUC	L.		FESCUE	Poaceae		ND	grass	PE	advent	FESTU		MO				
Festuca subverticillata	FESSUB	(Pers.) E. Alexeev	5	NODDING FESCUE	Poaceae		FACU	grass	PE	shade	FESU3		MO	native	FACU	FACU	FACU
Filago germanica	FILGER	(L.) Huds.	0	COTTON-ROSE	Asteraceae		(UPL)	forb	AN	advent	FIVU2		DI	adventive			
Filipendula rubra	FILRUB	(Hill) B.L. Rob.	8	QUEEN-OF-THE-PRAIRIE	Rosaceae	234	FACW	forb	PE	full	FIRU2		DI	native	FACW	OBL	FACW
Filipendula sp.	FILIPE	Mill.		QUEEN	Rosaceae		ND	forb	PE	ND	FILIP		DI				
Filipendula ulmaria	FILULM	(L.) Maxim.	0	QUEEN-OF-THE-MEADOW	Rosaceae		(UPL)	forb	PE	advent	FIUL		DI	adventive		FACW	
Fimbristylis autumnalis	FIMAUT	(L.) Roem. & Schult.	5	AUTUMN SEDGE	Cyperaceae		FACW+	sedge	AN	full	FIAU2		MO	native	FACW	OBL	FACW
Floerkea proserpinacoides	FLOPRO	Willd.	5	FALSE MERMAID-WEED	Limnanthaceae		FAC	forb	AN	shade	FLPR		DI	native	FAC	FACW	FAC
Foeniculum vulgare	FOEVUL	Mill.	0	FENNEL	Apiaceae		UPL	forb	BI	advent	FOVU		DI	adventive			
Forsythia x intermedia	FORINT	Zabel	0	FORSYTHIA	Oleaceae		(UPL)	shrub	W	advent	FOIN3		DI	adventive			
Fragaria chiloensis	FRACHI	(L.) Mill.	0	BEACH STRAWBERRY	Rosaceae		(FACU)	forb	PE	advent	FRCH		DI	adventive			
Fragaria sp.	FRAGAR	L.		STRAWBERRY	Rosaceae		ND	forb	PE	ND	FRAGA		DI				
Fragaria vesca L. var. americana	FRAVESA	Porter	3	AM. WOODLAND STRAWBERRY	Rosaceae		(UPL)	forb	PE	full	FRVEA2		DI	native	FACU	UPL	UPL
Fragaria vesca var. vesca	FRAVESV	L.	0	EUR. WOODLAND STRAWBERRY	Rosaceae		(UPL)	forb	PE	advent	FRVEV		DI	adventive	FACU	UPL	UPL
Fragaria virginiana	FRAVIR	Duchesne	1	WILD STRAWBERRY	Rosaceae		FACU	forb	PE	full	FRVI		DI	native	FACU	FACU	FACU
Frasera caroliniensis	FRACAR	Walter	7	AMERICAN COLUMBO	Gentianaceae		(UPL)	forb	PE	shade	FRCA2		DI	native			
Fraxinus americana	FRAAME	L.	6	WHITE ASH	Oleaceae	235	FACU	tree	W	tree	FRAM2		DI	native	FACU	FACU	FACU
Fraxinus nigra	FRANIG	Marshall	7	BLACK ASH	Oleaceae		FACW	tree	W	tree	FRNI		DI	native	FACW	FACW	FACW
Fraxinus pennsylvanica	FRAPEN	Marshall	3	GREEN ASH	Oleaceae	236	FACW	tree	W	tree	FRPE		DI	native	FACW	FACW	FACW
Fraxinus profunda	FRAPRO	(Bush) Bush	7	PUMPKIN ASH	Oleaceae		OBL	tree	W	tree	FRPR		DI	native	OBL	OBL	OBL
Fraxinus quadrangulata	FRAQUA	Michx.	7	BLUE ASH	Oleaceae		(UPL)	tree	W	tree	FRQU		DI	native			
Fraxinus sp.	FRAXIN	L.		ASH	Oleaceae		ND	tree	W	tree	FRAXI		DI				
Froelichia floridana	FROFLO	(Nutt.) Moq.	2	PLAINS COTTONWEED	Amaranthaceae	237	(UPL)	forb	AN	full	FRFL	E	DI	native			
Froelichia gracilis	FROGRA	(Hook.) Moq.	0	SLENDER COTTONWEED	Amaranthaceae	238	(UPL)	forb	AN	advent	FRGR3		DI	adventive			
Froelichia sp.	FROELI	Moench		COTTONWEED	Amaranthaceae		UPL	forb	AN	ND	FROEL		DI				

Fumaria officinalis	FUMOFF	L.	0	FUMITORY	Fumariaceae		(UPL)	forb	AN	advent	FUOF		DI	adventive			
Gaillardia pulchella	GAIPUL	Foug.	0	ROSE-RING BLANKET-FLOWER	Asteraceae		(UPL)	forb	BI	advent	GAPU		DI	adventive	UPL	FACU	UPL
Galactia volubilis	GALVOL	(L.) Britton	9	MILK-PEA	Fabaceae		FAC+	forb	PE	full	GAVO	P	DI	native	FACU	FAC	FAC
Galanthus nivalis	GALNIV	L.	0	SNOWDROP	Liliaceae		(FAC+)	forb	PE	advent	GANI		MO	adventive			
Galax urceolata	GALURC	(Poir.) Brummitt	0	WAND-FLOWER	Diapensiaceae		(FACU-)	forb	PE	advent	GAUR2		DI	adventive	FACU		FACU
Galeopsis ladanum	GALLAD	L.	0	RED HEMP-NETTLE	Lamiaceae		(UPL)	forb	AN	advent	GALA		DI	adventive			
Galeopsis sp.	GALEOP	L.		HEMP-NETTLE	Lamiaceae		UPL	forb	AN	advent	GALEO		DI				
Galeopsis tetrahit	GALTET	L.	0	BRITTLE STEM HEMP-NETTLE	Lamiaceae		(UPL)	forb	AN	advent	GATE2		DI	adventive	FACU	FACU	FACU
Galinsoga parviflora	GALPAR	Cav.	0	LESSER QUICKWEED	Asteraceae		(UPL)	forb	AN	advent	GAPA2		DI	adventive	UPL	FACU	UPL
Galinsoga quadriradiata	GALQUA	Ruiz & Pav.	0	COMMON QUICKWEED	Asteraceae		(UPL)	forb	AN	advent	GAQU		DI	adventive	FACU	FACU	FACU
Galinsoga sp.	GALINS	Ruiz & Pav.		QUICKWEED	Asteraceae		UPL	forb	AN	advent	GALIN		DI				
Galium aparine	GALAPA	L.	0	CLEAVERS	Rubiaceae	239	FACU	forb	AN	partial	GAAP2		DI	native	FACU	FACU	FACU
Galium asprellum	GALASP	Michx.	4	ROUGH BEDSTRAW	Rubiaceae		OBL	forb	PE	partial	GAAS2		DI	native	OBL	OBL	OBL
Galium boreale	GALBOR	L.	8	NORTHERN BEDSTRAW	Rubiaceae		FACU	forb	PE	partial	GABO2		DI	native	FACU	FAC	FAC
Galium circaezans	GALCIR	Michx.	4	WILD LICORICE	Rubiaceae	240	(UPL)	forb	PE	shade	GACI2		DI	native	UPL	FACU	FACU
Galium concinnum	GALCON	Torr. & A. Gray	5	SHINING BEDSTRAW	Rubiaceae		UPL	forb	PE	shade	GACO3		DI	native	UPL	FACU	FACU
Galium labradoricum	GALLAB	(Wiegand) Wiegand	10	BOG BEDSTRAW	Rubiaceae		OBL	forb	PE	partial	GALA2	T	DI	native	OBL	OBL	OBL
Galium lanceolatum	GALLAN	Torr.	5	LANCE-LEAVED BEDSTRAW	Rubiaceae		(UPL)	forb	PE	shade	GALA3		DI	native	UPL	FACU	FACU
Galium mollugo	GALMOL	L.	0	WHITE BEDSTRAW	Rubiaceae		(UPL)	forb	PE	advent	GAMO		DI	adventive	FACU		
Galium obtusum	GALOBT	Bigelow	5	BLUNT-LEAVED BEDSTRAW	Rubiaceae		FACW+	forb	PE	full	GAOB		DI	native	FACW	FACW	FACW
Galium odoratum	GALODO	(L.) Scop.	0	SWEET WOODRUFF	Rubiaceae		(UPL)	forb	PE	advent	GAOD3		DI	adventive			
Galium palustre	GALPAL	L.	9	MARSH BEDSTRAW	Rubiaceae		OBL	forb	PE	full	GAPA3	E	DI	native	OBL	OBL	OBL
Galium pedemontanum	GALPED	(Bellardi) All.	0	PIEDMONT BEDSTRAW	Rubiaceae		(UPL)	forb	AN	advent	CRPE10		DI	adventive			
Galium pilosum	GALPIL	Aiton	4	HAIRY BEDSTRAW	Rubiaceae		(UPL)	forb	PE	shade	GAPI2		DI	native			
Galium sp.	GALIUM	L.		BEDSTRAW	Rubiaceae		ND	forb	ND	ND	GALIU		DI				
Galium tinctorium	GALTIN	(L.) Scop.	4	SMALL THREE-LOBED BEDSTRAW	Rubiaceae		OBL	forb	PE	full	GATI		DI	native	OBL	OBL	OBL
Galium trifidum	GALTFI	L.	7	NORTHERN THREE-LOBED BED.	Rubiaceae		FACW+	forb	PE	partial	GATR2		DI	native	FACW	FACW	FACW
Galium triflorum	GALTFL	Michx.	4	SWEET-SCENTED BEDSTRAW	Rubiaceae		FACU	forb	PE	shade	GATR3		DI	native	FACU	FACU	FACU
Galium verum	GALVER	L.	0	YELLOW BEDSTRAW	Rubiaceae		(UPL)	forb	PE	advent	GAVE		DI	adventive			
Gaultheria hispidula	GAUHIS	(L.) Muhl. ex Bigelow	10	CREEPING SNOWBERRY	Ericaceae		FACW	shrub	W	shade	GAHI2	X	DI	native	FACW	FACW	FACW
Gaultheria procumbens	GAUPRO	L.	5	TEABERRY	Ericaceae		FACU	shrub	W	shade	GAPR2		DI	native	FACU	FACU	FACU
Gaultheria sp.	GAULTH	L.		SNOWBERRY	Ericaceae		ND	shrub	W	shade	GAULT		DI				
Gaura biennis	GAUBIE	L.	1	GAURA	Onagraceae		FACU	forb	BI	full	GABI2		DI	native	FACU	FACU	FACU
Gaura longiflora	GAULON	Spach	0	WESTERN GAURA	Onagraceae		(FACU)	forb	PE	advent	GALO3		DI	adventive			
Gaura parviflora	GAUPAR	Douglas ex Lehm.	0	SMALL-FLOWERED GAURA	Onagraceae		(FACU)	forb	AN	advent	GAMO5		DI	adventive	UPL	UPL	FACU
Gaylussacia baccata	GAYBAC	(Wangenh.) K. Koch	6	HUCKLEBERRY	Ericaceae		FACU	shrub	W	partial	GABA		DI	native	FACU	FACU	FACU
Genista tinctoria	GENTIN	L.	0	DYER'S GREENWEED	Fabaceae		(FAC)	shrub	PE	advent	GETI		DI	adventive			
Gentiana andrewsii	GENAND	Griseb.	5	BOTTLE GENTIAN	Gentianaceae		FACW	forb	PE	full	GEAN		DI	native	FACW	FACW	FACW
Gentiana clausa	GENCLA	Raf.	6	CLOSED GENTIAN	Gentianaceae		FACW	forb	PE	full	GECL		DI	native	FACW	FACW	FACW
Gentiana flavida	GENFLA	A. Gray	8 syn	YELLOWISH GENTIAN	Gentianaceae		FACU	forb	PE	full	GEAL4	T	DI	native	FACU	FACU	FACU
Gentiana puberulenta	GENPUB	J.S. Pringle	10	PRAIRIE GENTIAN	Gentianaceae		(FACU+)	forb	PE	full	GEPU5	E	DI	native			
Gentiana saponaria	GENSAP	L.	10 syn	SOAPWORT GENTIAN	Gentianaceae		FACW	forb	PE	full	GESA	E	DI	native	FACW	FACW	FACW
Gentiana sp.	GENTIA	L.		GENTIAN	Gentianaceae		ND	forb	PE	full	GENTI		DI				
Gentiana villosa	GENVIL	L.	7	SAMPSON'S SNAKEROOT	Gentianaceae		(UPL)	forb	PE	full	GEVI5	E	DI	native			
Gentianella quinquefolia	GENQUI	(L.) Small	8 syn	STIFF GENTIAN	Gentianaceae	241	FAC	forb	BI	full	GEQU2		DI	native	FAC	FAC	FAC
Gentianopsis crinita	GENCRI	(Froelich) Ma	7 syn	GREATER FRINGED GENTIAN	Gentianaceae		OBL	forb	AN	full	GECR2	P	DI	native	OBL	OBL	FACW
Gentianopsis procera	GENPRO	(T. Holm) Ma	7 syn	WESTERN FRINGED GENTIAN	Gentianaceae		FACW+	forb	AN	full	GEVIV3	P	DI	native	FACW	OBL	OBL
Gentianopsis sp.	GENTIO	Ma	7	FRINGED GENTIAN	Gentianaceae		ND	forb	AN	full	GENTI3		DI				
Geranium bicknellii	GERBIC	Britton	7	BICKNELL'S GERANIUM	Geraniaceae		(UPL)	forb	AN	full	GEBI2	E	DI	native			
Geranium carolinianum	GERCAR	L.	3	CAROLINA CRANE'S-BILL	Geraniaceae	242	(UPL)	forb	AN	full	GECA5		DI	native			
Geranium columbinum	GERCOL	L.	0	LONG-STALKED CRANE'S-BILL	Geraniaceae		(UPL)	forb	AN	advent	GECO		DI	adventive			
Geranium dissectum	GERDIS	L.	0	CUT-LEAVED CRANE'S-BILL	Geraniaceae		(UPL)	forb	AN	advent	GEDI		DI	adventive			
Geranium maculatum	GERMAC	L.	4	WILD GERANIUM	Geraniaceae		FACU	forb	PE	shade	GEMA		DI	native	FACU	FACU	FACU
Geranium molle	GERMOL	L.	0	DOVE'S-FOOT CRANE'S-BILL	Geraniaceae		(UPL)	forb	AN	advent	GEMO		DI	adventive			
Geranium pusillum	GERPUS	L.	0	SMALL-FLOWERED CRANE'S-BILL	Geraniaceae		(UPL)	forb	AN	advent	GEPU2		DI	adventive			
Geranium robertianum	GERROB	L.	4	HERB ROBERT	Geraniaceae		(UPL)	forb	AN	shade	GERO		DI	native			
Geranium sanguineum	GERSAN	L.	0	BLOOD-RED CRANE'S-BILL	Geraniaceae		(FACU)	forb	PE	advent	GESA2		DI	adventive			
Geranium sp.	GERANI	L.		GERANIUM	Geraniaceae		ND	forb	ND	ND	GERAN		DI				
Geum aleppicum	GEUALE	Jacq.	3	YELLOW AVENS	Rosaceae	243	FAC	forb	PE	shade	GEAL3		DI	native	FAC	FACW	FAC
Geum canadense	GEUCAN	Jacq.	2	WHITE AVENS	Rosaceae		FACU	forb	PE	shade	GECA7		DI	native	FACU	FAC	FAC
Geum laciniatum	GEULAC	Murray	2	ROUGH AVENS	Rosaceae		FAC+	forb	PE	shade	GELA		DI	native	FAC	FACW	FACW
Geum rivale	GEURIV	L.	9	WATER AVENS	Rosaceae		OBL	forb	PE	shade	GERI2	P	DI	native	OBL	OBL	OBL
Geum sp.	GEUM	L.		AVENS	Rosaceae		ND	forb	PE	shade	GEUM		DI				
Geum vernum	GEUVER	(Raf.) Torr. & A. Gray	2	SPRING AVENS	Rosaceae		FACU	forb	PE	shade	GEVE		DI	native	FACU	FACU	FACU
Geum virginianum	GEUVIR	L.	3	CREAM-COLORED AVENS	Rosaceae		FAC-	forb	PE	shade	GEVI4		DI	native	FAC	FACU	FACU
Gilia capitata	GILCAP	Sims	0	GILIA	Polemoniaceae		(UPL)	forb	PE	advent	GICA5		DI	adventive			

Gilia rubra	GILRUB	(L.) Wherry	0	STANDING CYPRESS	Polemoniaceae		(UPL)	forb	BI	advent	IPRU2		DI	adventive			
Glechoma hederacea	GLEHED	L.	0	GROUND IVY	Lamiaceae		FACU	forb	PE	advent	GLHE2		DI	adventive	FACU	FACU	FACU
Gleditsia triacanthos	GLETRI	L.	4	HONEY LOCUST	Caesalpinaceae		FAC-	tree	W	tree	GLTR		DI	native	FAC	FACU	FAC
Glyceria acutiflora	GLYACU	Torr.	9	SHARP-GLUMED MANNA GRASS	Poaceae		OBL	grass	PE	partial	GLAC	T	MO	native	OBL	OBL	OBL
Glyceria borealis	GLYBOR	(Nash) Batch.	9	NORTHERN MANNA GRASS	Poaceae		OBL	grass	PE	full	GLBO	X	MO	native	OBL	OBL	OBL
Glyceria canadensis	GLYCAN	(Michx.) Trin.	7	RATTLESNAKE MANNA GRASS	Poaceae		OBL	grass	PE	full	GLCA		MO	native	OBL	OBL	OBL
Glyceria grandis	GLYGRA	S. Watson	7	TALL MANNA GRASS	Poaceae		OBL	grass	PE	full	GLGR		MO	native	OBL	OBL	OBL
Glyceria melicaria	GLYMEL	(Michx.) F.T. Hubb.	7	LONG MANNA GRASS	Poaceae		OBL	grass	PE	full	GLME2		MO	native	OBL	OBL	OBL
Glyceria septentrionalis	GLYSEP	Hitchc.	6	FLOATING MANNA GRASS	Poaceae		OBL	grass	PE	shade	GLSE3		MO	native	OBL	OBL	OBL
Glyceria sp.	GLYCER	R. Br.		MANNA-GRASS	Poaceae		OBL	grass	PE	ND	GLYCE		MO				
Glyceria striata	GLYSTR	(Lam.) Hitchc.	2	FOWL MANNA GRASS	Poaceae		OBL	grass	PE	shade	GLST		MO	native	OBL	OBL	OBL
Glycine max	GLYMAX	(L.) Merr.	0	SOYBEAN	Fabaceae		(FACU-)	forb	AN	advent	GLMA4		DI	adventive			
Gnaphalium macounii	GNAMAC	Greene	3 syn	CLAMMY CUDWEED	Asteraceae		(UPL)	forb	AN	full	PSMA11	E	DI	native			
Gnaphalium obtusifolium	GNAOBT	L.	2	FRAGRANT CUDWEED	Asteraceae		(UPL)	forb	AN	full	PSOBO		DI	native			
Gnaphalium purpureum	GNAPUR	L.	3	PURPLE CUDWEED	Asteraceae		(FACU)	forb	AN	full	GAPU3		DI	native	UPL	FACU	FACU
Gnaphalium sp.	GNAPHA	L.		CUDWEED	Asteraceae		ND	forb	AN	ND	GNAPH		DI				
Gnaphalium uliginosum	GNAULI	L.	0	LOW CUDWEED	Asteraceae		FAC	forb	AN	advent	GNUL		DI	adventive	FAC	FAC	FAC
Gomphrena globosa	GOMGLO	L.	0	GLOBE-AMARANTH	Amaranthaceae		(FACU)	forb	AN	advent	GOGL		DI	adventive	UPL	UPL	UPL
Goodyera pubescens	GOOPUB	(Willd.) R. Br. ex W.T. Aiton	6	DOWNY RATTLESNAKE-PLANTAIN	Orchidaceae		FACU-	forb	PE	shade	GOPU		MO	native	FACU	FAC	FACU
Goodyera sp.	GOODYE	R. Br.		RATTLESNAKE-PLAINTAIN	Orchidaceae		FACU-	forb	PE	shade	GOODY		MO				
Goodyera tesselata	GOOTES	Lodd.	10	CHECKERED RATTLESNAKE-PL.	Orchidaceae		FACU-	forb	PE	shade	GOTE	X	MO	native	FACU	FACU	FACU
Gratiola neglecta	GRANEG	Torr.	3	CLAMMY HEDGE-HYSSOP	Scophulariaceae		OBL	forb	AN	full	GRNE		DI	native	OBL	OBL	OBL
Gratiola sp.	GRATIO	L.		HEDGE-HYSSOP	Scrophulariaceae		OBL	forb	ND	full	GRATI		DI				
Gratiola virginiana	GRAVIR	L.	5	ROUND-FRUITED HEDGE-HYSSOP	Scophulariaceae		OBL	forb	AN	full	GRVI	T	DI	native	OBL	OBL	OBL
Gratiola viscidula	GRAVIS	Pennell	6	VISCID HEDGE-HYSSOP	Scophulariaceae	244	OBL	forb	PE	full	GRVI2	T	DI	native	OBL	OBL	
Grindelia lanceolata	GRILAN	Nutt.	0	SPINY-TOOTHED GUM-WEED	Asteraceae		(UPL)	forb	PE	advent	GRLA3		DI	adventive			
Grindelia sp.	GRINDE	Willd.		GUM-WEED	Asteraceae		ND	forb	ND	advent	GRIND		DI				
Grindelia squarrosa	GRISQU	(Pursh) Dunal	0	CURLY-TOPPED GUM-WEED	Asteraceae	245	FACU	forb	BI	advent	GRSQ		DI	adventive	FACU	FACU	FACU
Gymnocarpium appalachianum	GYMAPP	Pryer & Haufler	9	APPALACHIAN OAK FERN	Dryopteridaceae		(UPL)	fern	PE	shade	GYAP	X	SVP	native			
Gymnocarpium dryopteris	GYMDRY	(L.) Newman	7	WESTERN OAK FERN	Dryopteridaceae		UPL	fern	PE	shade	GYDR	E	SVP	native	UPL	FAC	FACU
Gymnocarpium sp.	GYMNOC	Newman		OAK FERN	Dryopteridaceae		UPL	fern	PE	shade	GYMNO		SVP				
Gymnocladus dioicus	GYMDIO	(L.) K. Koch	3	KENTUCKY COFFEE-TREE	Fabaceae		(UPL)	tree	W	tree	GYDI		DI	native			
Gymnopogon ambiguus	GYMAMB	(Michx.) B.S.P.	8	BEARD GRASS	Poaceae		(UPL)	grass	PE	full	GYAM	X	MO	native			
Gypsophila muralis	GYPMUR	L.	0	CUSHION BABY'S BREATH	Caryophyllaceae		(FACU)	forb	AN	advent	GYMU		DI	adventive			
Gypsophila paniculata	GYPPAN	L.	0	BABY'S BREATH	Caryophyllaceae		(UPL)	forb	PE	advent	GYPA		DI	adventive			
Gypsophila scorzonerifolia	GYPSCO	Ser.	0	GARDEN BABY'S BREATH	Caryophyllaceae		(UPL)	forb	PE	advent	GYSC		DI	adventive			
Hackelia deflexa	HACDEF	(Wahlenb.) Opiz.	6	NORTHERN STICKSEED	Boraginaceae	246	(UPL)	forb	BI	shade	HADE	X	DI	native			
Hackelia sp.	HACKEL	Opiz.		STICKSEED	Boraginaceae		ND	forb	BI	shade	HACKE		DI				
Hackelia virginiana	HACVIR	(L.) I. M. Johnst.	2	VIRGINIA STICKSEED	Boraginaceae		FACU	forb	BI	shade	HAVI2		DI	native	FACU	FACU	FACU
Halesia carolina	HALCAR	L.	5	SILVERBELL	Styracaceae	247	FACU	sm tree	W	shade	HACA3	X	DI	native	FAC		
Hamamelis virginiana	HAMVIR	L.	5	WITCH-HAZEL	Hamamelidaceae	248	FAC-	sm tree	W	shade	HAVI4		DI	native	FACU	FACU	FACU
Hedeoma hispida	HEDHIS	Pursh	7	ROUGH PENNYROYAL	Lamiaceae		(UPL)	forb	AN	full	HEHI	P	DI	native			
Hedeoma pulegioides	HEDPUL	(L.) Pers.	2	AMERICAN PENNYROYAL	Lamiaceae		(UPL)	forb	AN	shade	HEPU		DI	native			
Hedeoma sp.	HEDEOM	Pers.		FALSE PENNYROYAL	Lamiaceae		UPL	forb	AN	ND	HEDEO		DI				
Hedera helix	HEDHEL	L.	0	ENGLISH IVY	Araliaceae		(UPL)	vine	W	advent	HEHE		DI	adventive			
Hedyotis caerulea	HEDCAE	(L.) Hook.	3 syn	BLUETS	Rubiaceae		FACU	forb	PE	full	HOCA4		DI	native	FACU	FAC	FACU
Hedyotis canadensis	HEDCAN	(Willd. ex Roem. & Schult.) Fosberg	6 syn	CANADA BLUETS	Rubiaceae		(UPL)	forb	PE	partial	HOCA5		DI	native			
Hedyotis longifolia	HEDLON	(Gaertn.) Hook.	5 syn	LONG-LEAVED SUMMER BLUETS	Rubiaceae		(UPL)	forb	PE	full	HOLO		DI	native			
Hedyotis nigricans	HEDNIG	(Lam.) Fosb.	8 syn	NARROW-LEAVED SUMMER BLUETS	Rubiaceae		(UPL)	forb	PE	full	STNIN	P	DI	native			
Hedyotis purpurea	HEDPUR	(L.) Torr. & A. Gray	5 syn	LARGE SUMMER BLUETS	Rubiaceae		(UPL)	forb	PE	partial	HOPUP3		DI	native			
Hedyotis sp.	HEDYOT	L.		BLUETS	Rubiaceae		ND	forb	PE	ND	HEDYO2		DI				
Helenium amarum	HELAMA	(Raf.) H. Rock	0	NARROW-LEAVED SNEEZEWEED	Asteraceae		FACU-	forb	PE	advent	HEAM		DI	adventive	FACU	FACU	FACU
Helenium autumnale	HELAUT	L.	4	COMMON SNEEZEWEED	Asteraceae		FACW+	forb	PE	full	HEAU		DI	native	FACW	FACW	FACW
Helenium flexuosum	HELFLE	Raf.	0	NAKED SNEEZEWEED	Asteraceae		FAC-	forb	PE	advent	HEFL		DI	adventive	FAC	FAC	FAC
Helenium sp.	HELENI	L.		SNEEZEWEED	Asteraceae		ND	forb	PE	ND	HELEN		DI				
Helianthemum bicknellii	HELBIC	Fernald	9	PLAINS FROSTWEED	Cistaceae		(UPL)	forb	PE	full	HEBI2	P	DI	native			
Helianthemum canadense	HELCAN	(L.) Michx.	9	CANADA FROSTWEED	Cistaceae		(UPL)	forb	PE	full	HECA3	T	DI	native			
Helianthemum sp.	HELANT	Mill.	9	FROSTWEED	Cistaceae		UPL	forb	PE	full	HELIA2		DI				
Helianthus angustifolius	HELANG	L.	0	SWAMP SUNFLOWER	Asteraceae		FACW	forb	PE	advent	HEAN2		DI	adventive	FACW	FACW	FACW
Helianthus annuus	HELANN	L.	0	COMMON SUNFLOWER	Asteraceae		FAC-	forb	AN	advent	HEAN3		DI	adventive	FAC	FACU	FACU
Helianthus decapetalus	HELDEC	L.	4	FOREST SUNFLOWER	Asteraceae		FACU	forb	PE	shade	HEDE		DI	native	FACU	UPL	FACU
Helianthus divaricatus	HELDIV	L.	4	WOODLAND SUNFLOWER	Asteraceae		(UPL)	forb	PE	shade	HEDI2		DI	native			
Helianthus giganteus	HELGIG	L.	6	SWAMP SUNFLOWER	Asteraceae		FACW	forb	PE	full	HEGI		DI	native	FACW	FACW	FACW
Helianthus grosseserratus	HELGRO	M. Martens	4	SAWTOOTH SUNFLOWER	Asteraceae		FACW	forb	PE	full	HEGR4		DI	native	FACW	FACW	FACW
Helianthus hirsutus	HELHIR	Raf.	4	HAIRY SUNFLOWER	Asteraceae	249	(UPL)	forb	PE	full	HEHI2		DI	native			
Helianthus maximiliani	HELMAX	Schrad.	0	MAXIMILIAN SUNFLOWER	Asteraceae		UPL	forb	PE	advent	HEMA2		DI	adventive	UPL	UPL	UPL

Helianthus microcephalus	HELMIC	Torr. & A. Gray	5	SMALL-HEADED SUNFLOWER	Asteraceae		(UPL)	forb	PE	shade	HEMI3		DI	native	UPL	FACU	FACU
Helianthus mollis	HELMOL	Lam.	7	ASHY SUNFLOWER	Asteraceae		(UPL)	forb	PE	full	HEMO2	T	DI	native			
Helianthus occidentalis	HELOCC	Riddell	7	WESTERN SUNFLOWER	Asteraceae		UPL	forb	PE	full	HEOC2		DI	native	UPL	FACU	FACU
Helianthus petiolaris	HELPET	Nutt.	0	PLAINS SUNFLOWER	Asteraceae		(UPL)	forb	AN	advent	HEPE		DI	adventive			
Helianthus sp.	HELIAN	L.		SUNFLOWER	Asteraceae		ND	forb	AN	ND	HELIA3		DI				
Helianthus strumosus	HELSTR	L.	4	ROUGH-LEAVED SUNFLOWER	Asteraceae		(UPL)	forb	PE	full	HEST		DI	native	FACU		
Helianthus tuberosus	HELTUB	L.	3	JERUSALEM-ARTICHOKE	Asteraceae		FAC	forb	PE	full	HETU		DI	native	FACU	FACU	FACU
Heliopsis helianthoides	HELHEL	(L.) Sweet	5	SMOOTH OXEYE	Asteraceae	250	(UPL)	forb	PE	full	HEHE5		DI	native	FACU	FACU	FACU
Heliotropium europaeum	HELEUR	L.	0	EUROPEAN HELIOTROPE	Boraginaceae		(FACU)	forb	PE	advent	HEEU		DI	adventive			
Heliotropium indicum	HELIND	L.	0	INDIAN HELIOTROPE	Boraginaceae		(FACW)	forb	AN	advent	HEIN		DI	adventive	FAC	FACW	FACW
Helleborus viridis	HELVIR	L.	0	GREEN HELLEBORE	Ranunculaceae		(FACU-)	forb	PE	advent	HEVI		DI	adventive			
Hemerocallis fulva	HEMFUL	(L.) L.	0	ORANGE DAY-LILY	Liliaceae		(UPL)	forb	PE	advent	HEFU		MO	adventive	FACU	UPL	UPL
Hemerocallis lilioasphodelus	HEMLIL	L.	0	YELLOW DAY-LILY	Liliaceae		(FAC+)	forb	PE	advent	HELI4		MO	adventive			
Hepatica acutiloba	HEPACU	DC.	5	SHARP-LOBED HEPATICA	Ranunculacea	251	(UPL)	forb	PE	shade	HENOA		DI	native			
Hepatica americana	HEPAME	(DC.) Ker Gawl.	5	ROUND-LOBED HEPATICA	Ranunculacea	252	(UPL)	forb	PE	shade	HENOO		DI	native			
Hepatica sp.	HEPATI	Mill.	5	HEPATICA	Ranunculacea		UPL	forb	PE	shade	HEPAT		DI				
Heracleum lanatum	HERLAN	Michx.	4 syn	COW-PARSNIP	Apiaceae		FACU-	forb	PE	full	HEMA80		DI	native	FAC	FACW	FACW
Heracleum mantegazzianum	HERMAN	Sommier & Levier	0	GIANT HOGWEED	Asteraceae		(FAC)	forb	PE	advent	HEMA17		DI	adventive		FAC	FAC
Hesperis matronalis	HESMAT	L.	0	DAME'S ROCKET	Brassicaceae		FACU-	forb	BI	advent	HEMA3		DI	adventive	FACU	FACU	FACU
Heteranthera reniformis	HETREN	Ruiz & Pav.	10	MUD-PLANTAIN	Pontederiaceae		OBL	forb	PE	full	HERE	E	DI	native	OBL	OBL	OBL
Heuchera americana	HEUAME	L.	4	COMMON ALUM-ROOT	Saxifragaceae	253	FACU-	forb	PE	shade	HEAM6		DI	native	FACU	FACU	FACU
Heuchera longiflora	HEULON	Rydb.	8	LONG-FLOWERED ALUM-ROOT	Saxifragaceae		(UPL)	forb	PE	shade	HELO5	E	DI	native			
Heuchera parviflora	HEUPAR	Bartl.	10	SMALL-FLOWERED ALUM-ROOT	Saxifragaceae		(UPL)	forb	PE	shade	HEPA10	T	DI	native			
Heuchera sp.	HEUCHE	L.		ALUM-ROOT	Saxifragaceae		ND	forb	PE	shade	HEUCH		DI				
Heuchera villosa	HEUVIL	Michx.	10	HAIRY ALUM-ROOT	Saxifragaceae		(UPL)	forb	PE	shade	HEVI2	E	DI	native			
Hexalectris spicata	HEXSPI	(Walter) Barnhart	9	CRESTED CORAL-ROOT	Orchidaceae		UPL	forb	PE	shade	HESP3	P	MO	native	UPL	UPL	
Hibiscus laevis	HIBLAE	All.	7 syn	HALBERD-LEAVED ROSE-MALLOW	Malvaceae	255	OBL	forb	PE	full	HILA2		DI	native	OBL	OBL	OBL
Hibiscus moscheutos	HIBMOS	L.	4 syn	SWAMP ROSE-MALLOW	Malvaceae	256	OBL	forb	PE	full	HIMO		DI	native	OBL	OBL	OBL
Hibiscus sp.	HIBISC	L.		ROSE-MALLOW	Malvaceae		OBL	forb	PE	full	HIBIS2		DI				
Hibiscus syriacus	HIBSYR	L.	0	ROSE OF SHARON	Malvaceae		(UPL)	shrub	W	advent	HISY		DI	adventive			
Hibiscus trionum	HIBTRI	L.	0	FLOWER-OF-AN-HOUR	Malvaceae		(UPL)	forb	AN	advent	HITR		DI	adventive			
Hieracium aurantiacum	HIEAUR	L.	0	ORANGE HAWKWEED	Asteraceae		(UPL)	forb	PE	advent	HIAU		DI	adventive			
Hieracium caespitosum	HIECAE	Dumort	0	YELLOW KING-DEVIL	Asteraceae		(UPL)	forb	PE	advent	HICA10		DI	adventive			
Hieracium floribundum	HIEFLO	Wimm. & Grab.	0	GLAUCOUS HAWKWEED	Asteraceae		(UPL)	forb	PE	advent	HIFL3		DI	adventive			
Hieracium gronovii	HIEGRO	L.	5	BEAKED HAWKWEED	Asteraceae		(UPL)	forb	PE	partial	HIGR3		DI	native	UPL	UPL	UPL
Hieracium longipilum	HIELON	Torr.	9	LONG-BEARDED HAWKWEED	Asteraceae		(UPL)	forb	PE	full	HILO2	E	DI	native			
Hieracium paniculatum	HIEPAN	L.	6	PANICLED HAWKWEED	Asteraceae		(UPL)	forb	PE	shade	HIPA2		DI	native			
Hieracium pilosella	HIEPLSA	L.	0	MOUSE-EAR HAWKWEED	Asteraceae		(UPL)	forb	PE	advent	HIPI		DI	adventive			
Hieracium piloselloides	HIEPLOI	Vill.	0	GLAUCOUS KING-DEVIL	Asteraceae	257	(UPL)	forb	PE	advent	HIPI2		DI	adventive			
Hieracium scabrum	HIESCA	Michx.	5	ROUGH HAWKWEED	Asteraceae		(UPL)	forb	PE	full	HISC		DI	native			
Hieracium sp.	HIERAC	L.		HAWKWEED	Asteraceae		UPL	forb	PE	ND	HIERA		DI				
Hieracium umbellatum	HIEKALF	L.	6 syn	CANADA HAWKWEED	Asteraceae	254	(UPL)	forb	PE	full	HIUM	T	DI	native			
Hieracium venosum	HIEVEN	L.	6	RATTLESNAKE HAWKWEED	Asteraceae	258	(UPL)	forb	PE	shade	HIVE		DI	native			
Hierochloe odorata	HIEODO	(L.) P. Beauv.	8	VANILLA GRASS	Poaceae		FACW	grass	PE	full	HIOD		MO	native			
Holcus lanatus	HOLLAN	L.	0	VELVET GRASS	Poaceae		FACU	grass	PE	advent	HOLA		MO	adventive	FAC	FACU	FACU
Holosteum umbellatum	HOLUMB	L.	0	JAGGED CHICKWEED	Caryophyllaceae		(UPL)	forb	AN	advent	HOUM		DI	adventive			
Hordeum jubatum	HORJUB	L.	0	SQUIRREL-TAIL BARLEY	Poaceae		FAC	grass	PE	advent	HOJU		MO	adventive	FAC	FAC	FAC
Hordeum pusillum	HORPUS	L.	0	LITTLE BARLEY	Poaceae		FAC	grass	AN	advent	HOPU		MO	adventive	FAC	FAC	FAC
Hordeum sp.	HORDEU	L.		BARLEY	Poaceae		FAC	grass	ND	advent	HORDE		MO				
Hordeum vulgare	HORVUL	L.	0	COMMON BARLEY	Poaceae		(FACU)	grass	AN	advent	HOVU		MO	adventive			
Hosta lancifolia	HOSLAN	(Thunb.) Engl.	0	LANCE-LEAVED PLANTAIN-LILY	Liliaceae		(FACU-)	forb	PE	advent	HOLA3		MO	adventive			
Hosta ventricosa	HOSVEN	(Salisb.) Stearn	0	PLANTAIN-LILY	Liliaceae		(FAC)	forb	PE	advent	HOVE		MO	adventive			
Hottonia inflata	HOTINF	Elliott	8	FEATHERFOIL	Primulaceae		OBL	forb	AN	full	HOIN	X	DI	native	OBL	OBL	OBL
Hudsonia tomentosa	HUDTOM	Nutt.	0	BEACH HEATHER	Cistaceae	259	(UPL)	forb	PE	advent	HUTO		DI	adventive			
Humulus japonicus	HUMJAP	Siebold & Zucc.	0	JAPANESE HOPS	Cannabaceae		FACU	vine	AN	advent	HUJA		DI	adventive	FACU	FACU	FACU
Humulus lupulus	HUMLUP	L.	2	COMMON HOPS	Cannabaceae	260	FACU	vine	PE	shade	HULU		DI	native	FACU	FACU	FACU
Humulus sp.	HUMULU	L.		HOPS	Cannabaceae		FACU	vine	ND	ND	HUMUL		DI				
Huperzia appalachiana	HUPAPP	Beitel & Mickel	8	MOUNTAIN FIR-MOSS	Lycopodiaceae	536	(UPL)	fern	PE	shade	HUAP	X	SVP	native			
Huperzia lucidula	HUPLUC	(Michx.) Trevis	5 syn	SHINING CLUB-MOSS	Lycopodiaceae		FACW-	fern	PE	shade	HULU2		SVP	native	FACW	FACW	FAC
Huperzia porophila	HUPPOR	(F. E. Lloyd & Underw.) Holub	9 syn	ROCK CLUB-MOSS	Lycopodiaceae		FACU-	fern	PE	shade	HUPO2		SVP	native	FACU	FACU	FACU
Huperzia sp.	HUPERZ	Bernh.		CLUB-MOSS	Lycopodiaceae		ND	fern	PE	shade	HUPER		SVP				
Hybanthus concolor	HYBCON	(T. Forst.) Spreng.	7	GREEN VIOLET	Violaceae		FACU-	forb	PE	shade	HYCO6		DI	native	FACU	FACU	FACU
Hydrangea arborescens	HYDARB	L.	7	WILD HYDRANGEA	Hydrangeaceae	261	FACU	shrub	W	shade	HYAR		DI	native	FACU	FACU	FACU
Hydrastis canadensis	HDRCAN	L.	7	GOLDENSEAL	Ranunculaceae		(UPL)	forb	PE	shade	HYCA		DI	native			
Hydrocharis morsus-ranae	HYDMOR	L.	0	Common Frog-bit	Hydrocharitaceae		OBL	forb	PE	full	HYMO6		MO	adventive	OBL	OBL	OBL
Hydrocotyle americana	HYDAME	L.	7	AMERICAN WATER-PENNYWORT	Apiaceae		OBL	forb	PE	shade	HYAM		DI	native	OBL	OBL	OBL

Hydrocotyle ranunculoides	HYDRAN	L. f.	0	BUTTERCUP-PENNYWORT	Apiaceae		OBL	forb	PE	advent	HYRA		DI	adventive	OBL	OBL	OBL
Hydrocotyle sibthorpioides	HYDSIB	Lam.	0	LAWN-PENNYWORT	Apiaceae		(FAC)	forb	PE	advent	HYSI		DI	adventive	FACW	FAC	FACW
Hydrocotyle sp.	HYDROC	L.		PENNYWORT	Apiaceae		OBL	forb	PE	ND	HYDRO2		DI				
Hydrocotyle umbellata	HYDUMB	L.	8	NAVELWORT	Apiaceae		OBL	forb	PE	shade	HYUM	E	DI	native	OBL	OBL	OBL
Hydrophyllum appendiculatum	HYDAPP	Michx.	5	APPENDAGED WATERLEAF	Hydrophyllaceae		(UPL)	forb	BI	shade	HYAP		DI	native			
Hydrophyllum canadense	HYDCAN	L.	5	MAPLE-LEAVED WATERLEAF	Hydrophyllaceae		FACU	forb	PE	shade	HYCA3		DI	native	FACU	FACW	FAC
Hydrophyllum macrophyllum	HYDMAC	Nutt.	6	LARGED-LEAVED WATERLEAF	Hydrophyllaceae		(FACU)	forb	PE	shade	HYMA		DI	native			
Hydrophyllum sp.	HYDROP	L.		WATER-LEAF	Hydrophyllaceae		ND	forb	ND	shade	HYDRO4		DI				
Hydrophyllum virginianum	HYDVIR	L.	4	VIRGINIA WATERLEAF	Hydrophyllaceae		FAC	forb	PE	shade	HYVI		DI	native	FAC	FAC	FAC
Hymenoxys herbacea	HYMHER	(Greene) Cusick	10 syn	LAKESIDE DAISY	Asteraceae		(UPL)	forb	PE	full	TEHE4	E	DI	native			
Hypericum boreale	HYPBOR	(Britton) E.P. Bicknell	9 syn	NORTHERN ST. JOHN'S-WORT	Clusiaceae		OBL	forb	PE	full	HYBO2	T	DI	native	OBL	OBL	OBL
Hypericum canadense	HYPCAN	L.	7	CANADA ST. JOHN'S-WORT	Clusiaceae		FACW	forb	AN	full	HYCA7	E	DI	native	FACW	FACW	FACW
Hypericum denticulatum	HYPDEN	Walter	7 syn	COPPERY ST. JOHN'S-WORT	Clusiaceae	262	FACW-	forb	PE	partial	HYDE2	E	DI	native	FACW		FACW
Hypericum drummondii	HYPDRU	(Grev. & Hook.) Torr. & A. Gray	4	NITS-AND-LICE	Clusiaceae		(UPL)	forb	AN	full	HYDR		DI	native	UPL	FACU	FACU
Hypericum ellipticum	HYPELL	Hook.	8	FEW-FLOWERED ST. JOHN'S-WORT	Clusiaceae		OBL	forb	PE	full	HYEL	T	DI	native	OBL	OBL	OBL
Hypericum gentianoides	HYPGEN	(L.) B.S.P.	3	ORANGE-GRASS	Clusiaceae		UPL	forb	AN	full	HYGE		DI	native	UPL	FACU	FACU
Hypericum gymnanthum	HYPGYM	Engelm. & A. Gray	9	LEAST ST. JOHN'S-WORT	Clusiaceae		OBL	forb	AN	full	HYGY	E	DI	native	OBL	OBL	OBL
Hypericum hypericoides	HYPHYP	(L.) Crantz	6 syn	ST. ANDREW'S CROSS	Clusiaceae	263	(UPL)	shrub	W	full	HYHY		DI	native	FACU	FACU	FACU
Hypericum kalmianum	HYPKAL	L.	8	KALM'S ST. JOHN'S-WORT	Clusiaceae		FAC	shrub	W	full	HYKA	T	DI	native		FACW	FACW
Hypericum majus	HYPMAJ	(A. Gray) Britton	6	TALL ST. JOHN'S-WORT	Clusiaceae		FACW	forb	PE	full	HYMA2		DI	native	FACW	FACW	FACW
Hypericum mutilum	HYPMUT	L.	3	SLENDER ST. JOHN'S-WORT	Clusiaceae		FACW	forb	AN	full	HYMU		DI	native	FACW	FACW	FACW
Hypericum perforatum	HYPPER	L.	0	COMMON ST. JOHN'S-WORT	Clusiaceae		(UPL)	forb	PE	advent	HYPE		DI	adventive	FAC	FACU	UPL
Hypericum prolificum	HYPPRO	L.	3	SHRUBBY ST. JOHN'S-WORT	Clusiaceae	264	FACU	shrub	W	full	HYPR		DI	native	FACU	FACU	FACU
Hypericum punctatum	HYPPUN	Lam.	2	SPOTTED ST. JOHN'S-WORT	Clusiaceae		FAC-	forb	PE	full	HYPU		DI	native	FAC	FAC	FAC
Hypericum pyramidatum	HYPPYR	Aiton	7	GREAT ST. JOHN'S-WORT	Clusiaceae	265	FAC	forb	BI	full	HYAS80		DI	native	FAC	FAC	FAC
Hypericum sp.	HYPERI	L.		ST. JOHN'S-WORT	Clusiaceae		ND	ND	ND	ND	HYPER		DI				
Hypericum sphaerocarpum	HYPSPH	Michx.	6	ROUND-FRUITED ST. JOHN'S-WORT	Clusiaceae		FACU	forb	PE	partial	HYSP2		DI	native	FAC	FACU	FACU
Hypochaeris radicata	HYPRAD	L.	0	SPOTTED CAT'S-EAR	Asteraceae		(UPL)	forb	PE	advent	HYRA3		DI	adventive	UPL	FACU	FACU
Hypoxis hirsuta	HYPHIR	(L.) Coville	6	YELLOW STAR-GRASS	Liliaceae		FAC	forb	PE	partial	HYHI2		MO	native	FAC	FAC	FAC
Iberis umbellata	IBEUMB	L.	0	GLOBE CANDYTUFT	Brassicaceae		(UPL)	forb	AN	advent	IBUM		DI	adventive			
Ilex opaca	ILEOPA	Aiton	0	AMERICAN HOLLY	Aquifoliaceae		FACU+	sm tree	W	advent	ILOP		DI	adventive	FACU	FACU	FACU
Ilex verticillata	ILEVER	(L.) A. Gray	6	WINTERBERRY	Aquifoliaceae	266	FACW+	shrub	W	shade	ILVE		DI	native	FACW	FACW	FACW
Impatiens balsamina	IMPBAL	L.	0	BALSAM	Balsaminaceae		(FACU-)	forb	AN	advent	IMBA		DI	adventive	UPL	FACU	UPL
Impatiens capensis	IMPCAP	Meerb.	2	SPOTTED TOUCH-ME-NOT	Balsaminaceae		FACW	forb	AN	partial	IMCA		DI	native	FACW	FACW	FACW
Impatiens pallida	IMPPAL	Nutt.	3	PALE TOUCH-ME-NOT	Balsaminaceae		FACW	forb	AN	shade	IMPA		DI	native	FACW	FACW	FACW
Impatiens sp.	IMPATI	L.		TOUCH-ME-NOT	Balsaminaceae		FACW	forb	AN	partial	IMPAT		DI				
Inula helenium	INUHEL	L.	0	ELECAMPANE	Asteraceae		FACU	forb	AN	advent	INHE		DI	adventive	FACU	FACU	FACU
Iodanthus pinnatifidus	IODPIN	(Michx.) Steud.	7	PURPLE ROCKET	Brassicaceae		FACW	forb	AN	shade	IOPI		DI	native	FACW	FACW	FACW
Ionactis linariifolius	IONLIN	(L.) Greene	8 syn	STIFF ASTER	Asteraceae		(UPL)	forb	PE	shade	IOLI2		DI	native			
Ionactis sp.	IONACT	Greene		ASTER	Asteraceae		ND	forb	PE	ND	ASTER		DI				
Ipomoea coccinea	IPOCOC	L.	0	RED MORNING-GLORY	Convolvulaceae		FACU	forb	AN	advent	IPCO3		DI	adventive	FACU	FAC	FAC
Ipomoea hederacea	IPOHED	Jacq.	0	IVY-LEAVED MORNING-GLORY	Convolvulaceae		FACU	forb	AN	advent	IPHE		DI	adventive	FACU	FAC	FAC
Ipomoea lacunosa	IPOLAC	L.	4	WHITE MORNING-GLORY	Convolvulaceae		FACW	forb	AN	full	IPLA		DI	native	FACW	FACW	FACW
Ipomoea pandurata	IPOPAN	(L.) G. Mey.	2	POTATO-VINE	Convolvulaceae		FACU	forb	AN	full	IPPA		DI	native	FACU	FACU	FACU
Ipomoea purpurea	IPOPUR	(L.) Roth	0	COMMON MORNING-GLORY	Convolvulaceae		UPL	forb	AN	advent	IPPU2		DI	adventive	UPL	FACU	FACU
Ipomoea sp.	IPOMOE	L.		MORNING-GLORY	Convolvulaceae		ND	forb	AN	ND	IPOMO		DI				
Iris brevicaulis	IRIBRE	Raf.	7	LEAFY BLUE FLAG	Iridaceae	267	OBL	forb	PE	partial	IRBR2	T	MO	native	OBL	OBL	OBL
Iris cristata	IRICRI	Aiton	5	DWARF CRESTED IRIS	Iridaceae		(UPL)	forb	PE	partial	IRCR		MO	native			
Iris germanica	IRIGER	L.	0	GERMAN IRIS	Iridaceae		(FACW)	forb	PE	advent	IRGE		MO	adventive			
Iris pseudacorus	IRIPSE	L.	0	YELLOW FLAG	Iridaceae		OBL	forb	PE	advent	IRPS		MO	adventive	OBL	OBL	OBL
Iris sp.	IRIS	L.		IRIS	Iridaceae		ND	forb	PE	ND	IRIS		MO				
Iris verna	IRIVERN	L.	9	DWARF IRIS	Iridaceae	268	(UPL)	forb	PE	partial	IRVE	T	MO	native			
Iris versicolor	IRIVERS	L.	6	NORTHERN BLUE FLAG	Iridaceae		OBL	forb	PE	partial	IRVE2		MO	native	OBL	OBL	OBL
Iris virginica	IRIVIR	L.	6	SOUTHERN BLUE FLAG	Iridaceae		OBL	forb	PE	partial	IRVI		MO	native	OBL	OBL	OBL
Isanthus brachiatus	ISABRA	(L.) B.S.P.	3 syn	FALSE PENNYROYAL	Lamiaceae		(UPL)	forb	AN	full	TRBR5		DI	native			
Isoetes echinospora	ISOECH	Durieu	10	SPINY-SPORED QUILLWORT	Isoetaceae		OBL	fern	PE	full	ISTE5	X	SVP	native	OBL	OBL	OBL
Isoetes engelmannii	ISOENG	A. Braun	6	APPALACHIAN QUILLWORT	Isoetaceae		OBL	fern	PE	full	ISEN	E	SVP	native	OBL	OBL	OBL
Isoetes sp.	ISOETE	L.		QUILLWORT	Isoetaceae		OBL	fern	PE	full	ISOET		SVP				
Isopyrum biternatum	ISOBIT	(Raf.) (Torr. & A. Gray)	7	FALSE RUE-ANEMONE	Ranunculaceae		(FAC)	forb	PE	shade	ENBI		DI	native	FACU	FAC	FAC
Isotria medeoloides	ISOMED	(Pursh) Raf.	7	SMALL WHORLED POGONIA	Orchidaceae		FACU	forb	PE	shade	ISME2	E	MO	native	FACU	FACU	FACU
Isotria sp.	ISOTRI	Raf.	7	WHORLED POGONIA	Orchidaceae		FACU	forb	PE	shade	ISOTR		MO				
Isotria verticillata	ISOVER	Raf.	7	LARGE WHORLED POGONIA	Orchidaceae		FACU	forb	PE	shade	ISVE		MO	native	FACU	FAC	FAC
Iva annua	IVAANN	L.	0	SUMPWEED	Asteraceae		FAC	forb	AN	advent	IVAN2		DI	adventive	FAC	FAC	FAC
Iva xanthifolia	IVAXAN	Nutt.	0	BIG MARSH-ELDER	Asteraceae		FAC	forb	AN	advent	CYXA		DI	adventive	FAC	FAC	FAC
Jacquemontia tamnifolia	JACTAM	(L.) Choisy	0	HAIRY CLUSTER-VINE	Convolvulaceae		FAC	vine	AN	advent	JATA		DI	adventive	FACU	UPL	UPL
Jeffersonia diphylla	JEFDIP	(L.) Pers.	6	TWINLEAF	Berberidaceae		(UPL)	forb	PE	shade	JEDI		DI	native			

Juglans cinerea	JUGCIN	L.	7	BUTTERNUT	Juglandaceae		FACU+	tree	W	tree	JUCI		DI	native	FACU	FACU	FACU
Juglans nigra	JUGNIG	L.	5	BLACK WALNUT	Juglandaceae		FACU	tree	W	tree	JUNI		DI	native	FACU	FACU	FACU
Juglans sp.	JUGLAN	L.		WALNUT	Juglandaceae		ND	tree	W	tree	JUGLA		DI				
Juncus acuminatus	JUNACU	Michx.	4	SHARP-FRUITED RUSH	Juncaceae		OBL	forb	PE	full	JUAC		MO	native	OBL	OBL	OBL
Juncus alpinus	JUNALP	Vill.	8 syn	ALPINE RUSH	Juncaceae	269	(OBL)	forb	PE	full	JUALN	P	MO	native			
Juncus anthelatus	JUNANT	(Wigand) R.E. Brooks	4 syn	BRANCHED RUSH	Juncaceae		(FAC-)	forb	PE	full	JUAN3		MO	native		FACW	FACW
Juncus articulatus	JUNART	L.	3	JOINTED RUSH	Juncaceae		OBL	forb	PE	full	JUAR4		MO	native	OBL	OBL	OBL
Juncus balticus	JUNARC	Willd.	6 syn	BALTIC RUSH	Juncaceae	270	FACW+	forb	PE	full	JUARL	P	MO	native	OBL	OBL	OBL
Juncus brachycarpus	JUNBRCR	Englem.	5	SHORT-FRUITED RUSH	Juncaceae		FACW	forb	PE	full	JUBR		MO	native	FACW	FACW	FACW
Juncus brachycephalus	JUNBRCP	(Engelm.) Buchenau	8	SHORT-HEADED RUSH	Juncaceae	271	OBL	forb	PE	full	JUBR2		MO	native	OBL	OBL	OBL
Juncus bufonius	JUNBUF	L.	2	TOAD RUSH	Juncaceae		FACW	forb	AN	full	JUBU		MO	native	FACW	FACW	FACW
Juncus canadensis	JUNCAN	J. Gay ex Laharpe	4	CANADA RUSH	Juncaceae	272	OBL	forb	PE	full	JUCA3		MO	native	OBL	OBL	OBL
Juncus dichotomous	JUNDIC	Elliott	5 syn	FLAT-LEAVED RUSH	Juncaceae		FACW-	forb	PE	full	JUDI	E	MO	native			
Juncus diffusissimus	JUNDIF	Buckley	6	DIFFUSE RUSH	Juncaceae		FACW	forb	PE	full	JUDI2	T	MO	native	FACW	FACW	FACW
Juncus dudleyi	JUNDUD	Wiegand	3 syn	DUDLEY'S RUSH	Juncaceae		(FACW-)	forb	PE	full	JUDU2		MO	native	FACW	FACW	FACW
Juncus effusus	JUNEFF	L.	1	SOFT RUSH	Juncaceae	273	FACW+	forb	PE	full	JUEF		MO	native	FACW	OBL	OBL
Juncus gerardii	JUNGER	Loisel.	0	BLACK-GRASS	Juncaceae		FACW+	forb	PE	advent	JUGE		MO	adventive	FACW	OBL	OBL
Juncus greenei	JUNGRE	Oakes & Tuck.	7	GREENE'S RUSH	Juncaceae		FAC	forb	PE	full	JUGR	T	MO	native	FAC	FAC	FAC
Juncus interior	JUNINT	Wiegand	4	INLAND RUSH	Juncaceae	274	FACU	forb	PE	full	JUIN2	E	MO	native	FACU	FAC	FAC
Juncus marginatus	JUNMAR	Rostk.	4	GRASS-LEAVED RUSH	Juncaceae	275	FACW	forb	PE	full	JUMA4		MO	native	FACW	FACW	FACW
Juncus nodosus	JUNNOD	L.	5	KNOTTED RUSH	Juncaceae		OBL	forb	PE	full	JUNO2		MO	native	OBL	OBL	OBL
Juncus secundus	JUNSEC	P. Beauv. ex Poir.	5	ONE-SIDED RUSH	Juncaceae	276	FACU	forb	PE	full	JUSE	T	MO	native	FACU	FAC	FACU
Juncus sp.	JUNCUS	L.		RUSH	Juncaceae		ND	forb	PE	full	JUNCU		MO				
Juncus subcaudatus	JUNSUB	(Engelm.) Coville & S.F. Blake	6	SHORT-TAILED RUSH	Juncaceae		OBL	forb	PE	full	JUSU		MO	native	OBL	OBL	OBL
Juncus tenuis	JUNTEN	Willd.	1 syn	PATH RUSH	Juncaceae	277	FAC-	forb	PE	partial	JUTE		MO	native	FAC	FAC	FAC
Juncus torreyi	JUNTOR	Coville	3	TORREY'S RUSH	Juncaceae		FACW	forb	PE	full	JUTO		MO	native	FACW	FACW	FACW
Juncus validus	JUNVAL	Coville	0	ROUND-HEADED RUSH	Juncaceae	561	FACW	forb	PE	advent	JUVA2		MO	adventive	FACW	FACW	
Juniperus communis	JUNCOM	L.	8	COMMON JUNIPER	Cupressaceae	278	(FACU-)	shrub	W	tree	JUCO6	E	GYMN	native	FACU	UPL	FACU
Juniperus sp.	JUNIPE	L.		JUNIPER	Cupressaceae		ND	ND	W	ND	JUNIP		GYMN				
Juniperus virginiana	JUNVIR	L.	3	EASTERN RED CEDAR	Cupressaceae	279	FACU	tree	W	tree	JUVI		GYMN	native	FACU	FACU	FACU
Justicia americana	JUSAME	(L.) M. Vahl.	9	WATER-WILLOW	Acanthaceae		OBL	forb	PE	full	JUAM		DI	native	OBL	OBL	OBL
Kalmia latifolia	KALLAT	L.	7	MOUNTAIN LAUREL	Ericaceae		FACU	shrub	W	shade	KALA		DI	native	FACU	FACU	FACU
Kerria japonica	KERJAP	(L.) DC	0	KERRIA	Rosaceae		(FACU)	shrub	W	advent	KEJA		DI	adventive			
Kickxia elatine	KICELA	(L.) Dumort	0	SHARP-POINTED CANKERROOT	Scrophulariaceae		FAC	forb	AN	advent	KIEL		DI	adventive	FAC	FAC	FAC
Kickxia spuria	KICSPU	(L.) Dumort	0	FLUELLIN	Scrophulariaceae		(UPL)	forb	AN	advent	KISP		DI	adventive			
Kochia scoparia	KOCSCO	(L.) Roth ex Schrad.	0	SUMMER-CYPRESS	Chenopodiaceae	280	(UPL)	forb	AN	advent	BASC5		DI	adventive	UPL	FACU	FACU
Koeleria pyramidata	KOEPYR	(Lam.) P. Beauv.	10 syn	JUNE GRASS	Poaceae		(UPL)	grass	PE	full	KOMA	E	MO	native			
Koelreuteria paniculata	KOEPAN	Laxm.	0	GOLDEN-RAINTREE	Sapindaceae		(FACU)	tree	W	advent	KOPA		DI	adventive			
Krigia biflora	KRIBIF	(Walter) S.F. Blake	5	ORANGE DWARF-DANDELION	Asteraceae		FACU	forb	PE	full	KRBI		DI	native	FACU	FACU	FACU
Krigia dandelion	KRIDAN	(L.) Nutt.	6	POTATO-DANDELION	Asteraceae		FAC	forb	PE	full	KRDA	T	DI	native	FAC	FACU	
Krigia sp.	KRIGIA	Schreb.		DWARF-DANDELION	Asteraceae		ND	forb	PE	full	KRIGI		DI				
Krigia virginica	KRIVIR	(L.) Willd.	8	DWARF-DANDELION	Asteraceae		UPL	forb	AN	full	KRVI	T	DI	native	UPL	UPL	UPL
Kuhnia eupatorioides	KUHEUP	L.	7 syn	FALSE BONESET	Asteraceae	281	(UPL)	forb	PE	full	BREUE		DI	native			
Kyllinga gracillima	KILGRA	Miq.	0	ASIATIC GREENHEDGE SEDGE	Cyperaceae		FACU	sedge	AN	full			MO	adventive	FACU	FACW	FACW
Kyllinga pumila	KYLPUM	Michx.	4 syn	THIN-LEAVED UMBRELLA-SEDGE	Cyperaceae		FACW	sedge	AN	full	KYPU		MO	native	FACW	FACW	FACW
Kyllinga sp.	KYLLIN	Rottb.		ND	Cyperaceae		ND	sedge	AN	full			MO				
Lactuca biennis	LACBIE	(Moench) Fernald	1	TALL BLUE LETTUCE	Asteraceae		FACU	forb	BI	partial	LABI		DI	native	FACU	FAC	FAC
Lactuca canadensis	LACCAN	L.	1	WILD LETTUCE	Asteraceae	282	FACU-	forb	BI	partial	LACA		DI	native	FACU	FACU	FACU
Lactuca floridana	LACFLO	(L.) Gaertn.	3	WOODLAND LETTUCE	Asteraceae	283	FACU-	forb	BI	partial	LAFL		DI	native	FACU	FACU	FACU
Lactuca hirsuta	LACHIR	Muhl. ex Nutt.	7	HAIRY LETTUCE	Asteraceae		(UPL)	forb	BI	partial	LAHI	E	DI	native			
Lactuca pulchella	LACPUL	(Pursh) DC.	0 syn	WESTERN BLUE LETTUCE	Asteraceae		FAC	forb	PE	advent	LATAP		DI	adventive	FAC	FAC	FAC
Lactuca saligna	LACSAL	L.	0	WILLOW-LEAVED LETTUCE	Asteraceae		(FACU)	forb	BI	advent	LASA		DI	adventive	UPL	FACU	FACU
Lactuca serriola	LACSER	L.	0	PRICKLY LETTUCE	Asteraceae	284	FAC-	forb	BI	advent	LASE		DI	adventive	FAC	FACU	FACU
Lactuca sp.	LACTUC	L.		LETTUCE	Asteraceae		ND	forb	ND	ND	LACTU		DI				
Lamium amplexicaule	LAMAMP	L.	0	HENBIT	Lamiaceae		(UPL)	forb	AN	advent	LAAM		DI	adventive			
Lamium maculatum	LAMMAC	L.	0	SPOTTED DEAD-NETTLE	Lamiaceae		(UPL)	forb	PE	advent	LAMA		DI	adventive			
Lamium purpureum	LAMPUR	L.	0	PURPLE DEAD-NETTLE	Lamiaceae		(UPL)	forb	AN	advent	LAPU2		DI	adventive			
Lamium sp.	LAMIUM	L.		DEAD-NETTLE	Lamiaceae		UPL	forb	ND	advent	LAMIU		DI				
Laportea canadensis	LAPCAN	(L.) Wedd.	5	WOOD-NETTLE	Urticaceae		FACW	forb	PE	shade	LACA3		DI	native	FAC	FACW	FACW
Lappula squarrosa	LAPSQU	(Retz.) Dumort.	0	EUROPEAN STICKSEED	Boraginaceae		(UPL)	forb	AN	advent	LASQ		DI	adventive			
Lapsana communis	LAPCOM	L.	0	NIPPLEWORT	Asteraceae		(UPL)	forb	AN	advent	LACO3		DI	adventive	FACU	FACU	FACU
Larix laricina	LARLAR	(Du Roi) K. Koch	9	TAMARACK	Pinaceae		FACW	tree	W	tree	LALA	P	GYMN	native	FACW	FACW	FACW
Lathyrus latifolius	LATLAT	L.	0	EVERLASTING PEA	Fabaceae		(UPL)	forb	PE	advent	LALA4		DI	adventive			
Lathyrus maritimus	LATMAR	(L.) Bigelow	10	INLAND BEACH PEA	Fabaceae	285	(FACU-)	forb	PE	full	LAJAM	T	DI	native	FACU	FACU	FACU
Lathyrus ochroleucus	LATOCH	Hook.	9	YELLOW VETCHLING	Fabaceae		(UPL)	forb	PE	full	LAOC2	E	DI	native			
Lathyrus odoratus	LATODO	L.	0	SWEET PEA	Fabaceae		(UPL)	forb	AN	advent	LAOD		DI	adventive			

Lathyrus palustris	LATPAL	L.	5	MARSH PEA	Fabaceae		FACW+	forb	PE	full	LAPA4		DI	native	FACW	FACW	FACW
Lathyrus pratensis	LATPRA	L.	0	MEADOW PEA	Fabaceae		FACU	vine	AN	advent	LAPR		DI	adventive	FACU	FACU	FACU
Lathyrus sp.	LATHYR	L.		PEA	Fabaceae		ND	forb	ND	ND	LATHY		DI				
Lathyrus tuberosus	LATTUB	L.	0	TUBEROUS VETCHLING	Fabaceae		(UPL)	forb	PE	advent	LATU		DI	adventive			
Lathyrus venosus	LATVEN	Muhl. ex Willd.	8	WILD PEA	Fabaceae		FACW	forb	PE	full	LAVE	E	DI	native	FACW	FAC	FAC
Leavenworthia uniflora	LEAUNI	(Michx.) Britton	9	LEAVENWORTHIA	Brassicaceae		FAC	forb	AN	full	LEUN	T	DI	native	FAC	FACU	
Lechea intermedia	LECINT	Legg. ex Britton	7	ROUND-FRUITED PINWEED	Cistaceae		(UPL)	forb	PE	full	LEIN	P	DI	native			
Lechea minor	LECMIN	L.	8 syn	THYME-LEAVED PINWEED	Cistaceae	286	(UPL)	forb	PE	full	LEMI	T	DI	native			
Lechea mucronata	LECMUC	Raf.	7 syn	HAIRY PINWEED	Cistaceae	287	(UPL)	forb	PE	full	LEMU3	P	DI	native			
Lechea pulchella	LECPUL	Raf.	7 syn	LEGGETT'S PINWEED	Cistaceae		(UPL)	forb	PE	full	LEPU4	T	DI	native			
Lechea racemulosa	LECRAC	Michx.	5	RACEMED PINWEED	Cistaceae		(UPL)	forb	PE	full	LERA		DI	native			
Lechea sp.	LECHEA	L.		PINWEED	Cistaceae		UPL	forb	PE	full	LECHE		DI				
Lechea tenuifolia	LECTEN	Michx.	8	NARROW-LEAVED PINWEED	Cistaceae		(UPL)	forb	PE	full	LETE	P	DI	native			
Ledum groenlandicum	LEDGRO	Oeder	10	LABRADOR-TEA	Ericaceae		OBL	shrub	W	full	LEGR	E	DI	native	OBL	OBL	OBL
Leersia lenticularis	LEELEN	Michx.	9	CATCHFLY GRASS	Poaceae		OBL	grass	PE	partial	LELE2	E	MO	native	OBL	OBL	OBL
Leersia oryzoides	LEEORY	(L.) Sw.	1	RICE CUT GRASS	Poaceae		OBL	grass	PE	full	LEOR		MO	native	OBL	OBL	OBL
Leersia sp.	LEERSI	Sw.		CUT GRASS	Poaceae		ND	grass	PE	ND	LEERS		MO				
Leersia virginica	LEEVIR	Willd.	4	WHITE GRASS	Poaceae		FACW	grass	PE	shade	LEVI2		MO	native	FACW	FACW	FACW
Lemna minor	LEMMIN	L.	3 syn	COMMON DUCKWEED	Lemnaceae	288	OBL	forb	AN	full	LEMI3		MO	native	OBL	OBL	OBL
Lemna sp.	LEMNA	L.		DUCKWEED	Lemnaceae		OBL	forb	AN	full	LEMNA		MO				
Lemna trisulca	LEMTRI	L.	6	STAR DUCKWEED	Lemnaceae		OBL	forb	AN	full	LETR		MO	native	OBL	OBL	OBL
Lemna valdiviana	LEMVAL	Phil.	8	PALE DUCKWEED	Lemnaceae	289	OBL	forb	AN	full	LEVA		MO	native	OBL	OBL	OBL
Leontodon autumnalis	LEOAUT	L.	0	FALL-DANDELION	Asteraceae		(UPL)	forb	PE	advent	LEAU2		DI	adventive	FAC	FACU	FACU
Leontodon hispidus	LEOHIS	L.	0	BIG HAWKBIT	Asteraceae		(UPL)	forb	PE	advent	LEHI		DI	adventive			
Leontodon sp.	LEONTO	L.		HAWKBIT	Asteraceae		UPL	forb	PE	advent	LEONT		DI				
Leontodon taraxacoides	LEOTAR	(Villars) Merat	0	LITTLE HAWKBIT	Asteraceae		FACU	forb	PE	advent	LETA		DI	adventive	FACU	UPL	UPL
Leonurus cardiaca	LEOCAR	L.	0	COMMON MOTHERWORT	Lamiaceae		(UPL)	forb	PE	advent	LECA2		DI	adventive			
Leonurus marrubiastrum	LEOMAR	L.	0	HOREHOUND MOTHERWORT	Lamiaceae		(UPL)	forb	BI	advent	CHMA18		DI	adventive			
Leonurus sp.	LEONUR	L.		MOTHERWORT	Lamiaceae		UPL	forb	ND	advent	LEONU		DI				
Lepidium campestre	LEPCAM	(L.) R. Br.	0	FIELD PEPPER-GRASS	Lamiaceae		(UPL)	forb	AN	advent	LECA5		DI	adventive			
Lepidium densiflorum	LEPDEN	Schrad.	0	PRAIRIE PEPPER-GRASS	Brassicaceae	290	FAC	forb	AN	advent	LEDE		DI	adventive	FAC	FAC	FACU
Lepidium perfoliatum	LEPPER	L.	0	CLASPING PEPPER-GRASS	Brassicaceae		UPL	forb	AN	advent	LEPE2		DI	adventive	UPL	FAC	FACU
Lepidium ruderale	LEPRUD	L.	0	STINKING PEPPER-GRASS	Brassicaceae		(UPL)	forb	AN	advent	LERU		DI	adventive			
Lepidium sativum	LEPSAT	L.	0	GARDEN-CRESS	Brassicaceae		(FACU)	forb	AN	advent	LESA2		DI	adventive			
Lepidium sp.	LEPIDI	L.		PEPPER-GRASS	Lamiaceae		ND	forb	AN	ND	LEPID		DI				
Lepidium virginicum	LEPVIR	L.	1	COMMON PEPPER-GRASS	Brassicaceae		FACU-	forb	AN	full	LEVI3		DI	native	FACU	FACU	FACU
Leptochloa fascicularis	LEPFAS	(Lam.) A. Gray	0 syn	SPRANGLETOP GRASS	Poaceae	291	FACW	grass	AN	advent	LEFUF		MO	adventive			
Leptochloa filiformis	LEPFIL	(Lam.) P. Beauv.	0	RED SPRANGLETOP	Poaceae		FACW	grass	AN	advent	LEPAB		MO	adventive			
Leptoloma cognatum	LEPCOG	(Schultes) Chase	4	FALL WITCH GRASS	Poaceae		(UPL)	grass	PE	full	DICO6		MO	native			
Lespedeza bicolor	LESBIC	Turcz.	0	SHRUBBY LESPEDEZA	Fabaceae		(FACU)	shrub	PE	advent	LEBI2		DI	adventive			
Lespedeza capitata	LESCAP	Michx.	5	ROUND-HEADED BUSH-CLOVER	Fabaceae		FACU-	forb	PE	full	LECA8		DI	native	FACU	FACU	FACU
Lespedeza cuneata	LESCUN	(Dumont) G. Don	0	CHINESE BUSH-CLOVER	Fabaceae		FACU-	forb	PE	advent	LECU		DI	adventive	FACU	UPL	UPL
Lespedeza formosa	LESFOR	(Vogel) Koehne	0	FORMOSAN LESPEDEZA	Fabaceae		(UPL)	forb	PE	advent	LEFO3		DI	adventive			
Lespedeza hirta	LESHIR	(L.) Hornem.	5	HAIRY BUSH-CLOVER	Fabaceae		(UPL)	forb	PE	full	LEHI2		DI	native			
Lespedeza intermedia	LESINT	(S. Watson) Britton	3	WAND BUSH-CLOVER	Fabaceae		(UPL)	forb	PE	full	LEFR5		DI	native			
Lespedeza procumbens	LESPRO	Michx.	5	TRAILING BUSH-CLOVER	Fabaceae		(UPL)	forb	PE	full	LEPR		DI	native			
Lespedeza repens	LESREP	(L.) Barton	6	SMALL TRAILING BUSH-CLOVER	Fabaceae		(UPL)	forb	PE	full	LERE2		DI	native			
Lespedeza sp.	LESPED	Michx.		BUSH-CLOVER	Fabaceae		ND	forb	PE	ND	LESPE		DI				
Lespedeza stipulacea	LESSTI	Maxim.	0 syn	KOREAN-CLOVER	Fabaceae		(FACU)	forb	PE	advent	KUST		DI	adventive	FACU	FACU	FACU
Lespedeza striata	LESSTR	(Thunb.) Hook. & Arn.	0 syn	JAPANESE-CLOVER	Fabaceae		(FACU)	forb	PE	advent	KUST2		DI	adventive	FACU	FACU	FACU
Lespedeza thunbergii	LESTHU	(DC.) Nakai	0	JAPANESE BUSH-CLOVER	Fabaceae		(FACW)	forb	PE	advent	LETH4		DI	adventive			
Lespedeza violacea	LESVIO	(L.) Pers.	4	VIOLET BUSH-CLOVER	Fabaceae		(UPL)	forb	PE	full	LEFR5		DI	native			
Lespedeza virginica	LESVIR	(L.) Britton	3	VIRGINIA BUSH-CLOVER	Fabaceae		(UPL)	forb	PE	full	LEVI7		DI	native			
Leucojum aestivum	LEUAES	L.	0	SNOWFLAKE	Liliaceae		(FACW)	forb	PE	advent	LEAE		MO	adventive			
Leucospora multifida	LEUMUL	(Michx.) Nutt.	5	LEUCOSPORA	Scrophulariaceae		OBL	forb	AN	full	LEMU		DI	native	OBL	FACW	FACW
Levisticum officinale	LEVOFF	W.D.J. Koch	0	EUROPEAN LOVEAGE	Apiaceae		(FAC)	forb	PE	advent	LEOF		DI	adventive			
Liatris aspera	LIAASP	Michx.	6	ROUGH BLAZING-STAR	Asteraceae	292	(UPL)	forb	PE	full	LIAS		DI	native			
Liatris cylindracea	LIACYL	Michx.	8	SLENDER BLAZING-STAR	Asteraceae		(UPL)	forb	PE	full	LICY	T	DI	native			
Liatris punctata	LIAPUN	Hook.	0	DOTTED BLAZING-STAR	Asteraceae		(UPL)	forb	PE	advent	LIPU		DI	adventive			
Liatris pycnostachya	LIAPYC	(L.) Willd.	0	THICK-SPIKED BLAZING-STAR	Asteraceae	293	FACU	forb	PE	advent	LIPY		DI	adventive	FACU	FAC	FAC
Liatris scariosa	LIASCA	(L.) Willd.	6	NORTHERN BLAZING-STAR	Asteraceae	294	(UPL)	forb	PE	full	LISC2		DI	native	FACU	UPL	UPL
Liatris sp.	LIATRIS	Gaertn. ex Shrib.		BLAZING-STAR	Asteraceae		ND	forb	PE	full	LIATR		DI				
Liatris spicata	LIASPI	(L.) Willd.	7	SPIKED BLAZING-STAR	Asteraceae		FAC+	forb	PE	full	LISP		DI	native	FAC	FAC	FAC
Liatris squarrosa	LIASQU	(L.) MIchx.	8	SCALY BLAZING-STAR	Asteraceae		(UPL)	forb	PE	full	LISQ	P	DI	native			
Ligusticum canadense	LIGCAN	(L.) Britton	6	AMERICAN LOVAGE	Apiaceae		FAC	forb	PE	shade	LICA16	X	DI	native	FAC	FAC	
Ligustrum obtusifolium	LIGOBT	Sieb. & Zucc.	0	JAPANESE PRIVET	Oleaceae		(UPL)	shrub	W	advent	LIOB		DI	adventive			

Ligustrum ovalifolium	LIGOVA	Hassk.	0	CALIFORNIA PRIVET	Oleaceae		(UPL)	shrub	W	advent	LIOV		DI	adventive			
Ligustrum sp.	LIGUST	L.		PRIVET	Oleaceae		ND	shrub	W	advent	LIGUS2		DI				
Ligustrum vulgare	LIGVUL	L.	0	COMMON PRIVET	Oleaceae		FACU	shrub	W	advent	LIVU		DI	adventive	FACU	FACU	FACU
Lilium canadense	LILCAN	L.	5	CANADA LILY	Liliaceae		FAC+	forb	PE	partial	LICA3		MO	native	FAC	FAC	FAC
Lilium michiganense	LILMIC	Farw.	6	MICHIGAN LILY	Liliaceae		(FAC+)	forb	PE	shade	LIMI9		MO	native	FACW	FACW	FACW
Lilium philadelphicum	LILPHI	L.	7	WOOD LILY	Liliaceae	295	FACU+	forb	PE	shade	LIPH	E	MO	native	FACU	FAC	FAC
Lilium sp.	LILIUM	L.		LILY	Liliaceae		ND	forb	PE	partial	LILIU		MO				
Lilium superbum	LILSUP	L.	8	TURK'S-CAP LILY	Liliaceae		FACW+	forb	PE	partial	LISU		MO	native	FACW	FACW	FACW
Linaria canadensis	LINCAN	(L.) Chaz.	4	OLD-FIELD TOADFLAX	Scrophulariaceae		(UPL)	forb	AN	full	NUCA	E	DI	native			
Linaria dalmatica	LINDAL	(L.) Mill.	0	DALMATIAN TOADFLAX	Scrophulariaceae		(UPL)	forb	PE	advent	LIDA		DI	adventive			
Linaria genistifolia	LINGEN	(L.) Mill.	0	TOADFLAX	Scrophulariaceae		(UPL)	forb	PE	advent	LIGE		DI	adventive			
Linaria sp.	LINARI	Mill.		TOADFLAX	Scrophulariaceae		UPL	forb	ND	ND	LINAR		DI				
Linaria vulgaris	LINVUL	Mill.	0	BUTTER-AND-EGGS	Scrophulariaceae		(UPL)	forb	PE	advent	LIVU2		DI	adventive			
Lindera benzoin	LINBEN	(L.) Blume	5	SPICEBUSH	Lauraceae	296	FACW-	shrub	W	shade	LIBE3		DI	native	FAC	FACW	FACW
Lindernia dubia	LINDUB	(L.) Pennell	2 syn	FALSE PIMPERNEL	Scrophulariaceae		OBL	forb	AN	full	LIDU		DI	native	OBL	OBL	OBL
Linnaea borealis	LINBOR	L.	10	TWINFLOWER	Caprifoliaceae	297	FAC	forb	PE	full	LIBO3	X	DI	native	FAC	FAC	FAC
Linum grandiflorum	LINGRA	Desf.	0	FLOWERING FLAX	Linaceae		(FACU)	forb	AN	advent	LIGR4		DI	adventive			
Linum medium	LINMED	(Planch.) Britton	5	STIFF YELLOW FLAX	Linaceae	298	FACU	forb	PE	full	LIME2		DI	native	FACU	FACU	FACU
Linum perenne	LINPER	L.	0	PERENNIAL FLAX	Linaceae		(UPL)	forb	PE	advent	LIPE2		DI	adventive			
Linum sp.	LINUM	L.		FLAX	Linaceae		ND	forb	ND	ND	LINUM		DI				
Linum striatum	LINSTR	Walter	5	RIDGED YELLOW FLAX	Linaceae		FACW	forb	PE	full	LIST		DI	native	FACW	FACW	FACW
Linum sulcatum	LINSUL	Riddell	7	GROOVED FLAX	Linaceae		(UPL)	forb	AN	full	LISU4		DI	native			
Linum usitatissimum	LINUSI	L.	0	COMMON FLAX	Linaceae		(UPL)	forb	AN	advent	LIUS		DI	adventive			
Linum virginianum	LINVIR	L.	4	SLENDER YELLOW FLAX	Linaceae		FACU	forb	PE	full	LIVI		DI	native	FACU	FAC	FAC
Liparis lilifolia	LIPLIL	(L.) Rich.	5	LARGE TWAYBLADE	Orchidaceae		FACU-	forb	PE	full	LILI3		MO	native			
Liparis loeselii	LIPLOE	(L.) Rich.	7	BOG TWAYBLADE	Orchidaceae		FACW	forb	PE	full	LILO		MO	native	FACW	FACW	FACW
Liparis sp.	LIPARI	Rich.		ND	Orchidaceae		ND	forb	PE	full	LIPAR		MO				
Lipocarpha drummondii	LIPDRU	(Nees) G.C. Tucker	10 syn	DRUMMOND'S DWARF BULLRUSH	Cyperaceae	299	OBL	sedge	AN	full	LIDR3	E	MO	native	OBL	FACW	FACW
Lipocarpha micrantha	LIPMIC	(Vahl) G.C. Tucker	8 syn	SMALL DWARF BULRUSH	Cyperaceae	300	FACW+	sedge	AN	full	LIMI12	T	MO	native	FACW	OBL	OBL
Lipocarpha sp.	LIPOCA	R. Br.		DWARF BULRUSH	Cyperaceae		ND	sedge	AN	full	LIPOC		MO				
Liquidambar styraciflua	LIQSTY	L.	6	SWEETGUM	Hamamelidaceae		FAC	tree	W	tree	LIST2		DI	native	FAC	FACW	FAC
Liriodendron tulipifera	LIRTUL	L.	6	TULIP TREE	Magnoliaceae		FACU	tree	W	tree	LITU		DI	native	FACU	FACU	FACU
Listera cordata	LISCOR	(L.) R. Br.	10	HEARTLEAF TWAYBLADE	Orchidaceae		FACW+	forb	PE	full	LICO6	X	MO	native	FACW	FACW	FACW
Lithospermum arvense	LITARV	L.	0 syn	CORN GROMWELL	Boraginaceae		(UPL)	forb	AN	full	BUAR3		DI	adventive			
Lithospermum canescens	LITCAN	(Michx.) Lehm.	6	HOARY PUCCOON	Boraginaceae		(UPL)	forb	PE	full	LICA12		DI	native			
Lithospermum caroliniense	LITCAR	(Walter ex J.F. Gmel.) MacMill.	9	PLAINS PUCCOON	Boraginaceae	301	(UPL)	forb	PE	full	LICA13	T	DI	native			
Lithospermum latifolium	LITLAT	Michx.	7	AMERICAN GROMWELL	Boraginaceae		(UPL)	forb	PE	full	LILA2		DI	native			
Lithospermum officinale	LITOFF	L.	0	EUROPEAN GROMWELL	Boraginaceae		(FACU)	forb	PE	advent	LIOF		DI	adventive			
Lithospermum sp.	LITHOS	L.		GROMWELL	Boraginaceae		UPL	forb	ND	ND	LITHO3		DI				
Lobelia cardinalis	LOBCAR	L.	5	CARDINAL-FLOWER	Campanulaceae		FACW+	forb	PE	partial	LOCA2		DI	native	FACW	OBL	OBL
Lobelia inflata	LOBINF	L.	1	INDIAN-TOBACCO	Campanulaceae		FACU	forb	AN	full	LOIN		DI	native	FACU	FACU	FACU
Lobelia kalmii	LOBKAL	L.	9	KALM'S LOBELIA	Campanulaceae		OBL	forb	PE	full	LOKA		DI	native	OBL	OBL	OBL
Lobelia puberula	LOBPUB	Michx.	5	DOWNY LOBELIA	Campanulaceae	302	FACW-	forb	PE	shade	LOPU		DI	native	FACW	FACW	FACW
Lobelia siphilitica	LOBSIP	L.	3	GREAT BLUE LOBELIA	Campanulaceae		FACW+	forb	PE	shade	LOSI		DI	native	FACW	OBL	FACW
Lobelia sp.	LOBELI	L.		LOBELIA	Campanulaceae		ND	forb	ND	ND	LOBEL		DI				
Lobelia spicata	LOBSPI	Lam.	5	PALE-SPIKE LOBELIA	Campanulaceae	303	FAC-	forb	PE	full	LOSP		DI	native	FAC	FAC	FAC
Lobularia maritima	LOBMAR	(L.) Desv.	0	SWEET ALYSSUM	Brassicaceae		(UPL)	forb	AN	advent	LOMA		DI	adventive			
Lolium multiflorum	LOLMUL	Lam.	0	ITALIAN RYEGRASS	Poaceae		FACU-	grass	PE	advent	LOPEM2		MO	adventive	FACU	FACU	FACU
Lolium perenne	LOLPER	L.	0	PERENNIAL RYEGRASS	Poaceae		FACU-	grass	PE	advent	LOPE		MO	adventive	FACU	FACU	FACU
Lolium temulentum	LOLTEM	(L.) Darnel	0	DARNEL	Poaceae		(UPL)	grass	AN	advent	LOTE2		MO	adventive			
Lonicera canadensis	LONCAN	Barton ex Marshall	8	CANADA FLY HONEYSUCKLE	Caprifoliaceae		FACU	shrub	W	shade	LOCA7		DI	native	FACU	FACU	FACU
Lonicera dioica	LONDIO	L.	5	WILD HONEYSUCKLE	Caprifoliaceae	304	FACU	vine	W	shade	LODI2		DI	native	FACU	FACU	FACU
Lonicera flava	LONFLA	Sims	8	YELLOW HONEYSUCKLE	Caprifoliaceae	305	(UPL)	vine	W	shade	LOFL	X	DI	native			
Lonicera fragrantissima	LONFRA	Lindl. & Paxt.	0	SWEET-BREATH-SPRING	Caprifoliaceae		(UPL)	shrub	W	advent	LOFR		DI	adventive			
Lonicera japonica	LONJAP	Thunb.	0	JAPANESE HONEYSUCKLE	Caprifoliaceae		FAC-	vine	W	advent	LOJA		DI	adventive	FAC	FACU	FACU
Lonicera maackii	LONMAA	(Rupr.) Maxim.	0	AMUR HONEYSUCKLE	Caprifoliaceae		(UPL)	shrub	W	advent	LOMA6		DI	adventive			
Lonicera morrowii	LONMOR	A. Gray	0	MORROW'S HONEYSUCKLE	Caprifoliaceae		FACU	shrub	W	advent	LOMO2		DI	adventive	FACU	FACU	FACU
Lonicera oblongifolia	LONOBL	(Goldie) Hook.	9	SWAMP FLY HONEYSUCKLE	Caprifoliaceae		OBL	shrub	W	partial	LOOB	X	DI	native	OBL	OBL	OBL
Lonicera reticulata	LONRET	Raf.	7 syn	GRAPE HONEYSUCKLE	Caprifoliaceae		(UPL)	vine	W	shade	LORE5		DI	native			
Lonicera sempervirens	LONSEM	L.	8	TRUMPET HONEYSUCKLE	Caprifoliaceae	546	FACU	vine	W	partial	LOSE		DI	native	FACU	FACU	FACU
Lonicera sp.	LONICE	L.		HONEYSUCKLE	Caprifoliaceae		ND	ND	W	ND	LONIC		DI				
Lonicera tatarica	LONTAT	L.	0	TATARIAN HONEYSUCKLE	Caprifoliaceae		FACU	shrub	W	advent	LOTA		DI	adventive	FACU	FACU	FACU
Lonicera villosa	LONVIL	(Michx.) Schult.	9	MOUNTAIN FLY HONEYSUCKLE	Caprifoliaceae	306	(FACW+)	shrub	W	shade	LOVI	X	DI	native	FACW	FACW	FACW
Lonicera xylosteum	LONXYL	L.	0	EUROPEAN FLY HONEYSUCKLE	Caprifoliaceae		(UPL)	shrub	W	advent	LOXY		DI	adventive			
Lotus corniculatus	LOTCOR	L.	0	BIRD'S-FOOT TREFOIL	Fabaceae		FACU-	forb	PE	advent	LOCO6		DI	adventive	FACU	FACU	FACU
Ludwigia alternifolia	LUDALT	L.	3	SEEDBOX	Onagraceae		FACW+	forb	PE	full	LUAL2		DI	native	FACW	OBL	OBL

Ludwigia decurrens	LUDDEC	Walter	0	ERECT PRIMROSE-WILLOW	Onagraceae		OBL	forb	AN	advent	LUDE4		DI	adventive	OBL	OBL	OBL
Ludwigia leptocarpa	LUDLEP	(Nutt.) Hara	0	HAIRY PRIMROSE-WILLOW	Onagraceae		OBL	forb	AN	advent	LULE4		DI	adventive	OBL	OBL	
Ludwigia palustris	LUDPAL	(L.) Elliott	3	WATER-PURSLANE	Onagraceae		OBL	forb	AN	full	LUPA		DI	native	OBL	OBL	OBL
Ludwigia peploides	LUDPEP	(Kunth) P.H. Raven	0	CREEPING PRIMROSE-WILLOW	Onagraceae	307	OBL	forb	PE	advent	LUPE5		DI	adventive	OBL	OBL	OBL
Ludwigia polycarpa	LUDPOL	Short & R. Peter	5	FALSE LOOSESTRIFE	Onagraceae		OBL	forb	PE	full	LUPO		DI	native	OBL	OBL	OBL
Ludwigia sp.	LUDWIG	L.		PRIMROSE-WILLOW	Onagraceae		ND	forb	ND	ND	LUDWI		DI				
Lunaria annua	LUNANN	L.	0	MONEY-PLANT	Brassicaceae		(UPL)	forb	AN	advent	LUAN		DI	adventive			
Lunaria rediviva	LUNRED	L.	0	MONEY-PLANT	Brassicaceae		(UPL)	forb	PE	advent	LURE		DI	adventive			
Lupinus perennis	LUPPER	L.	7	WILD LUPINE	Fabaceae		(UPL)	forb	PE	full	LUPE3	P	DI	native			
Luzula acuminata	LUZACU	Raf.	6	HAIRY WOODRUSH	Juncaceae	308	FAC	forb	PE	shade	LUAC		MO	native	FAC	FACU	FACU
Luzula bulbosa	LUZBUL	(A.W. Wood) Rydb.	5	SOUTHERN WOODRUSH	Juncaceae		FACU	forb	PE	shade	LUBU	T	MO	native	FACU	FACU	FACU
Luzula echinata	LUZECH	(Small) F.J. Herm.	4	ROUND-LEAVED WOODRUSH	Juncaceae	309	FACU	forb	PE	shade	LUEC		MO	native	FACU	FACU	FACU
Luzula multiflora	LUZMUL	(Retz.) Lej.	3	COMMON WOODRUSH	Juncaceae	310	FACU	forb	PE	shade	LUMU2		MO	native	FACU	FACU	FACU
Luzula sp.	LUZULA	DC.		WOODRUSH	Juncaceae		ND	forb	PE	shade	LUZUL		MO				
Lychnis coronaria	LYCCOR	(L.) Desr.	0	MULLEIN-PINK	Caryophyllaceae		(UPL)	forb	PE	advent	LYCO		DI	adventive			
Lychnis flos-cuculi	LYCFLO	L.	0	RAGGED ROBIN	Caryophyllaceae		FACU	forb	PE	advent	LYFL3		DI	adventive	FACU	FACU	FACU
Lychnis viscaria	LYCVIS	L.	0	GERMAN CATCHFLY	Caryophyllaceae		(UPL)	forb	PE	advent	LYVI2		DI	adventive			
Lycium barbarum	LYCBAR	L.	0	COMMON MATRIMONY-VINE	Solanaceae	311	(UPL)	shrub	W	advent	LYBA4		DI	adventive			
Lycopersicon esculentum	LYCESC	Mill.	0	TOMATO	Solanaceae		(UPL)	forb	AN	advent	SOLYL		DI	adventive			
Lycopodiella appressa	LYCAPP	(Chapm.) Cranfill	10 syn	SOUTHERN CLUB-MOSS	Lycopodiaceae	562	OBL	fern	PE	partial	LYAP4	E	SVP	native	FACW	FACW	FACW
Lycopodiella inundata	LYCINU	(L.) Holub	7 syn	NORTHERN BOG CLUB-MOSS	Lycopodiaceae		OBL	fern	PE	shade	LYIN2		SVP	native	OBL	OBL	OBL
Lycopodiella sp.	LYCOPD	Holub		CLUB-MOSS	Lycopodiaceae		ND	fern	PE	shade	LYCOP6		SVP				
Lycopodiella subappressa	LYCSUB	J.G. Bruce% W.H. Wagner & Beitel	9	APPRESSED BOG CLUB-MOSS	Lycopodiaceae		(FACW)	fern	PE	shade	LYSU2	E	SVP	native			FACW
Lycopodium clavatum	LYCCLA	L.	3	RUNNING GROUND-PINE	Lycopodiaceae		FAC	fern	PE	shade	LYCL		SVP	native	FAC	FAC	FAC
Lycopodium dendroideum	LYCDEN	Michx.	5 syn	TREE CLUB-MOSS	Lycopodiaceae		FACU	fern	PE	shade	LYDE		SVP	native	FACU	FACU	FACU
Lycopodium hickeyi	LYCHIC	W.H. Wagner% Beitel & DC. Moran	5	ROUND-BRANCHED TREE CLUB-M.	Lycopodiaceae		(FACU)	fern	PE	shade	LYHI2		SVP	native			
Lycopodium lagopus	LYCLAG	(Laest. ex Hartm.) G. Zinserl. ex Kuzen	3	ONE-CONED CLUB-MOSS	Lycopodiaceae	312	(UPL)	fern	PE	shade	LYLA5	E	SVP	native	FACU	FAC	FACU
Lycopodium obscurum	LYCOBS	L.	5	FLAT-BRANCHED TREE CLUB-M.	Lycopodiaceae		FACU	fern	PE	shade	LYOB		SVP	native	FACU	FACU	FACU
Lycopodium sp.	LYCOPO	L.		CLUB-MOSS	Lycopodiaceae		ND	fern	PE	shade	LYCOP2		SVP				
Lycopus americanus	LYCAME	Muhl. ex W.P.C. Barton	3	AMERICAN WATER-HOREHOUND	Lamiaceae		OBL	forb	PE	full	LYAM		DI	native	OBL	OBL	OBL
Lycopus asper	LYCASP	Greene	0	ROUGH WATER-HOREHOUND	Lamiaceae		OBL	forb	PE	advent	LYAS		DI	adventive		OBL	OBL
Lycopus europaeus	LYCEUR	L.	0	EUROPEAN BUGLE-WEED	Lamiaceae		OBL	forb	PE	advent	LYEU		DI	adventive	OBL	OBL	OBL
Lycopus rubellus	LYCRUB	Moench	4	STALKED WATER-HOREHOUND	Lamiaceae		OBL	forb	PE	full	LYRU		DI	native	OBL	OBL	OBL
Lycopus sp.	LYCOPU	L.		WATER-HOREHOUND	Lamiaceae		OBL	forb	PE	ND	LYCOP4		DI				
Lycopus uniflorus	LYCUNI	Michx.	3 syn	NORTHERN WATER-HOREHOUND	Lamiaceae		OBL	forb	PE	full	LYUN		DI	native	OBL	OBL	OBL
Lycopus virginicus	LYCVIR	L.	3 syn	VIRGINIA BUGLE-WEED	Lamiaceae		OBL	forb	PE	full	LYVI4		DI	native	OBL	OBL	OBL
Lycoris squamigera	LICSQU	Maxim	0	MAGIC LILY	Liliaceae		(FACU)	forb	PE	advent	LYSQ		MO	adventive			
Lygodium palmatum	LYGPAL	(Bernh.) Sw.	5	CLIMBING FERN	Schizaeaceae		FACW	fern	PE	full	LYPA3		DI	native	FACW	FACW	FACW
Lyonia ligustrina	LYOLIG	(L.) DC.	8	MALEBERRY	Ericaceae		FACW	shrub	W	partial	LYLI	X	DI	native	FACW	FACW	FACW
Lysimachia ciliata	LYSCIL	L.	4 syn	FRINGED LOOSESTRIFE	Primulaceae		FACW	forb	PE	shade	LYCI		DI	native	FACW	FACW	FACW
Lysimachia lanceolata	LYSLAN	Walter	6 syn	LANCE-LEAVED LOOSESTRIFE	Primulaceae		FAC	forb	PE	full	LYLA		DI	native	FAC	FAC	FAC
Lysimachia nummularia	LYSNUM	L.	0	MONEYWORT	Primulaceae		OBL	forb	PE	advent	LYNU		DI	adventive	FACW	FACW	FACW
Lysimachia punctata	LYSPUN	L.	0	GARDEN LOOSESTRIFE	Primulaceae		OBL	forb	PE	advent	LYPU2		DI	adventive	OBL	OBL	OBL
Lysimachia quadriflora	LYSQFL	Sims	7 syn	LINEAR-LEAVED LOOSESTRIFE	Primulaceae		FACW+	forb	PE	partial	LYQU		DI	native	FACW	OBL	OBL
Lysimachia quadrifolia	LYSQFO	L.	5	WHORLED LOOSESTRIFE	Primulaceae		FACU-	forb	PE	partial	LYQU2		DI	native	FACU	FACU	FACU
Lysimachia sp.	LYSIMA	L.		YELLOW LOOSESTRIFE	Primulaceae		ND	forb	PE	ND	LYSIM		DI				
Lysimachia terrestris	LYSTER	(L.) B.S.P.	6	SWAMP-CANDLES	Primulaceae		OBL	forb	PE	full	LYTE2		DI	native	OBL	OBL	OBL
Lysimachia thyrsiflora	LYSTHY	L.	6	TUFTED LOOSESTRIFE	Primulaceae		OBL	forb	PE	full	LYTH2		DI	native	OBL	OBL	OBL
Lysimachia vulgaris	LYSVUL	L.	0	GARDEN LOOSESTRIFE	Primulaceae		FAC+	forb	PE	advent	LYVU		DI	adventive	FAC	FACW	FACW
Lythrum alatum	LYTALA	Pursh	6	WINGED LOOSESTRIFE	Lythraceae		FACW+	forb	PE	full	LYAL4		DI	native	FACW	OBL	OBL
Lythrum hyssopifolium	LYTHYS	L.	0	HYSSOP-LEAVED LOOSESTRIFE	Lythraceae		OBL	forb	BI	advent	LYHY3		DI	adventive	OBL	OBL	OBL
Lythrum salicaria	LYTSAL	L.	0	PURPLE LOOSESTRIFE	Lythraceae		FACW+	forb	PE	advent	LYSA2		DI	adventive	FACW	OBL	OBL
Lythrum sp.	LYTHRUM	L.		LOOSESTRIFE	Lythraceae		ND	forb	ND	ND	LYTHR		DI				
Macleaya cordata	MACCOR	(Willd.) R. Br.	0	PLUME POPPY	Papaveraceae		(FACU)	forb	PE	advent	MACO10		DI	adventive			
Maclura pomifera	MACPOM	(Raf.) C.K. Schneid.	0	OSAGE-ORANGE	Moraceae		UPL	tree	W	advent	MAPO		DI	adventive	UPL	FACU	FACU
Magnolia acuminata	MAGACU	(L.) L.	7	CUCUMBER TREE	Magnoliaceae		(UPL)	tree	W	tree	MAAC		DI	native	FACU		
Magnolia macrophylla	MAGMAC	Michx.	8	BIGLEAF MAGNOLIA	Magnoliaceae		(UPL)	tree	W	tree	MAMA2	E	DI	native			
Magnolia sp.	MAGNOL	L.		MAGNOLIA	Magnoliaceae		ND	tree	W	tree	MAGNO		DI				
Magnolia tripetala	MAGTRI	(L.) L.	8	UMBRELLA MAGNOLIA	Magnoliaceae		FACU	tree	W	tree	MATR	T	DI	native	FACU	FACU	FACU
Maianthemum canadense	MAICAN	Desf.	6	CANADA MAYFLOWER	Liliaceae	313	FAC-	forb	PE	shade	MACA4		MO	native	FAC	FAC	FACU
Maianthemum racemosum	MAIRAC	(L.) Link	4 syn	FALSE SOLOMON'S-SEAL	Liliaceae		FACU-	forb	PE	shade	MARA7		MO	native	FACU	FACU	FACU
Maianthemum sp.	MAIANT	F.H. Wigg		MAYFLOWER	Liliaceae		ND	forb	PE	shade	MAIAN		MO				
Maianthemum stellatum	MAISTE	(L.) Link	7 syn	STARRY FALSE SOLOMON'S-SEAL	Liliaceae		FACW	forb	PE	shade	MAST4		MO	native	FACW	FAC	FAC
Maianthemum trifolium	MAITRI	(L.) Sloboda	10 syn	THREE-LEAVED FALSE SOL.-SEAL	Liliaceae		OBL	forb	PE	shade	MATR4	X	MO	native	OBL	OBL	OBL
Malaxis bayardii	MALBAY	Fern.	6	BAYARD'S ADDER'S-MOUTH	Orchidaceae		(UPL)	forb	PE	shade	MABA6		MO	native			
Malaxis sp.	MALAXI	Sol. ex Sw.	6	ADDER'S-MOUTH	Orchidaceae		ND	forb	PE	shade	MALAX		MO				

Malaxis unifolia	MALUNI	Michx.	6	GREEN ADDER'S-MOUTH	Orchidaceae	FAC	forb	PE	shade	MAUN	P	MO	native	FAC	FAC	FAC
Malva alcea	MALALC	L.	0	VERVAIN MALLOW	Malvaceae	(UPL)	forb	PE	advent	MAAL		DI	adventive			
Malva moschata	MALMOS	L.	0	MUSK MALLOW	Malvaceae	UPL	forb	PE	advent	MAMO2		DI	adventive			
Malva neglecta	MALNEG	Wallr.	0	CHEESE MALLOW	Malvaceae	(UPL)	forb	AN	advent	MANE		DI	adventive			
Malva rotundifolia	MALROT	L.	0 syn	ROUND-LEAVED MALLOW	Malvaceae	(UPL)	forb	AN	advent	MANE		DI	adventive			
Malva sp.	MALVA	L.		MALLOW	Malvaceae	UPL	forb	ND	advent	MALVA		DI				
Malva sylvestris	MALSYL	L.	0	HIGH MALLOW	Malvaceae	(UPL)	forb	BI	advent	MASY		DI	adventive			
Malva verticillata	MALVER	L.	0	WHORLED MALLOW	Malvaceae	(UPL)	forb	AN	advent	MAVE		DI	adventive			
Manfreda virginica	MANVIR	(L.) Salisb. ex Rose	9 syn	AMERICAN ALOE	Agavaceae	(UPL)	forb	PE	full	MAVI5	P	MO	native			
Marrubium vulgare	MARVUL	L.	0	COMMON HOREHOUND	Lamiaceae	UPL	forb	PE	advent	MAVU		DI	adventive	UPL	FAC	FACU
Marsilea quadrifolia	MARQUA	L.	0	EURASION WATER-CLOVERL	Marsiliaceae	OBL	fern	PE	advent	MAQU		SVP	adventive	OBL	OBL	OBL
Matelea obliqua	MATOBL	(Jacq.) Woodson	4	ANGLE-POD	Asclepiadaceae	(UPL)	vine	PE	partial	MAOB2		DI	native			
Matricaria maritima	MATMAR	L.	0	SCENTLESS CHAMOMILE	Asteraceae	314 (UPL)	forb	AN	advent	TRMAM		DI	adventive	UPL	FAC	FAC
Matricaria matricarioides	MATMAT	(Less.) Porter	0 syn	PINEAPPLE-WEED	Asteraceae	FACU	forb	AN	advent	MADI6		DI	adventive	FACU	FACU	FACU
Matricaria recutita	MATREC	L.	0	CHAMOMILE	Asteraceae	(UPL)	forb	AN	advent	MARE6		DI	adventive			
Matricaria sp.	MATRIC	L.		MAYWEED	Asteraceae	ND	forb	AN	advent	MATRI		DI				
Matteuccia struthiopteris	MATSTR	(L.) Tod.	6	OSTRICH FERN	Dryopteridaceae	315 FACW	fern	PE	shade	MAST		DI	native	FACW	FACW	FAC
Mazus pumilus	MAZPUM	(Burm. f.) Steenis	0	MAZUS	Scrophulariaceae	FACU-	forb	PE	advent	MAPU7		DI	adventive	FACU	UPL	UPL
Medeola virginiana	MEDVIR	L.	6	INDIAN CUCUMBER-ROOT	Liliaceae	(UPL)	forb	PE	shade	MEVI		MO	native		FACU	
Medicago lupulina	MEDLUP	L.	0	BLACK MEDICK	Fabaceae	UPL	forb	AN	advent	MELU		DI	adventive	FACU	FACU	FACU
Medicago sativa	MEDSAT	L.	0	ALFALFA	Fabaceae	316 (UPL)	forb	PE	advent	MESA		DI	adventive	UPL	FACU	UPL
Medicago sp.	MEDICA	L.		ALFALFA	Fabaceae	UPL	forb	ND	advent	MEDIC		DI				
Meehania cordata	MEECOR	(Nutt.) Britton	7	MEEHANIA	Lamiaceae	(FACU+)	forb	PE	shade	MECO		DI	native	FACU		
Melampyrum lineare	MELLIN	Desr.	8	COW-WHEAT	Scrophulariaceae	317 FACU	forb	AN	shade	MELI2	T	DI	native	FACU	FAC	FACU
Melanthium virginicum	MELVIR	L.	9	BUNCHFLOWER	Liliaceae	FACW+	forb	PE	full	VEVI5	T	MO	native	FACW	FACW	FACW
Melanthium woodii	MELWOO	(J.W. Robbins ex A.W. Wood) Baker	10 syn	WOOD'S HELLEBORE	Liliaceae	(UPL)	forb	PE	shade	VEWO3	T	MO	native			
Melica nitens	MELNIT	(Scribn.) Nutt. ex Piper	8	THREE-FLOWERED MELIC	Poaceae	(UPL)	grass	PE	shade	MENI	T	MO	native			
Melilotus alba	MELALB	Medik.	0	WHITE SWEET-CLOVER	Fabaceae	FACU-	forb	BI	advent	MEOF		DI	adventive	FACU	FACU	FACU
Melilotus altissima	MELALT	Thuill.	0	TALL SWEET-CLOVER	Fabaceae	(UPL)	forb	PE	advent	MEAL3		DI	adventive			
Melilotus officinalis	MELOFF	(L.) Pall.	0	YELLOW SWEET-CLOVER	Fabaceae	FACU-	forb	BI	advent	MEOF		DI	adventive	FACU	FACU	FACU
Melilotus sp.	MELILO	L.		SWEET-CLOVER	Fabaceae	FACU-	forb	BI	advent	MELIL		DI				
Melissa officinalis	MLIOFF	L.	0	COMMON BALM	Lamiaceae	(UPL)	forb	PE	advent	MEOF2		DI	adventive	UPL	UPL	UPL
Menispermum canadense	MENCAN	L.	5	CANADA MOONSEED	Menispermaceae	FACU	vine	PE	shade	MECA3		DI	native	FACU	FAC	FAC
Mentha arvensis	MENARV	L.	2 syn	FIELD MINT	Lamiaceae	318 FACW	forb	PE	full	MEAR4		DI	native	FACW	FACW	FACW
Mentha longifolia	MENLON	(L.) L.	0	EUROPEAN HORSEMINT	Lamiaceae	FACU	forb	PE	advent	MESP3		DI	adventive	FACW	FACW	FACW
Mentha sp.	MENTHA	L.		MINT	Lamiaceae	ND	forb	PE	ND	MENTH		DI				
Mentha spicata	MENSPI	L.	0	SPEARMINT	Lamiaceae	FACW+	forb	PE	advent	MESP3		DI	adventive	FACW	FACW	FACW
Mentha x piperata	MENPIP	L.	0	PEPPERMINT	Lamiaceae	319 FACW+	forb	PE	advent	MEPI		DI	adventive	FACW	OBL	OBL
Menyanthes trifoliata	MENTRI	L.	9	BUCKBEAN	Menyanthaceae	OBL	forb	PE	full	METR3	T	DI	native	OBL	OBL	OBL
Mercurialis annua	MERANN	L.	0	MERCURY	Euphorbiaceae	(UPL)	forb	AN	advent	MEAN		DI	adventive			
Mertensia virginica	MERVIR	(L.) Pers. ex Link	6	BLUEBELLS	Boraginaceae	FACW	forb	PE	shade	MEVI3		DI	native	FACW	FACW	FAC
Metasequoia glyptostroboides	METGLY	Hu & W.C. Cheng	0	DAWN REDWOOD	Cupressaceae	(FACU)	tree	W	full			GYMN	adventive			
Microstegium vimineum	MICVIM	(Trin.) A. Camus	0 syn	RECLINING EULALIA	Poaceae	FAC	grass	AN	advent	MIVI		MO	adventive	FAC	FAC	FAC
Mikania scandens	MIKSCA	(L.) Willd.	0	CLIMBING HEMPWEED	Asteraceae	320 FACW+	shrub	W	advent	MISC		DI	adventive	FACW	OBL	OBL
Milium effusum	MILEFF	L.	7	WOOD MILLET	Poaceae	(UPL)	grass	PE	shade	MIEF		MO	native	FACU	FACU	
Mimulus alatus	MIMALA	Aiton	6	WINGED MONKEY-FLOWER	Scrophulariaceae	OBL	forb	PE	full	MIAL2		DI	native	OBL	OBL	OBL
Mimulus ringens	MIMRIN	L.	4	COMMON MONKEY-FLOWER	Scrophulariaceae	OBL	forb	PE	full	MIRI		DI	native	OBL	OBL	OBL
Mimulus sp.	MIMULU	L.		MONKEY-FLOWER	Scrophulariaceae	OBL	forb	PE	full	MIMUL		DI				
Mirabilis albida	MIRALB	(Walter) Heimerl	0	PALE UMBRELLA-WORT	Nyctaginaceae	(UPL)	forb	PE	advent	MIAL4		DI	adventive			
Mirabilis hirsuta	MIRHIR	(Pursh) MacMill.	0	HAIRY UMBRELLA-WORT	Nyctaginaceae	(UPL)	forb	PE	advent	MIHI		DI	adventive			
Mirabilis jalapa	MIRJAL	L.	0	FOUR-O'CLOCK	Nyctaginaceae	(UPL)	forb	PE	advent	MIJA		DI	adventive	UPL	UPL	UPL
Mirabilis nyctaginea	MIRNYC	(Michx.) MacMill.	0	HEART-LEAVED UMBRELLA-WORT	Nyctaginaceae	FACU-	forb	PE	advent	MINY		DI	adventive	FACU	UPL	UPL
Mirabilis sp.	MIRABI	L.		FOUR-O'CLOCK	Nyctaginaceae	ND	forb	PE	advent	MIRAB		DI				
Miscanthus sinensis	MISSIN	Andersson	0	EULALIA	Poaceae	FACU	grass	PE	advent	MISI		MO	adventive	FACU	UPL	UPL
Mitchella repens	MITREP	L.	5	PARTRIDGE-BERRY	Rubiaceae	FACU	forb	PE	shade	MIRE		DI	native	FACU	FACU	FACU
Mitella diphylla	MITDIP	L.	6	MITERWORT	Saxifragaceae	FACU	forb	PE	shade	MIDI3		DI	native	FACU	FACU	FACU
Moehringia trinervia	MOETRI	(L.) Clairv.	0	THREE-NERVED SANDWORT	Caryophyllaceae	(FACU-)	forb	PE	advent	MOTR2		DI	adventive			
Mollugo verticillata	MOLVER	L.	0	CARPET-WEED	Molluginaceae	FAC	forb	AN	advent	MOVE		DI	adventive	FAC	FAC	FAC
Monarda clinopodia	MONCLI	L.	4 syn	BASIL BEE-BALM	Lamiaceae	(FAC+)	forb	PE	partial	MOCL		DI	native	FACU	FACU	
Monarda didyma	MONDID	L.	6	BEE-BALM	Lamiaceae	FAC+	forb	PE	partial	MODI		DI	native	FAC	UPL	FACU
Monarda fistulosa	MONFIS	L.	3 syn	WILD BERGAMOT	Lamiaceae	UPL	forb	PE	full	MOFI		DI	native	UPL	FACU	FACU
Monarda punctata	MONPUN	L.	7	DOTTED HORSEMINT	Lamiaceae	321 UPL	forb	PE	full	MOPU	E	DI	native	UPL	UPL	UPL
Monarda sp.	MONARD	L.		BEE-BALM	Lamiaceae	ND	forb	PE	ND	MONAR		DI				
Moneses uniflora	MONUNI	(L.) A. Gray	8	ONE-FLOWERED WINTERGREEN	Pyrolaceae	(FACU)	forb	PE	shade	MOUN2	X	DI	native		FAC	FAC
Monolepis nuttalliana	MONNUT	(Schult.) Greene	0	POVERTY-WEED	Chenopodiaceae	(UPL)	forb	AN	advent	MONU		DI	adventive	UPL	UPL	UPL
Monotropa hypopithys	MONHYP	L.	6	PINESAP	Monotropaceae	(UPL)	forb	PE	shade	MOHY3		DI	native			

Monotropa sp.	MONOTR	L.		INDIAN PIPE	Monotropaceae	ND	forb	PE	shade	MONOT		DI				
Monotropa uniflora	MNTUNI	L.	5	INDIAN PIPE	Monotropaceae	FACU-	forb	PE	shade	MOUN3		DI	native	FACU	FACU	FACU
Morus alba	MORALB	L.	0	WHITE MULBERRY	Moraceae	UPL	tree	W	advent	MOAL		DI	adventive	UPL	FAC	FACU
Morus rubra	MORRUB	L.	7	RED MULBERRY	Moraceae	FACU	tree	W	tree	MORU2		DI	native	FACU	FACU	FACU
Moss sp.	MOSS	ND		ND	Musci	ND	bryo	BR	bryo			BR	native			
Muhlenbergia asperifolia	MUHASP	(Nees & Meyen ex Trin.) Parodi	0	SCRATCH GRASS	Poaceae	FACW	grass	PE	advent	MUAS		MO	adventive	FACW	FACW	FACW
Muhlenbergia capillaris	MUHCAP	(Lam.) Trin.	8	HAIR GRASS	Poaceae	FACU-	grass	PE	full	MUCA2	X	MO	native	FACU	FACU	FACU
Muhlenbergia cuspidata	MUHCUS	(Torr. ex Hook.) Rydb.	9	PLAINS MUHLENBERGIA	Poaceae	(UPL)	grass	PE	full	MUCU3	E	MO	native			
Muhlenbergia frondosa	MUHFRO	(Poir.) Fernald	3	COMMON SATIN GRASS	Poaceae	FAC	grass	PE	full	MUFR2		MO	native	FAC	FACW	FACW
Muhlenbergia glabrifloris	MUHGLA	Scribn.	5	INLAND MUHLY	Poaceae	537 (FACW)	grass	PE	shade	MUGL	E	MO	native		FACU	
Muhlenbergia glomerata	MUHGLO	(Willd.) Trin.	9	MARSH MUHLY	Poaceae	FACW	grass	PE	full	MUGL3		MO	native	FACW	FACW	OBL
Muhlenbergia mexicana	MUHMEX	(L.) Trin.	4	LEAFY SATIN GRASS	Poaceae	FACW	grass	PE	full	MUME2		MO	native	FACW	FACW	FACW
Muhlenbergia schreberi	MUHSCH	J.F. Gmel.	0	NIMBLEWILL	Poaceae	FAC	grass	PE	full	MUSC		MO	native	FAC	FAC	FAC
Muhlenbergia sobolifera	MUHSOB	(Muhl. ex Willd.) Trin.	8	ROCK SATIN GRASS	Poaceae	(UPL)	grass	PE	shade	MUSO		MO	native			
Muhlenbergia sp.	MUHLEN	Schreb.		MUHLY	Poaceae	ND	grass	PE	ND	MUHLE		MO				
Muhlenbergia sylvatica	MUHSYL	(Torr.) Torr. ex A. Gray	6	WOODLAND SATIN GRASS	Poaceae	FAC+	grass	PE	shade	MUSY		MO	native	FAC	FACW	FACW
Muhlenbergia tenuiflora	MUHTEN	(Willd.) B.S.P.	6	SLENDER SATIN GRASS	Poaceae	(UPL)	grass	PE	shade	MUTE		MO	native	FACU		
Muscari botryoides	MUSBOT	(L.) Mill.	0	GRAPE-HYACINTH	Liliaceae	(UPL)	forb	PE	advent	MUBO		MO	adventive			
Myosotis arvensis	MYOARV	(L.) Hill	0	FIELD FORGET-ME-NOT	Boraginaceae	UPL	forb	AN	advent	MYAR		DI	adventive	UPL	FAC	FACU
Myosotis discolor	MYODIS	Pers.	0	TWO-COLORED FORGET-ME-NOT	Boraginaceae	322 UPL	forb	AN	advent	MYDI		DI	adventive	UPL	UPL	UPL
Myosotis laxa	MYOLAX	Lehm.	7	SMALLER FORGET-ME-NOT	Boraginaceae	OBL	forb	PE	partial	MYLA		DI	native	OBL	OBL	OBL
Myosotis macrosperma	MYOMAC	Engelm.	4	BRISTLY SCORPION-GRASS	Boraginaceae	FAC	forb	AN	shade	MYMA		DI	native	FAC	FAC	FAC
Myosotis micrantha	MYOMIC	Pall. ex Lehm.	0 syn	SM.-FLOWERED FORGET-ME-NOT	Boraginaceae	323 (UPL)	forb	AN	advent	MYST2		DI	adventive			
Myosotis scorpioides	MYOSCO	L.	0	TRUE FORGET-ME-NOT	Boraginaceae	OBL	forb	PE	advent	MYSC		DI	adventive	OBL	OBL	OBL
Myosotis sp.	MYOSOT	L.		FORGET-ME-NOT	Boraginaceae	ND	forb	ND	ND	MYOSO		DI				
Myosotis sylvatica	MYOSYL	Ehrh. ex Hoffm.	0	GARDEN FORGET-ME-NOT	Boraginaceae	UPL	forb	PE	advent	MYSY		DI	adventive	UPL	UPL	UPL
Myosotis verna	MYOVER	Nutt.	4	SPRING FORGET-ME-NOT	Boraginaceae	FAC-	forb	AN	partial	MYVE		DI	native	FAC	FACU	FACU
Myosurus minimus	MYOMIN	L.	0	MOUSE-TAIL	Ranunculaceae	324 FACW+	forb	AN	advent	MYMI2		DI	adventive	FACW	FACW	FAC
Myrica pensylvanica	MYRPEN	Loesel	10	BAYBERRY	Myricaceae	FAC	shrub	W		MOPE6	E	DI	native	FAC	FAC	FAC
Myriophyllum aquaticum	MYRAQU	(Vell.) Verdc.	0	PARROT'S-FEATHER	Haloragaceae	OBL	forb	PE	advent	MYAQ2		DI	adventive	OBL	OBL	OBL
Myriophyllum heterophyllum	MYRHET	Michx.	10	TWO-LEAVED WATER-MILFOIL	Haloragaceae	OBL	forb	PE	full	MYHE2	E	DI	native	OBL	OBL	OBL
Myriophyllum humile	MYRHUM	(Raf.) Morong	0	LOWLY WATER-MILFOIL	Haloragaceae	OBL	forb	PE	advent	MYHU		DI	adventive	OBL	OBL	OBL
Myriophyllum pinnatum	MYRPIN	(Walter) Britton	0	PINNATE WATER-MILFOIL	Haloragaceae	OBL	forb	PE	advent	MYPI		DI	adventive	OBL	OBL	OBL
Myriophyllum sibiricum	MYRSIB	Kom.	9	AMERICAN WATER-MILFOIL	Haloragaceae	325 (OBL)	forb	PE	full	MYSI	T	DI	native	OBL	OBL	OBL
Myriophyllum sp.	MYRIOP	L.		WATER-MILFOIL	Haloragaceae	OBL	forb	PE	ND	MYRIO		DI				
Myriophyllum spicatum	MYRSPI	L.	0	EUROPEAN WATER-MILFOIL	Haloragaceae	OBL	forb	PE	advent	MYSP2		DI	adventive	OBL	OBL	OBL
Myriophyllum verticillatum	MYRVER	L.	10	GREEN WATER-MILFOIL	Haloragaceae	OBL	forb	PE	full	MYVE3	E	DI	native	OBL	OBL	OBL
Najas flexilis	NAJFLE	(Willd.) Rostk. & W.L.E Schmidt	5	NORTHERN WATER-NYMPH	Najadaceae	OBL	forb	AN	full	NAFL		MO	native	OBL	OBL	OBL
Najas gracillima	NAJGRA	(A. Braun ex Engelm.) Magnus	10	THREAD-LIKE WATER-NYMPH	Najadaceae	OBL	forb	AN	full	NAGR	E	MO	native	OBL	OBL	OBL
Najas guadalupensis	NAJGUA	(Spreng.) Magnus	6	SOUTHERN WATER-NYMPH	Najadaceae	326 OBL	forb	AN	full	NAGU		MO	native	OBL	OBL	OBL
Najas marina	NAJMARA	L.	0	ALKALINE WATER-NYMPH	Najadaceae	327 OBL	forb	AN	advent	NAMA		MO	adventive	OBL	OBL	OBL
Najas marina	NAJMARA	L.	0	ALKALINE WATER-NYMPH	Najadaceae	327 OBL	forb	AN	advent	NAMA		MO	native	OBL	OBL	OBL
Najas minor	NAJMIN	All.	0	EURASIAN WATER-NYMPH	Najadaceae	OBL	forb	AN	advent	NAMI		MO	adventive	OBL	OBL	OBL
Najas sp.	NAJAS	L.		WATER-NYMPH	Najadaceae	OBL	forb	AN	full	NAJAS		MO				
Napaea dioica	NAPDIO	L.	4	GLADE-MALLOW	Malvaceae	FACW	forb	PE	shade	NADI2		DI	native	FACW	FACW	FACW
Narcissus poeticus	NARPOE	L.	0	POET'S NARCISSUS	Liliaceae	(UPL)	forb	PE	advent	NAPO		MO	adventive			
Narcissus pseudonarcissus	NARPSE	L.	0	DAFFODIL	Liliaceae	(UPL)	forb	PE	advent	NAPS		MO	adventive			
Narcissus sp.	NARCIS	L.		DAFFODIL	Liliaceae	(UPL)	forb	PE	advent	NAPS		MO				
Navarretia intertexta	NAVINT	(Benth.) Hook.	0	NAVARRETIA	Polemoniaceae	(FACW)	forb	AN	advent	NAIN2		DI	adventive	FACW	FACW	FACW
Nelumbo lutea	NELLUT	Willd.	7	AMERICAN LOTUS	Nelumbonaceae	OBL	forb	PE	full	NELU		DI	native	OBL	OBL	OBL
Nelumbo nucifera	NELNUC	Gaertn.	0	SACRED LOTUS	Nelumbonaceae	OBL	forb	PE	advent	NENU2		DI	adventive	OBL	OBL	OBL
Nemopanthus mucronatus	NEMMUC	(L.) Loes.	10	CATBERRY	Aquifoliaceae	OBL	shrub	W	partial	ILMU		DI	native	OBL	OBL	OBL
Nepeta cataria	NEPCAT	L.	0	CATNIP	Lamiaceae	FACU	forb	PE	advent	NECA2		DI	adventive	FACU	FACU	FACU
Neslia paniculata	NESPAN	(L.) Desv.	0	BALL-MUSTARD	Brassicaceae	(UPL)	forb	AN	advent	NEPA3		DI	adventive			
Nicandra physalodes	NICPHY	(L.) Gaertn.	0	APPLE-OF-PERU	Solanaceae	(UPL)	forb	AN	advent	NIPH		DI	adventive			
Nicotiana alata	NICALA	Link & Otto	0	FLOWERING TOBACCO	Solanaceae	(FACU)	forb	PE	advent	NIAL		DI	adventive			
Nicotiana tabacum	NICTAB	L.	0	TOBACCO	Solanaceae	(UPL)	forb	PE	advent	NITA		DI	adventive	UPL	FACU	UPL
Nigella damascena	NIGDAM	L.	0	LOVE-IN-A-MIST	Ranunculaceae	(UPL)	forb	AN	advent	NIDA		DI	adventive			
Nothoscordum bivalve	NOTBIV	(L.) Britton	7	FALSE GARLIC	Liliaceae	FACU	forb	PE	partial	NOBI2	T	MO	native	FACU	FACU	
Nuphar advena	NUPADV	(Aiton) W.T. Aiton	4 syn	SPATTERDOCK	Nymphaceae	OBL	forb	PE	full	NULUA		DI	native	OBL	OBL	OBL
Nuphar sp.	NUPHAR	Sm.		POND-LILY	Nymphaceae	OBL	forb	PE	full	NUPHA		DI				
Nuphar variegata	NUPVAR	Durand	10 syn	BULLHEAD-LILY	Nymphaceae	OBL	forb	PE	full	NULUV	E	DI	native	OBL	OBL	OBL
Nymphaea odorata	NYMODO	Aiton	6	FRAGRANT WATER-LILY	Nymphaceae	329 OBL	forb	PE	full	NYOD		DI	native	OBL	OBL	OBL
Nymphoides peltata	NYMPEL	(S.G. Gmel.) Kuntze	0	YELLOW FLOATING-HEART	Menyanthaceae	OBL	forb	PE	advent	NYPE		DI	adventive	OBL	OBL	OBL
Nyssa sylvatica	NYSSYL	Marshall	7	BLACK-GUM	Cornaceae	FAC	tree	W	tree	NYSY		DI	native	FAC	FAC	FAC
Obolaria virginica	OBOVIR	L.	7	PENNYWORT	Gentianaceae	(UPL)	forb	PE	shade	OBVI		DI	native			

Oclemena acuminata	OCLACU	(Michx.) Greene	8	syn	MOUNTAIN ASTER	Asteraceae		FACU+	forb	PE	full	OCAC	X	DI	native	FACU		FACU
Oclemena sp.	OCLEME	Greene			ASTER	Asteraceae		ND	forb	PE	ND	ASTER		DI				
Oenanthe aquatica	OENAQU	(L.) Poir.	0		MARSH DROPWORT	Apiaceae		OBL	forb	PE	advent	OEAQ		DI	adventive	OBL	OBL	OBL
Oenothera biennis	OENBIE	L.	1		COMMON EVENING-PRIMROSE	Onagraceae	330	FACU-	forb	BI	full	OEBI		DI	native	FACU	FACU	FACU
Oenothera clelandii	OENCLE	W. Dietr. P.H. Raven% & W.L. Wagner	8		CLELAND'S EVENING-PRIMROSE	Onagraceae		(UPL)	forb	BI	full	OECL3	E	DI	native			
Oenothera fruticosa	OENFRU	L.	4	syn	SOUTHERN SUNDROPS	Onagraceae	331	FAC	forb	BI	full	OEFR		DI	native	FAC	FACU	FACU
Oenothera laciniata	OENLAC	Hill	4		CUT-LEAVED EVENING PRIMROSE	Onagraceae		FACU-	forb	AN	full	OELA		DI	native	FACU	FACU	FACU
Oenothera oakesiana	OENOAK	(A. Gray) J. W. Robbins	10	syn	OAKES' EVENING PRIMROSE	Onagraceae	332	(FACU-)	forb	AN	full	OEOA	P	DI	native			
Oenothera parviflora	OENPAR	L.	7	syn	SMALL-FLOWERED EVENING-PRIM.	Onagraceae	333	FACU-	forb	BI	full	OEPA5	P	DI	native	FACU	FACU	FACU
Oenothera perennis	OENPER	L.	3		SMALL SUNDROPS	Onagraceae		FAC-	forb	PE	partial	OEPE		DI	native	FAC	FAC	FAC
Oenothera pilosella	OENPIL	Raf.	3		MEADOW SUNDROPS	Onagraceae		FAC	forb	PE	partial	OEPI2		DI	native	FAC	FAC	FAC
Oenothera sp.	OENOTH	L.			EVENING-PRIMROSE	Onagraceae		ND	forb	ND	ND	OENOT		DI				
Oenothera speciosa	OENSPE	Nutt.	0		WHITE EVENING-PRIMROSE	Onagraceae		(UPL)	forb	PE	advent	OESP2		DI	adventive			
Oenothera tetragona	OENTET	Roth	4	syn	NORTHERN SUNDROPS	Onagraceae	334	(FAC)	forb	PE	partial	OEFRG		DI	native	FAC	FACU	FACU
Oenothera triloba	OENTRI	Nutt.	9		STEM-LESS EASTERN PRIMROSE	Onagraceae	547	(UPL)	forb	PE	partial	OETR2		DI	native			
Onoclea sensibilis	ONOSEN	L.	2		SENSITIVE FERN	Dryopteridaceae		FACW	fern	PE	full	ONSE		SVP	native	FACW	FACW	FACW
Onopordium acanthium	ONOACA	L.	0		SCOTCH-THISTLE	Asteraceae		(UPL)	forb	BI	advent	ONAC		DI	adventive			
Onosmodium molle	ONOMOL	Michx.	7	syn	FALSE GROMWELL	Boraginaceae	335	(FACU)	forb	PE	full	ONBEB		DI	native			
Ophioglossum engelmannii	OPHENG	Prantl.	9		LIMESTONE ADDER'S-TONGUE	Ophioglossaceae		FACU	fern	PE	shade	OPEN	E	SVP	native	FACU	FACU	
Ophioglossum pusillum	OPHPUS	Raf.	6	syn	NORTHERN ADDER'S-TONGUE	Ophioglossaceae		(FACW)	fern	PE	shade	OPPU3	E	SVP	native	FACW	FACW	FACW
Ophioglossum sp.	OPHIOG	L.			ADDER'S-TONGUE	Ophioglossaceae		ND	fern	PE	shade	OPHIO		SVP				
Ophioglossum vulgatum	OPHVUL	L.	6	syn	SOUTHERN ADDER'S-TONGUE	Ophioglossaceae		FACW	fern	PE	shade	OPPU3		SVP	native	FACW	FACW	FACW
Opuntia humifusa	OPUHUM	(Raf.) Raf.	8		COMMON PRICKLY-PEAR	Cactaceae		(UPL)	shrub	W	full	OPHU	P	DI	native			
Opuntia macrorhiza	OPUMAC	Engelm.	0		PLAINS PRICKLY-PEAR	Cactaceae		(UPL)	forb	PE	advent	OPMA2		DI	adventive			
Orbexilum onobrychis	ORBONO	(Nutt.) Rydb.	5	syn	SCURF-PEA	Fabaceae		(UPL)	forb	PE	full	ORON		DI	native			
Orbexilum pedunculatum	ORBPED	(Miller) Rydb.	7	syn	FALSE SCURF-PEA	Fabaceae		(UPL)	forb	PE	full	ORPE	P	DI	native	FACU	FACU	FACU
Orbexilum sp.	ORBEXI	Raf.			LEATHER-ROOT	Fabaceae		UPL	forb	PE	full	ORBEX		DI				
Orchis spectabilis	ORCSPE	L.	7	syn	SHOWY ORCHIS	Orchidaceae		(UPL)	forb	PE	shade	GASP5		MO	native			
Origanum vulgare	ORIVUL	L.	0		OREGANO	Lamiaceae		(UPL)	forb	PE	advent	ORVU		DI	adventive			
Ornithogalum umbellatum	ORNUMB	L.	0		STAR-OF-BETHLEHEM	Liliaceae		FACU	forb	PE	advent	ORUM		MO	adventive	FACU	FACU	FACU
Orobanche riparia	ORORIP	L.T. Collins	2		LOUISIANA BROOM-RAPE	Orobanchaceae		(UPL)	forb	PE	full	ORLU	X	DI	native			
Orobanche sp.	OROBAN	L.			BROOM-RAPE	Orobanchaceae		ND	forb	PE	full	OROBA		DI				
Orobanche uniflora	OROUNI	L.	6		ONE-FLOWERED CANCER-ROOT	Orobanchaceae		FACU	forb	PE	full	ORUN		DI	native	FACU	UPL	UPL
Oryzopsis asperifolia	ORYASP	Michx.	10		LARGE-LEAVED MOUNTAIN-RICE	Poaceae		(UPL)	grass	PE	shade	ORAS	T	MO	native			
Oryzopsis racemosa	ORYRAC	(Sm.) Ricker ex Hitchc.	10	syn	BLACK SEED MOUNTAIN-RICE	Poaceae		(UPL)	grass	PE	shade	PIRA5	P	MO	native			
Oryzopsis sp.	ORYZOP	Michx.	10		MOUNTAIN-RICE	Poaceae		UPL	grass	PE	shade	ORYZO		MO	native			
Osmorhiza claytonii	OSMOCL	(Michx.) C.B. Clarke	4		WOOLLY SWEET CICELY	Apiaceae		FACU-	forb	PE	shade	OSCL		DI	native	FACU	FACU	FACU
Osmorhiza longistylis	OSMOLO	(Torr.) DC.	4		SMOOTH SWEET CICELY	Apiaceae		FACU	forb	PE	shade	OSLO		DI	native	FACU	FACU	FACU
Osmorhiza sp.	OSMORH	Raf.	4		SWEET-CICELY	Apiaceae		ND	forb	PE	shade	OSMOR		DI				
Osmunda cinnamomea	OSMCIN	L.	6		CINNAMON FERN	Osmundaceae		FACW	fern	PE	partial	OSCI		SVP	native	FACW	FACW	FACW
Osmunda claytoniana	OSMCLA	L.	6		INTERRUPTED FERN	Osmundaceae		FAC	fern	PE	shade	OSCL2		SVP	native	FAC	FAC	FAC
Osmunda regalis	OSMREG	L.	7		ROYAL FERN	Osmundaceae	336	OBL	fern	PE	shade	OSRE		SVP	native			
Ostrya virginiana	OSTVIR	(Miller) K. Koch	5		HOP-HORNBEAM	Betulaceae		FACU-	tree	W	tree	OSVI		DI	native	FACU	FACU	FACU
Oxalis acetosella	OXAACE	L.	9		WHITE WOOD-SORREL	Oxalidaceae	337	(FAC-)	forb	PE	shade	OXMO	E	DI	native	FAC	FACU	FACU
Oxalis corniculata	OXACOR	L.	0		CREEPING WOOD-SORREL	Oxalidaceae		FACU	forb	PE	advent	OXCO		DI	adventive	FACU	FACU	FACU
Oxalis dillenii	OXADIL	Jacq.	0		SOUTHERN YELLOW WOOD-SOR.	Oxalidaceae		(FACU)	forb	PE	full	OXDI2		DI	native	FACU	FACU	FACU
Oxalis grandis	OXAGRA	Small	7		GREAT YELLOW WOOD-SORREL	Oxalidaceae		(UPL)	forb	PE	shade	OXGR		DI	native			
Oxalis sp.	OXALIS	L.			WOOD-SORREL	Oxalidaceae		ND	forb	PE	ND	OXALI		DI				
Oxalis stricta	OXASTR	L.	0		COMMON YELLOW WOOD-SORREL	Oxalidaceae		UPL	forb	PE	full	OXDI2		DI	native	FACU	FACU	FACU
Oxalis violacea	OXAVIO	L.	6		VIOLET WOOD-SORREL	Oxalidaceae		(UPL)	forb	PE	shade	OXVI		DI	native			
Oxydendrum arboreum	OXYARB	(L.) DC.	7		SOURWOOD	Ericaceae		UPL	tree	W	tree	OXAR		DI	native	UPL	FACU	FACU
Oxypolis rigidior	OXYRIG	(L.) Raf.	7		COWBANE	Apiaceae		OBL	forb	PE	full	OXRI		DI	native			
Pachysandra terminalis	PACTER	Siebold & Zucc.	0		JAPANESE PACHYSANDRA	Buxaceae		(FACU)	vine	PE	advent	PATE11		DI	adventive			
Panax quinquefolius	PANQUI	L.	6		AMERICAN GINSENG	Araliaceae		(UPL)	forb	PE	shade	PAQU		DI	native			
Panax sp.	PANAX	L.	6		GINSENG	Araliaceae		ND	forb	PE	shade	PANAX		DI				
Panax trifolius	PANTRI	L.	6		DWARF GINSENG	Araliaceae		(FACU)	forb	PE	shade	PATR2		DI	native			
Panicum acuminatum	PANACU	Sw.	2	syn	TAPERED ROSETTE GRASS	Poaceae		FAC	grass	PE	full	DIACA		MO	native	FAC	FAC	FAC
Panicum anceps	PANANC	Michx.	3		BEAKED PANIC GRASS	Poaceae		FAC	grass	PE	full	PAAN		MO	native	FAC	FACW	FACW
Panicum boreale	PANBOR	Nash	6	syn	NORTHERN PANIC GRASS	Poaceae	195	FACU	grass	PE	full	DIBO	P	MO	native	FACU	FAC	FAC
Panicum boscii	PANBOS	Poir.	6	syn	BOSC'S PANIC GRASS	Poaceae		(UPL)	grass	PE	shade	DIBO2		MO	native			
Panicum capillare	PANCAP	L.	1		WITCH GRASS	Poaceae	338	FAC-	grass	AN	full	PACA6		MO	native	FAC	FAC	FAC
Panicum clandestinum	PANCLA	L.	2	syn	DEER'S-TONGUE PANIC GRASS	Poaceae		FAC+	grass	PE	shade	DICL		MO	native	FAC	FACW	FACW
Panicum columbianum	PANCOL	Scribn.	6	syn	AMERICAN PANIC GRASS	Poaceae		FACU	grass	PE	full	DISAT		MO	native	FAC	FAC	FAC
Panicum commonsianum	PANCOMO	Ashe	9	syn	COMMON'S PANIC GRASS	Poaceae		FACU	grass	PE	full	DIOVA	E	MO	native			
Panicum commutatum	PANCOMU	Schult.	5	syn	VARIABLE PANIC GRASS	Poaceae	196	FACU+	grass	PE	shade	DICO2		MO	native	FACU	FAC	FAC
Panicum depauperatum	PANDEP	Muhl.	8	syn	STARVED PANIC GRASS	Poaceae		(UPL)	grass	PE	shade	DIDE4		MO	native			

Panicum dichotomiflorum	PANDICT	Michx.	0	FALL PANIC GRASS	Poaceae		FACW-	grass	AN	full	PADI		MO	native	FACW	FACW	FACW
Panicum dichotomum	PANDICO	L.	4	syn FORKING PANIC GRASS	Poaceae		FAC	grass	PE	partial	DIDID		MO	native	FAC	FAC	FAC
Panicum flexile	PANFLE	(Gatt.) Scribn.	5	FLEXUOUS PANIC GRASS	Poaceae		FACU	grass	AN	partial	PAFL2		MO	native	FACU	FACW	FACW
Panicum gattingeri	PANGAT	Nash	4	syn GATTINGER'S PANIC GRASS	Poaceae		FAC	grass	AN	full			MO	native	FAC	FAC	FAC
Panicum implicatum	PANIMP	Scribn.	9	syn SOUTHERN HAIRY PANIC GRASS	Poaceae		(FACW)	grass	PE	full	DIACF		MO	native	FAC	FAC	FAC
Panicum lanuginosum	PANLAN	Elliott	3	syn WESTERN PANIC GRASS	Poaceae		FAC	grass	PE	full	DIACF		MO	native	FAC	FAC	FAC
Panicum latifolium	PANLAT	L.	4	syn BROAD-LEAVED PANIC GRASS	Poaceae		FACU-	grass	PE	shade	DILA8		MO	native	FACU	FACU	FACU
Panicum laxiflorum	PANLAX	Lam.	7	syn PALE GREEN PANIC GRASS	Poaceae		FACU	grass	PE	shade	DILA9		MO	native	FACU	FACU	FACU
Panicum leibergii	PANLEI	(Vasey) Scribn.	8	syn LEIBERG'S PANIC GRASS	Poaceae		FACU	grass	PE	full	DILE2	T	MO	native	FACU	FACU	FACU
Panicum lindheimeri	PANLIND	Nash	9	syn LINDHEIMER'S PANIC GRASS	Poaceae		(OBL)	grass	PE	full	DIACL	T	MO	native	FAC	FAC	FAC
Panicum linearifolium	PANLINE	Scribn.	4	syn LINEAR-LEAVED PANIC GRASS	Poaceae		(UPL)	grass	PE	full	DILI2		MO	native			
Panicum longifolium	PANLON	Torr.	9	syn LONG-LEAVED PANIC GRASS	Poaceae		OBL	grass	PE	full	PARIP	X	MO	native			
Panicum meridionale	PANMER	Ashe	9	syn SOUTHERN HAIRY PANIC GRASS	Poaceae		(UPL)	grass	PE	full	DIME2	T	MO	native			
Panicum microcarpon	PANMIC	Muhl. ex Elliott	5	syn SMALL-FRUITED PANIC GRASS	Poaceae	197	(FACU)	grass	PE	full	DIDID		MO	native	FAC	FAC	FAC
Panicum miliaceum	PANMIL	L.	0	BROOMCORN MILLET	Poaceae		(UPL)	grass	AN	advent	PAMI2		MO	adventive			
Panicum oligosanthes	PANOLI	Schult.	6	syn FEW-FLOWERED PANIC GRASS	Poaceae	199	FACU	grass	PE	partial	DIOLO		MO	native	FACU	FACU	FACU
Panicum perlongum	PANPER	Nash	9	syn LONG-PANICLED PANIC GRASS	Poaceae	200	(UPL)	grass	PE	full	DILI2	E	MO	native			
Panicum philadelphicum	PANPHI	Bernh. ex Trin.	4	PHILADELPHIA PANIC GRASS	Poaceae	339	FAC-	grass	AN	full	PAPH	T	MO	native	FAC	FACW	FAC
Panicum polyanthes	PANPOL	Schult.	3	syn MANY-FLOWERED PANIC GRASS	Poaceae		(FACU)	grass	PE	shade	DISPI		MO	native	FACU	FACU	FACU
Panicum praecocius	PANPRA	Hitchc. & Chase	9	syn EARLY PANIC GRASS	Poaceae		(UPL)	grass	PE	full	DIVIP	E	MO	native			
Panicum rigidulum	PANRIG	Bosc ex Nees	5	syn RIGID PANIC GRASS	Poaceae		FACW+	grass	PE	full	PARI4		MO	native	FACW	FACW	FACW
Panicum scoparium	PANSCO	Lam.	6	syn VELVET PANIC GRASS	Poaceae	201	FACW	grass	PE	full	DIOLS	E	MO	native	FACW	FACW	FACW
Panicum sp.	PANICU	L.		PANIC GRASS	Poaceae		ND	grass	ND	ND	PANIC		MO				
Panicum sphaerocarpon	PANSPH	Elliott	4	syn ROUND-FRUITED PANIC GRASS	Poaceae		FACU	grass	PE	shade	DISPS3		MO	native	FACU	FACU	FACU
Panicum spretum	PANSPR	Schult.	9	syn NARROW-HEADED PANIC GRASS	Poaceae		(FAC)	grass	PE	full	DISP4	E	MO	native	FAC	FAC	FAC
Panicum tuckermanii	PANTUC	Fernald	4	syn TUCKERMAN'S PANIC GRASS	Poaceae	567	(FACW)	grass	PE	full			MO	native	FAC	FACW	FAC
Panicum verrucosum	PANVER	Muhl.	7	WARTY PANIC GRASS	Poaceae		FACW	grass	AN	shade	PAVE2	P	MO	native	FACW	FACW	FACW
Panicum villosissimum	PANVIL	Nash	6	syn VILLOUS PANIC GRASS	Poaceae	556	(UPL)	grass	PE	partial	DIVIV	E	MO	native	FACU	FACU	FACU
Panicum virgatum	PANVIR	L.	4	SWITCH GRASS	Poaceae		FAC	grass	PE	full	PAVI2		MO	native	FAC	FAC	FAC
Panicum yadkinense	PANYAD	Ashe	7	syn SPOTTED PANIC GRASS	Poaceae	198	(FAC)	grass	PE	shade	DIDID	T	MO	native	FAC	FAC	FAC
Papaver argemone	PAPARG	L.	0	RED POPPY	Papaveraceae		(UPL)	forb	AN	advent	PAAR3		DI	adventive			
Papaver dubium	PAPDUB	L.	0	SCARLET POPPY	Papaveraceae		(UPL)	forb	AN	advent	PADU		DI	adventive			
Papaver rhoeas	PAPRHO	L.	0	CORN POPPY	Papaveraceae		(UPL)	forb	AN	advent	PARH2		DI	adventive			
Papaver somniferum	PAPSOM	L.	0	OPIUM POPPY	Papaveraceae		(UPL)	forb	AN	advent	PASO2		DI	adventive			
Papaver sp.	PAPAVE	L.		POPPY	Papaveraceae		UPL	forb	AN	advent	PAPAV		DI				
Parietaria pensylvanica	PARPEN	Muhl. ex Willd.	4	PELLITORY	Urticaceae		FACU-	forb	AN	shade	PAPE5		DI	native	FACU	FACU	FACU
Parnassia glauca	PARGLA	Raf.	10	GRASS-OF-PARNASSUS	Saxifragaceae		OBL	forb	PE	full	PAGL3		DI	native	OBL	OBL	OBL
Paronychia canadensis	PARCAN	(L.) A.W. Wood	5	FORKED-CHICKWEED	Caryophyllaceae		(UPL)	forb	AN	full	PACA11		DI	native			
Paronychia fastigiata	PARFAS	(Raf.) Fernald	5	LOW FORKED-CHICKWEED	Caryophyllaceae		(UPL)	forb	AN	partial	PAFA3		DI	native			
Paronychia sp.	PARONY	Mill.	5	NAILWORT	Caryophyllaceae		UPL	forb	AN	ND	PARON		DI				
Parthenium hysterophorus	PARHYS	L.	0	SANTA MARIA	Asteraceae		(UPL)	forb	AN	advent	PAHY		DI	adventive	FAC	FAC	UPL
Parthenium integrifolium	PARINT	L.	0	WILD QUININE	Asteraceae		(UPL)	forb	PE	advent	PAIN3		DI	adventive			
Parthenocissus quinquefolia	PARQUI	(L.) Planch.	2	VIRGINIA CREEPER	Vitaceae		FACU	vine	W	shade	PAQU2		DI	native	FACU	FACU	FACU
Parthenocissus sp.	PARTHE	Planch.		CREEPER	Vitaceae		FACU	vine	W	shade	PARTH3		DI				
Parthenocissus vitacea	PARVIT	(Knerr) Hitchc.	1	THICKET CREEPER	Vitaceae	340	FACU	vine	W	shade	PAVI5		DI	native	FACU	FACU	FACU
Paspalum floridanum	PASFLO	Michx.	0	FLORIDA PASPALUM	Poaceae		FACW	grass	PE	advent	PAFL4		MO	adventive	FACW	FACW	
Paspalum laeve	PASLAE	Michx.	2	FIELD PASPALUM	Poaceae		FAC+	grass	PE	full	PALA10		MO	native	FAC	FACW	FAC
Paspalum pubiflorum	PASPUB	Rupr. ex Fourn.	3	HAIRY-FLOWERED PASPALUM	Poaceae	341	FAC	grass	PE	full	PAPU5		MO	native	FAC	FACW	
Paspalum repens	PASFLU	Berg.	9	RIVERBANK PASPALUM	Poaceae	538	OBL	grass	PE	full	PAFL5	T	MO	native	OBL	OBL	OBL
Paspalum setaceum	PASSET	Michx.	2	THIN PASPALUM	Poaceae	342	FACU+	grass	PE	partial	PASE5		MO	native	FACU	FACU	FACU
Paspalum sp.	PASPAL	L.		PASPALUM	Poaceae		ND	grass	PE	ND	PASPA2		MO				
Passiflora incarnata	PASINC	L.	6	PURPLE PASSION-FLOWER	Passifloraceae		(UPL)	vine	PE	full	PAIN6	T	DI	native			
Passiflora lutea	PASLUT	L.	4	YELLOW PASSION-FLOWER	Passifloraceae	343	(UPL)	vine	PE	partial	PALU2		DI	native			
Passiflora sp.	PASSIF	L.		PASSION-FLOWER	Passifloraceae		UPL	vine	PE	ND	PASSI		DI				
Pastinaca sativa	PASSAT	L.	0	WILD PARSNIP	Apiaceae		(UPL)	forb	BI	advent	PASA2		DI	adventive			
Paulownia tomentosa	PAUTOM	(Thunb.) Siebold & Zucc. ex Steud.	0	PRINCESS TREE	Bignoniaceae		UPL	tree	W	advent	PATO2		DI	adventive	UPL	UPL	UPL
Paxistima canbyi	PAXCAN	A. Gray	10	CLIFF-GREEN	Celastraceae		(UPL)	shrub	W	shade	PACA	E	DI	native			
Pedicularis canadensis	PEDCAN	L.	6	COMMON LOUSEWORT	Scrophulariaceae		FACU	forb	PE	full	PECA		DI	native	FACU	FACU	FACU
Pedicularis lanceolata	PEDLAN	Michx.	8	SWAMP LOUSEWORT	Scrophulariaceae		FACW	forb	PE	full	PELA2		DI	native	FACW	OBL	FACW
Pedicularis sp.	PEDICU	L.		LOUSEWORT	Scrophulariaceae		ND	forb	PE	full	PEDIC		DI				
Pellaea atropurpurea	PELATR	(L.) Link	10	PURPLE CLIFF-BRAKE	Pteridaceae		(UPL)	fern	PE	shade	PEAT2		SVP	native			
Pellaea glabella	PELGLA	Mett. ex Kuhn	10	SMOOTH CLIFF-BRAKE	Pteridaceae		(UPL)	fern	PE	shade	PEGL		SVP	native			
Pellaea sp.	PELLAE	Link		CLIFF-BRAKE	Pteridaceae		UPL	fern	PE	shade	PELLA		SVP				
Peltandra virginica	PELVIR	(L.) Schott	5	ARROW-ARUM	Araceae		OBL	forb	PE	full	PEVI		MO	native	OBL	OBL	OBL
Pennisetum alopecuroides	PENALO	(L.) Spreng	0	CHINESE FOUNTAINGRASS	Poaceae		(UPL)	grass	PE	full			MO	adventive			
Penstemon canescens	PENCAN	(Britton) Britton	6	GRAY BEARD-TONGUE	Scrophulariaceae		(UPL)	forb	PE	full	PECA8	T	DI	native			

Penstemon cobaea	PENCOB	Nutt.	0	COBAEA BEARD-TONGUE	Scrophulariaceae		(UPL)	forb	PE	advent	PECO4		DI	adventive			
Penstemon digitalis	PENDIG	Nutt. ex Sims	2	FOXGLOVE BEARD-TONGUE	Scrophulariaceae	344	FAC	forb	PE	full	PEDI		DI	native	FAC	FAC	FAC
Penstemon grandiflorus	PENGRA	Nutt.	0	LARGE-FLOWERED BEARD-TONGUE	Scrophulariaceae		(UPL)	forb	PE	advent	PEGR7		DI	adventive			
Penstemon hirsutus	PENHIR	(L.) Willd.	3	HAIRY BEARD-TONGUE	Scrophulariaceae		(UPL)	forb	PE	full	PEHI		DI	native			
Penstemon laevigatus	PENLAE	Aiton	3	SMOOTH BEARD-TONGUE	Scrophulariaceae	345	FACU	forb	PE	full	PELA8		DI	native	FACU	FACU	FACU
Penstemon pallidus	PENPAL	Small	5	DOWNY WHITE BEARD-TONGUE	Scrophulariaceae		FACU	forb	PE	full	PEPA7	T	DI	native	FACU	UPL	UPL
Penstemon sp.	PENSTE	Schmidel		BEARD-TONGUE	Scrophulariaceae		ND	forb	PE	full	PENST		DI				
Penstemon tubaeflorus	PENTUB	Nutt.	5	WHITE-WAND BEARD-TONGUE	Scrophulariaceae	346	(UPL)	forb	PE	full	PETU	X	DI	native			
Penthorum sedoides	PENSED	L.	2	DITCH-STONECROP	Saxifragaceae		OBL	forb	PE	full	PESE6		DI	native	OBL	OBL	OBL
Perideridia americana	PERAME	(Nutt.ex DC.) Rchb.	8	PERIDERIDIA	Apiaceae		(UPL)	forb	PE	full	PEAM2	X	DI	native			
Perilla frutescens	PERFRU	(L.) Britton	0	BEEFSTEAK-PLANT	Lamiaceae	347	FACU+	forb	AN	advent	PEFR4		DI	adventive		FAC	
Persicaria amphibia	PERAMP	(L.) Gray	4 syn	WATER SMARTWEED	Polygonaceae	365	OBL	forb	PE	full	POAM8		DI	native	OBL	OBL	OBL
Persicaria arifolia	PERARI	(L.) Haroldson	4 syn	HALBERD-LEAVED TEARTHUMB	Polygonaceae	366	OBL	forb	AN	full	POAR6		DI	native	OBL	OBL	OBL
Persicaria careyi	PERCAR	(Olney) Greene	9 syn	CAREY'S SMARTWEED	Polygonaceae		FACW	forb	AN	full	POCA8	X	DI	native	FACW	FACW	FACW
Persicaria hydropiper	PERHYD	(L.) Spach	1 syn	WATER-PEPPER	Polygonaceae	368	OBL	forb	AN	full	POHY		DI	native	OBL	OBL	OBL
Persicaria hydropiperoides	PERHDR	(Michx.) Small	6 syn	MILD WATER-PEPPER	Polygonaceae	369	OBL	forb	PE	full	POHY2		DI	native	OBL	OBL	OBL
Persicaria lapathifolium	PERLAP	L.	1 syn	DOCK-LEAVED SMARTWEED	Polygonaceae	370	FACW+	forb	AN	full	POLA4		DI	native	FACW	FACW	FACW
Persicaria longisetum	PERLON	(Bruijn) Kitagawa	0 syn	LONG-BRISTLED SMARTWEED	Polygonaceae	367	FACU-	forb	AN	advent	POCE4		DI	adventive		FAC	FAC
Persicaria maculosa	PERMAC	Gray	0 syn	LADY'S THUMB	Polygonaceae		FACW	forb	AN	advent	POPE3		DI	adventive	FACW	FACW	FAC
Persicaria orientalis	PERORI	(L.) Spach	0 syn	PRINCE'S FEATHER	Polygonaceae		FACU-	forb	AN	advent	POOR2		DI	adventive	FACU	UPL	UPL
Persicaria pensylvanica	PERPEN	(L.) Gomez	0 syn	PINKWEED	Polygonaceae	371	FACW	forb	AN	full	POPE2		DI	native	FACW	FACW	FACW
Persicaria punctata	PERPUN	(Elliott) Small	6 syn	DOTTED SMARTWEED	Polygonaceae		OBL	forb	PE	full	POPU5		DI	native	OBL	OBL	OBL
Persicaria robustior	PERROB	(Small) E.P. Bicknell	5 syn	COARSE SMARTWEED	Polygonaceae		OBL	forb	PE	full	PORO	T	DI	native	OBL	OBL	OBL
Persicaria sagittata	PERSAG	(L.) Gross.	2 syn	ARROW-LEAVED TEARTHUMB	Polygonaceae		OBL	forb	AN	full	POSA5		DI	native	OBL	OBL	OBL
Persicaria setacea	PERSET	(Baldwin) Small	6 syn	BRISTLY SMARTWEED	Polygonaceae	374	OBL	forb	PE	full	POSE6	E	DI	native	OBL	OBL	OBL
Persicaria sp.	PERSIC	ND		SMARTWEED	Polygonaceae		ND	forb	ND				DI				
Persicaria virginiana	PERVIR	(L.) Gaertn.	3 syn	JUMPSEED	Polygonaceae		FAC	forb	PE	shade	POVI2		DI	native	FAC	FAC	FAC
Petasites hybridus	PETHYB	(L.) P. Gaertn.% B. Mey. & Scherb.	0	Butterfly-dock	Asteraceae		OBL	forb	PE	advent	PEHY		DI	adventive	UPL	FACW	FAC
Petrorhagia prolifera	PETPRO	(L.) Link	0	CHILDING PINK	Caryophyllaceae		(UPL)	forb	AN	advent	PEPR4		DI	adventive			
Petrorhagia saxifraga	PETSAX	(L.) Link	0	SAXIFRAGE-PINK	Caryophyllaceae		(UPL)	forb	PE	advent	PESA9		DI	adventive			
Petroselinum crispum	PETCRI	(Mill.) Nyman ex A.W. Hill	0	PARSLEY	Apiaceae		(UPL)	forb	BI	advent	PECR2		DI	adventive			
Petunia x hybrida	PTNHYB	Vilm.	0	PETUNIA	Solanaceae		(UPL)	forb	AN	advent	PEAT7		DI	adventive			
Phacelia bipinnatifida	PHABIP	Michx.	4	FERN-LEAVED SCORPION-WEED	Hydrophyllaceae		(FACW-)	forb	BI	shade	PHBI2	P	DI	native			
Phacelia covillei	PHARAN	S. Watson	8	BLUE SCORPION-WEED	Hydrophyllaceae		FACW	forb	AN	shade	PHRA3	E	DI	native	FACW		
Phacelia dubia	PHADUB	(L.) Trel.	10	SMALL-FLOWERED SCORPION-W.	Hydrophyllaceae		(UPL)	forb	AN	shade	PHDU	E	DI	native			
Phacelia purshii	PHAPUR	Buckley	4	MIAMI-MIST	Hydrophyllaceae		(UPL)	forb	AN	shade	PHPU3		DI	native			
Phacelia sp.	PHACEL	Juss.		SCORPION-WEED	Hydrophyllaceae		ND	forb	ND	shade	PHACE		DI				
Phalaris arundinacea	PHAARU	L.	0	REED CANARY GRASS	Poaceae		FACW+	grass	PE	full	PHAR3		MO	cryptogenic	FACW	FACW	FACW
Phalaris canariensis	PHACAN	L.	0	COMMON CANARY-GRASS	Poaceae		FACU	grass	AN	advent	PHCA5		MO	adventive	FACU	FACU	FACU
Phaseolus coccineus	PHACOC	L.	0	SCARLET RUNNER	Fabaceae		(FACU)	vine	AN	advent	PHCO6		DI	adventive			
Phaseolus polystachios	PHAPOL	(L.) B.S.P.	3	WILD BEAN	Fabaceae		(UPL)	forb	PE	shade	PHPO2	P	DI	native			
Phaseolus vulgaris	PHAVUL	L.	0	COMMON BEAN	Fabaceae		(FACU)	forb	AN	advent	PHVU		DI	adventive			
Philadelphus coronarius	PHICOR	L.	0	EUROPEAN MOCK-ORANGE	Hydrangeaceae		(UPL)	shrub	W	advent	PHCO7		DI	adventive			
Philadelphus inodorus	PHIINO	L.	0	APPALACHIAN MOCK-ORANGE	Hydrangeaceae		(FACU)	shrub	W	advent	PHIN5		DI	adventive			
Philadelphus pubescens	PHIPUB	Loisel	0	OZARK MOCK-ORANGE	Hydrangeaceae		(FACU)	shrub	W	advent	PHPU4		DI	adventive			
Phleum pratense	PHLPRA	L.	0	TIMOTHY	Poaceae		FACU	grass	PE	advent	PHPR3		MO	adventive	FACU	FACU	FACU
Phlox divaricata	PHLDIV	L.	4	BLUE PHLOX	Polemoniaceae		FACU	forb	PE	shade	PHDI5		DI	native	FACU	FACU	FACU
Phlox glaberrima	PHLGLA	L.	5	SMOOTH PHLOX	Polemoniaceae	348	FAC	forb	PE	partial	PHGL4		DI	native	FAC	FACW	FACW
Phlox maculata	PHLMAC	L.	7	SPOTTED PHLOX	Polemoniaceae	349	FACW	forb	PE	partial	PHMA4		DI	native	FACW	FACW	FACW
Phlox ovata	PHLOVA	L.	9 syn	MOUNTAIN PHLOX	Polemoniaceae		(UPL)	forb	PE	shade	PHLA13	E	DI	native			
Phlox paniculata	PHLPAN	L.	2	GARDEN PHLOX	Polemoniaceae		FACU	forb	PE	shade	PHPA9		DI	native	FACU	FACU	FACU
Phlox pilosa	PHLPIL	L.	6	DOWNY PHLOX	Polemoniaceae		FACU	forb	PE	partial	PHPI		DI	native	FACU	FACU	FACU
Phlox sp.	PHLOX	L.		PHLOX	Polemoniaceae		ND	forb	PE	partial	PHLOX		DI				
Phlox stolonifera	PHLSTO	Sims	9	CREEPING PHLOX	Polemoniaceae		(UPL)	forb	PE	shade	PHST3		DI	native			
Phlox subulata	PHLSUBA	L.	0	CREEPING PHLOX	Polemoniaceae	350	(UPL)	forb	PE	advent	PHSU3		DI	adventive			
Phlox subulata	PHLSUBA	L.	0	CREEPING PHLOX	Polemoniaceae	350	(UPL)	forb	PE	advent	PHSU3		DI	native			
Phoradendron serotinum	PHOSER	(Raf.) M.C. Johnst.	9 syn	MISTLETOE	Viscaceae		(UPL)	shrub	W	full	PHLE14		DI	native			
Phragmites australis ssp. americanus	PHRAUSAM	Saltonstall% P.M. Peterson & Soreng	7 syn	AMERICAN GIANT REED	Poaceae	551	(OBL)	grass	PE	full		T	MO	native			
Phragmites australis ssp. australis	PHRAUSAU	(Cav.) Trin.	0 syn	GIANT REED	Poaceae	352	FACW	grass	PE	full	PHAU7		MO	adventive			
Phryma leptostachya	PHRLEP	L.	5	LOPSEED	Verbenaceae		FACU-	forb	PE	shade	PHLE5		DI	native	FACU	UPL	FACU
Phyla lanceolata	PHYLAN	(Michx.) Greene	3 syn	FOG-FRUIT	Verbenaceae		OBL	forb	PE	full	PHLA3		DI	native	OBL	OBL	OBL
Phyllanthus caroliniensis	PHYCAR	Walter	6	CAROLINA LEAF-FLOWER	Euphorbiaceae		FAC+	forb	AN	full	PHCA9	T	DI	native	FAC	FAC	
Physalis alkekengi	PHYALK	L.	0	CHINESE LANTERN	Solanaceae		(UPL)	forb	PE	advent	PHAL5		DI	adventive			
Physalis heterophylla	PHYHET	Nees	1	CLAMMY GROUND-CHERRY	Solanaceae		(UPL)	forb	PE	partial	PHHE5		DI	native			
Physalis hispida	PHYHIS	(Waterfall) Cronq.	0	PRAIRIE GROUND-CHERRY	Solanaceae		(UPL)	forb	PE	advent	PHHI8		DI	adventive			
Physalis longifolia	PHYLON	Nutt.	1	SMOOTH GROUND-CHERRY	Solanaceae	353	(UPL)	forb	PE	partial	PHLO4		DI	native			

Physalis philadelphica	PHYPHI	Lam.	0	TOMATILLA	Solanaceae		UPL	forb	AN	advent	PHPH2		DI	adventive	UPL	UPL	UPL
Physalis pubescens	PHYPUB	L.	1	DOWNY GROUND-CHERRY	Solanaceae	354	FACU-	forb	AN	full	PHPU7		DI	native	FACU	UPL	UPL
Physalis sp.	PHYSAL	L.		GROUND-CHERRY	Solanaceae		ND	forb	ND	ND	PHYSA		DI				
Physalis virginiana	PHYVIR	Mill.	7	VIRGINIA GROUND-CHERRY	Solanaceae		(UPL)	forb	PE	partial	PHVI5		DI	native			
Physocarpus opulifolius	PHYOPU	(L.) Maxim.	4	NINEBARK	Rosaceae	355	FACW-	shrub	W	full	PHOP		DI	native	FACW	FACW	FACW
Physostegia virginiana	PHSVIR	(L.) Benth.	5	OBEDIENT PLANT	Lamiaceae	356	FAC+	forb	PE	full	PHVI8		DI	native	FAC	FACW	FACW
Phytolacca americana	PHYAME	L.	1	POKEWEED	Phytolaccaceae		FACU+	forb	PE	full	PHAM4		DI	native	FACU	FACU	FACU
Picea abies	PICABI	(L.) Karst	0	NORWAY SPRUCE	Pinaceae		(FACU)	tree	W	advent			GYMN	adventive			
Picris echioides	PICECH	L.	0	BRISTLY OX-TONGUE	Asteraceae		UPL	forb	AN	advent	PIEC		DI	adventive	UPL	UPL	UPL
Picris hieracioides	PICHIE	L.	0	HAWKWEED OX-TONGUE	Asteraceae		(UPL)	forb	AN	advent	PIHI		DI	adventive			
Pilea fontana	PILFON	(Lunnell) Rydb.	4	COOLWORT	Urticaceae		FACW+	forb	AN	partial	PIFO		DI	native	FACW	FACW	FACW
Pilea pumila	PILPUM	(L.) A. Gray	2	CANADIAN CLEARWEED	Urticaceae		FACW	forb	AN	partial	PIPU2		DI	native	FACW	FACW	FACW
Pilea sp.	PILEA	Lindl.		CLEARWEED	Urticaceae		ND	forb	AN	partial	PILEA		DI				
Pinus banksiana	PINBAN	Lambert	0	JACK PINE	Pinaceae		FACU	tree	W	advent	PIBA2		GYMN	adventive	FACU	FACU	FACU
Pinus echinata	PINECH	Mill.	8	SHORTLEAF PINE	Pinaceae		(UPL)	tree	W	tree	PIEC2		GYMN	native			
Pinus nigra	PINNIG	Arn.	0	AUSTRIAN PINE	Pinaceae		(UPL)	tree	W	tree	PINI		GYMN	adventive			
Pinus pungens	PINPUN	Lambert	0	TABLE MOUNTAIN PINE	Pinaceae		(UPL)	tree	W	advent	PIPU5		GYMN	adventive			
Pinus resinosa	PINRES	Aiton	0	RED PINE	Pinaceae		FACU	tree	W	tree	PIRE		GYMN	adventive	FACU	FACU	FACU
Pinus rigida	PINRIG	Mill.	7	PITCH PINE	Pinaceae		FACU	tree	W	tree	PIRI		GYMN	native	FACU	FACU	FACU
Pinus sp.	PINUS	L.		PINE	Pinaceae		ND	tree	W	tree	PINUS		GYMN				
Pinus strobus	PINSTRA	L.	0	WHITE PINE	Pinaceae	357	FACU	tree	W	tree	PIST		GYMN	adventive	FACU	FACU	FACU
Pinus strobus	PINSTRA	L.	0	WHITE PINE	Pinaceae	357	FACU	tree	W	tree	PIST		GYMN	native	FACU	FACU	FACU
Pinus sylvestris	PINSYL	L.	0	SCOTCH PINE	Pinaceae		(UPL)	tree	W	tree	PISY		GYMN	adventive			
Pinus virginiana	PINVIR	Mill.	3	VIRGINIA PINE	Pinaceae		(UPL)	tree	W	tree	PIVI2		GYMN	native			
Piptochaetium avenaceum	PIPAVE	(L.) Parodi	8 syn	BLACKSEED NEEDLE GRASS	Poaceae		(UPL)	grass	PE	shade	PIAV	E	MO	native	UPL	FACU	FACU
Plantago aristata	PLANAR	Michx.	0	BRACTED PLANTAIN	Plantaginaceae		(UPL)	forb	AN	advent	PLAR3		DI	adventive			
Plantago cordata	PLANCO	Lam.	9	HEART-LEAVED PLANTAIN	Plantaginaceae		OBL	forb	PE	full	PLCO2	E	DI	native	OBL	OBL	OBL
Plantago lanceolata	PLANLA	L.	0	ENGLISH PLANTAIN	Plantaginaceae		UPL	forb	PE	advent	PLLA		DI	adventive	UPL	FACU	FACU
Plantago major	PLANMA	L.	0	COMMON PLANTAIN	Plantaginaceae		FACU	forb	PE	advent	PLMA2		DI	adventive	FACU	FAC	FACU
Plantago patagonica	PLANPA	Jacq.	7	WOOLLY PLANTAIN	Plantaginaceae		UPL	forb	AN	full	PLPA2	E	DI	native			
Plantago psyllium	PLANPS	L.	0	FLEAWORT	Plantaginaceae		(UPL)	forb	AN	advent	PLPS		DI	adventive	FACU	FACU	FACU
Plantago rugelii	PLANRU	Decne.	0	RUGEL'S PLANTAIN	Plantaginaceae		FACU	forb	PE	full	PLRU		DI	native	FACU	FAC	FAC
Plantago sp.	PLANTA	L.		PLAINTAIN	Plantaginaceae		ND	forb	ND	ND	PLANT		DI				
Plantago virginica	PLANVI	L.	1	VIRGINIA PLANTAIN	Plantaginaceae		(UPL)	forb	AN	full	PLVI		DI	native	UPL	FACU	FACU
Platanthera aquilonis	PLAAQU	Sheviak	8 syn	TALL NORTHERN GREEN ORCHID	Orchidaceae		FACW	forb	PE	partial	PLAQ2	X	MO	native			
Platanthera blephariglottis	PLABLE	(Willd.) Lindl.	10 syn	WHITE FRINGED ORCHID	Orchidaceae		OBL	forb	PE	partial	PLBL	E	MO	native	OBL	OBL	OBL
Platanthera ciliaris	PLACIL	(L.) Lindl.	8 syn	YELLOW FRINGED ORCHID	Orchidaceae		FACW	forb	PE	partial	PLCI2	T	MO	native	FACW	FACW	FACW
Platanthera clavellata	PLACLA	(Michx.) Luer	6 syn	GREEN WOODLAND ORCHID	Orchidaceae		(FACW+)	forb	PE	shade	PLCL		MO	native	FACW	OBL	FACW
Platanthera flava	PLAFLA	(L.) Lindl.	6 syn	TUBERCLED REIN-ORCHID	Orchidaceae	359	FACW	forb	PE	partial	PLFL	P	MO	native	FACW	FACW	FACW
Platanthera grandiflora	PLAGRA	(Bigelow) Lindl.	10 syn	LARGE PURPLE FRINGED ORCHID	Orchidaceae		FACW	forb	PE	partial	PLGR2	X	MO	native	FACW		FACW
Platanthera hookeri	PLAHOO	(Torr. ex A. Gray) Lindl.	8 syn	HOOKER'S ORCHID	Orchidaceae		FAC	forb	PE	shade	PLHO3	X	MO	native	FAC	FAC	FAC
Platanthera lacera	PLALAC	(Michx.) G. Don	3 syn	RAGGED FRINGED ORCHID	Orchidaceae		FACW	forb	PE	full	PLLA2		MO	native	FACW	FACW	FACW
Platanthera leucophaea	PLALEU	(Nutt.) Lindl.	8 syn	PRAIRIE FRINGED ORCHID	Orchidaceae		FACW+	forb	PE	full	PLLE2	T	MO	native	FACW	FACW	FACW
Platanthera orbiculata	PLAORB	(Pursh) Lindl.	7 syn	LARGE ROUND-LEAVED ORCHID	Orchidaceae		FAC	forb	PE	shade	PLOR4		MO	native	FAC	FAC	FAC
Platanthera peramoena	PLAPER	(A. Gray) A. Gray	6 syn	PURPLE FRINGELESS ORCHID	Orchidaceae		FACW	forb	PE	partial	PLPE		MO	native	FACW	FACW	FACW
Platanthera psycodes	PLAPSY	(L.) Lindl.	8 syn	SMALL PURPLE FRINGED ORCHID	Orchidaceae		FACW	forb	PE	partial	PLPS2	T	MO	native	FACW	FACW	FACW
Platanthera sp.	PLATAN	Rich		FRINGED ORCHID	Orchidaceae		ND	forb	PE	ND	PLATA2		MO				
Platanus occidentalis	PLAOCC	L.	7	SYCAMORE	Platanaceae		FACW-	tree	W	tree	PLOC		DI	native	FACW	FACW	FACW
Pleopeltis polypodioides	PLEPOL	(L.) E.G. Andrews & Windham	8 syn	RESURRECTION FERN	Polypodiaceae	375	(UPL)	fern	PE	shade	PLPO2	T	SVP	native	FACU	FACU	
Pluchea camphorata	PLUCAM	(L.) DC.	6	CAMPHORWEED	Asteraceae		FACW	forb	AN	partial	PLCA7	E	DI	native	FACW	FACW	FACW
Pluchea odorata	PLUODO	(L.) Cass.	0	SALTMARSH FLEABANE	Asteraceae		OBL	forb	AN	advent	PLOD		DI	adventive	FACW	FACW	OBL
Pluchea sp.	PLUSPP	ND		ND	Asteraceae		ND	forb	AN	ND	PLUCH		DI				
Poa alsodes	POAALS	A. Gray	5	WOODLAND BLUEGRASS	Poaceae		FACW-	grass	PE	shade	POAL3		DI	native	FACW	FACW	FAC
Poa annua	POAANN	L.	0	ANNUAL BLUEGRASS	Poaceae		FACU	grass	AN	advent	POAN		MO	adventive	FACU	FACU	FACU
Poa bulbosa	POABUL	L.	0	BULB-BEARING BLUEGRASS	Poaceae		(FAC)	grass	PE	advent	POBU		MO	adventive			
Poa chapmaniana	POACHA	Scribn.	0	CHAPMAN'S BLUEGRASS	Poaceae		UPL	grass	AN	advent	POCH2		MO	adventive	UPL	FACU	FACU
Poa compressa	POACOM	L.	0	CANADA BLUEGRASS	Poaceae		FACU	grass	PE	advent	POCO		MO	adventive	FACU	FACU	FACU
Poa cuspidata	POACUS	Nutt.	7	EARLY BLUEGRASS	Poaceae		(UPL)	grass	PE	shade	POCU4		MO	native			
Poa languida	POALAN	Hitchc.	6 syn	WEAK SPEAR GRASS	Poaceae	360	(UPL)	grass	PE	shade	POSA	P	MO	native			
Poa nemoralis	POANEM	L.	0	FOREST BLUEGRASS	Poaceae		FAC	grass	PE	advent	PONE		MO	adventive	FAC	FACU	FACU
Poa paludigena	POAPLU	Fernald & Wiegand	9	MARSH SPEAR GRASS	Poaceae		FACW+	grass	PE	partial	POPA	P	MO	native	FACW	OBL	OBL
Poa palustris	POAPAL	L.	5	FOWL MEADOW GRASS	Poaceae		FACW	grass	PE	full	POPA2		MO	native	FACW	FACW	FACW
Poa pratensis	POAPRA	L.	0	KENTUCKY BLUEGRASS	Poaceae		FACU	grass	PE	advent	POPR		MO	adventive	FACU	FAC	FACU
Poa saltuensis	POASAL	Fernald & Wiegand	8 syn	PASTURE BLUEGRASS	Poaceae		(UPL)	grass	PE	partial	POSA	E	MO	native			
Poa sp.	POA	L.		BLUEGRASS	Poaceae		ND	grass	ND	ND	POA		MO				
Poa sylvestris	POASYL	A. Gray	5	WOODS BLUEGRASS	Poaceae		FACW	grass	PE	shade	POSY		MO	native	FACW	FAC	FAC

Poa trivialis	POATRI	L.	0	ROUGH BLUEGRASS	Poaceae		FACW	grass	PE	advent	POTR2		MO	adventive	FACW	FACW	FACW
Poa wolfii	POAWOL	Scribn.	7	WOLF'S BLUEGRASS	Poaceae		(UPL)	grass	PE	shade	POWO	E	MO	native			
Podophyllum peltatum	PODPEL	L.	4	MAYAPPLE	Berberidaceae		FACU	forb	PE	shade	POPE		MO	native	FACU	FACU	FACU
Podostemum ceratophyllum	PODCER	Michx.	10	RIVERWEED	Podostemaceae		OBL	forb	PE	full	POCE3	E	DI	native	OBL	OBL	OBL
Pogonia ophioglossoides	POGOPH	(L.) Ker Gawl.	9	ROSE POGONIA	Orchidaceae		OBL	forb	PE	full	POOP	T	MO	native	OBL	OBL	OBL
Polanisia dodecandra	POLDOD	(L.) DC.	3	CLAMMY-WEED	Capparaceae		FACU	forb	AN	full	PODO3		DI	native	FACU	UPL	UPL
Polanisia jamesii	POLJAM	(T. & G.) Iltis	0	JAMES' CLAMMY-WEED	Capparaceae		(UPL)	forb	AN	advent	POJA3		DI	adventive			
Polemonium caeruleum	POLCAE	L.	0	GARDEN JACOB'S LADDER	Polemoniaceae		(FAC)	forb	PE	advent	POCA2		DI	adventive	FACW		FACW
Polemonium reptans	POLREP	L.	5	SPREADING JACOB'S LADDER	Polemoniaceae	361	FACU	forb	PE	shade	PORE2		DI	native	FACU	FAC	FAC
Polygala cruciata	PLYCRU	L.	10	CROSS-LEAVED MILKWORT	Polygalaceae	362	FACW+	forb	AN	full	POCR	E	DI	native	FACW	FACW	FACW
Polygala curtissii	PLYCUR	A. Gray	8	CURTISS' MILKWORT	Polygalaceae		(UPL)	forb	AN	full	POCU5	X	DI	native			
Polygala incarnata	PLYINC	L.	6	PINK MILKWORT	Polygalaceae		UPL	forb	AN	full	POIN4	E	DI	native	FACU	FACU	FACU
Polygala paucifolia	PLYPAU	Willd.	8	FRINGED MILKWORT	Polygalaceae		FACU	forb	PE	full	POPA5	E	DI	native	FACU	FACU	FACU
Polygala polygama	PLYPOL	Walter	10	RACEMED MILKWORT	Polygalaceae		UPL	forb	PE	full	POPO	T	DI	native	UPL	FACU	FACU
Polygala sanguinea	PLYSAN	L.	2	FIELD MILKWORT	Polygalaceae		FACU	forb	AN	full	POSA3		DI	native	FAC	FACU	FACU
Polygala senega	PLYSEN	L.	7	SENECA SNAKEROOT	Polygalaceae	363	FACU	forb	PE	full	POSE3		DI	native	FACU	FACU	FACU
Polygala sp.	POLYGA	L.		MILKWORT	Polygalaceae		ND	forb	ND	full	POLYG		DI				
Polygala verticillata	PLYVER	L.	2	WHORLED MILKWORT	Polygalaceae	364	UPL	forb	AN	full	POVE		DI	native	UPL	UPL	UPL
Polygonatum biflorum	POLBIF	(Walter) Elliott	4 syn	SMOOTH SOLOMON'S-SEAL	Liliaceae		FACU	forb	PE	shade	POBI2		MO	native	FACU	FACU	FACU
Polygonatum pubescens	POLPUB	(Willd.) Pursh	5	DOWNY SOLOMON'S-SEAL	Liliaceae		(UPL)	forb	PE	shade	POPU4		MO	native	FACU		
Polygonatum sp.	POLYGO	Mill.		SOLOMON'S SEAL	Liliaceae		ND	forb	PE	shade	POLYG2		MO				
Polygonum achoreum	PLGACH	S.F. Blake	0	LEATHERY KNOTWEED	Polygonaceae		FACU	forb	AN	advent	POAC3		DI	adventive	FACU	FAC	FACU
Polygonum amphibium	PLGAMP	L.	4 syn	WATER SMARTWEED	Polygonaceae	365	OBL	forb	PE	full	POAM8		DI	native			
Polygonum arenastrum	PLGARE	Jord. Ex Boreau	0	DOORYARD KNOTWEED	Polygonaceae		(UPL)	forb	PE	advent	POAR11		DI	adventive	FACU	FACU	FACU
Polygonum arifolium	PLGARI	L.	4 syn	HALBERD-LEAVED TEARTHUMB	Polygonaceae	366	OBL	forb	AN	full	POAR6		DI	native	OBL	OBL	OBL
Polygonum aviculare	PLGAVI	L.	0	COMMON KNOTWEED	Polygonaceae		FACU	forb	AN	advent	POAV		DI	adventive	FACU	FAC	FACU
Polygonum careyi	PLGCAR	Olney	9 syn	CAREY'S SMARTWEED	Polygonaceae		FACW	forb	AN	full	POCA8	X	DI	native	FACW	FACW	FACW
Polygonum cespitosum	PLGCES	Blume	0 syn	LONG-BRISTLED SMARTWEED	Polygonaceae	367	FACU-	forb	AN	advent	POCE4		DI	adventive	FACU		UPL
Polygonum cilinode	PLGCIL	Michx.	8 syn	MOUNTAIN BINDWEED	Polygonaceae		(UPL)	vine	PE	shade	POCI	E	DI	native			
Polygonum convolvulus	PLGCON	L.	0 syn	BLACK BINDWEED	Polygonaceae		FACU	vine	AN	advent	POCO10		DI	adventive			
Polygonum cuspidatum	PLGCUS	Siebold & Zucc.	0 syn	JAPANESE KNOTWEED	Polygonaceae		FACU-	forb	PE	advent	POCU6		DI	adventive	FACU	FACU	FACU
Polygonum erectum	PLGERE	L.	1	ERECT KNOTWEED	Polygonaceae		FACU	forb	AN	full	POER2		DI	native	FACU	FACU	FACU
Polygonum hydropiper	PLGHPR	L.	1 syn	WATER-PEPPER	Polygonaceae	368	OBL	forb	AN	full	POHY		DI	native	OBL	OBL	OBL
Polygonum hydropiperoides	PLGHPO	Michx.	6 syn	MILD WATER-PEPPER	Polygonaceae	369	OBL	forb	PE	full	POHY2		DI	native	OBL	OBL	OBL
Polygonum lapathifolium	PLGLAP	L.	1 syn	DOCK-LEAVED SMARTWEED	Polygonaceae	370	FACW+	forb	AN	full	POLA4		DI	native	FACW	FACW	FACW
Polygonum orientale	PLGORI	L.	0 syn	PRINCE'S FEATHER	Polygonaceae		FACU-	forb	AN	advent	POOR2		DI	adventive	FACU	UPL	UPL
Polygonum pensylvanicum	PLGPEN	L.	0 syn	PINKWEED	Polygonaceae	371	FACW	forb	AN	full	POPE2		DI	native	FACW	FACW	FACW
Polygonum persicaria	PLGPER	L.	0 syn	LADY'S THUMB	Polygonaceae		FACW	forb	AN	advent	POPE3		DI	adventive	FACW	FACW	FAC
Polygonum punctatum	PLGPUN	Elliott	6 syn	DOTTED SMARTWEED	Polygonaceae		OBL	forb	PE	full	POPU5		DI	native			
Polygonum ramosissimum	PLGRAM	Michx.	1	BUSHY KNOTWEED	Polygonaceae	372	FAC	forb	AN	full	PORA3		DI	native	FAC	FACU	FAC
Polygonum robustius	PLGROB	(Small) Fernald	5 syn	COARSE SMARTWEED	Polygonaceae		OBL	forb	PE	full	PORO	T	DI	native	OBL	OBL	OBL
Polygonum sachalinense	PLGSAC	F. W. Schmidt ex Maxim.	0 syn	GIANT KNOTWEED	Polygonaceae		(UPL)	forb	PE	advent	POSA4		DI	adventive	UPL	UPL	UPL
Polygonum sagittatum	PLGSAG	L.	2 syn	ARROW-LEAVED TEARTHUMB	Polygonaceae		OBL	forb	AN	full	POSA5		DI	native	OBL	OBL	OBL
Polygonum scandens	PLGSCA	L.	2 syn	CLIMBING FALSE BUCKWHEAT	Polygonaceae	373	FAC	vine	PE	partial	POSC3		DI	native			
Polygonum setaceum	PLGSET	Baldwin	6 syn	BRISTLY SMARTWEED	Polygonaceae	374	OBL	forb	PE	full	POSE6	E	DI	native	OBL	OBL	OBL
Polygonum sp.	POLYGN	L.		KNOTWEED	Polygonaceae		ND	ND	ND	ND	POLYG4		DI				
Polygonum tenue	PLGTEN	Michx.	4	SLENDER KNOTWEED	Polygonaceae		(UPL)	forb	AN	full	POTE2		DI	native			
Polygonum virginianum	PLGVIR	L.	3 syn	JUMPSEED	Polygonaceae		FAC	forb	PE	shade	POVI2		DI	native	FAC	FAC	FAC
Polymnia canadensis	POLCAN	L.	5	LEAFCUP	Asteraceae		(UPL)	forb	PE	shade	POCA11		DI	native			
Polymnia sp.	POLYMN	ND		ND	Asteraceae		UPL	forb	PE	shade	POLYM		DI				
Polymnia uvedalia	POLUVE	(L.) L.	7 syn	LARGE-FLOWERED LEAFCUP	Asteraceae		(UPL)	forb	PE	shade	SMUV		DI	native			
Polypodium appalachianum	POLAPP	Haufler & Windham	8	APPALACHIAN POLYPODY	Polypodiaceae		(UPL)	fern	PE	shade	POAP		SVP	native			
Polypodium sp.	POLYPOD	ND		ND	Polypodiaceae		UPL	fern	PE	shade	POLYP		SVP				
Polypodium virginianum	POLVIG	L.	8	ROCK POLYPODY	Polypodiaceae		(UPL)	fern	PE	shade	POVI7		SVP	native			
Polystichum acrostichoides	POLACR	(Michx.) Schott	3	CHRISTMAS FERN	Dryopteridaceae		FACU-	fern	PE	shade	POAC4		SVP	native	FACU	UPL	FACU
Pontederia cordata	PONCOR	L.	6	PICKEREL-WEED	Pontederiaceae		OBL	forb	PE	full	POCO14		MO	native	OBL	OBL	OBL
Populus alba	POPALB	L.	0	WHITE POPLAR	Salicaceae		(UPL)	tree	W	advent	POAL7		DI	adventive			
Populus balsamifera	POPBAL	L.	3	BALSAM POPLAR	Salicaceae	376	FACW	tree	W	tree	POBA2	E	DI	native	FACW	FACW	FACW
Populus deltoides	POPDEL	W. Bartram ex Marshall	3	EASTERN COTTONWOOD	Salicaceae	377	FAC	tree	W	tree	PODE3		DI	native	FAC	FAC	FAC
Populus grandidentata	POPGRA	Michx.	2	BIG-TOOTH ASPEN	Salicaceae		FACU-	tree	W	tree	POGR4		DI	native	FACU	FACU	FACU
Populus heterophylla	POPHET	L.	9	SWAMP COTTONWOOD	Salicaceae		FACW+	tree	W	tree	POHE4		DI	native	OBL	OBL	OBL
Populus nigra L. var. italica	POPNIG	Du Roi	0	LOMBARDY POPLAR	Salicaceae	378	(UPL)	tree	W	advent	PONI		DI	adventive			
Populus sp.	POPULU	ND		ND	Salicaceae		ND	tree	W	ND	POPUL		DI				
Populus tremuloides	POPTRE	Michx.	2	QUAKING ASPEN	Salicaceae		(FACU)	tree	W	tree	POTR5		DI	native	FAC	FAC	FACU
Porteranthus sp.	PORTER	ND	6	ND	Rosaceae		UPL	forb	PE	shade	GILLE2		DI	native			
Porteranthus stipulatus	PORSTI	(Muhl. ex Willd.) Britton	6	AMERICAN IPECAC	Rosaceae		(UPL)	forb	PE	shade	GIST5		DI	native			

Porteranthus trifoliatus	PORTRI	(L.) Britton	6	BOWMAN'S-ROOT	Rosaceae		(UPL)	forb	PE	shade	GITR6	T	DI	native			
Portulaca grandiflora	PORGRA	Hook.	0	MOSS-ROSE	Portulacaceae		(UPL)	forb	AN	advent	POGR7		DI	adventive	UPL	FACU	UPL
Portulaca oleracea	POROLE	L.	0	COMMON PURSLANE	Portulacaceae		FAC	forb	AN	advent	POOL		DI	adventive	FAC	FACU	FACU
Potamogeton amplifolius	PTMAMP	Tuck.	8	LYRE-LEAVED PONDWEED	Potamogetonaceae		OBL	forb	PE	full	POAM5		MO	native	OBL	OBL	OBL
Potamogeton crispus	PTMCRI	L.	0	CURLY-LEAVED PONDWEED	Potamogetonaceae		OBL	forb	PE	advent	POCR3		MO	adventive	OBL	OBL	OBL
Potamogeton diversifolius	PTMDIV	Raf.	5	SNAILSEED PONDWEED	Potamogetonaceae		OBL	forb	PE	full	PODI		MO	native	OBL	OBL	OBL
Potamogeton epihydrus	PTMEPI	Raf.	6	RIBBON-LEAVED PONDWEED	Potamogetonaceae	379	OBL	forb	PE	full	POEP2		MO	native	OBL	OBL	OBL
Potamogeton foliosus	PTMFOL	Raf.	2	LEAFY PONDWEED	Potamogetonaceae	380	OBL	forb	PE	full	POFO3		MO	native	OBL	OBL	OBL
Potamogeton friesii	PTMFRI	Rupr.	10	FRIES' PONDWEED	Potamogetonaceae	381	OBL	forb	PE	full	POFR3	X	MO	native	OBL	OBL	OBL
Potamogeton gramineus	PTMGRA	L.	10	GRASS-LIKE PONDWEED	Potamogetonaceae	382	OBL	forb	PE	full	POGR8	E	MO	native	OBL	OBL	OBL
Potamogeton hillii	PTMHIL	Morong	9	HILL'S PONDWEED	Potamogetonaceae		OBL	forb	PE	full	POHI4	E	MO	native	OBL		OBL
Potamogeton illinoensis	PTMILL	Morong	8	ILLINOIS PONDWEED	Potamogetonaceae		OBL	forb	PE	full	POIL		MO	native	OBL	OBL	OBL
Potamogeton natans	PTMNAT	L.	8	FLOATING PONDWEED	Potamogetonaceae		OBL	forb	PE	full	PONA4	P	MO	native	OBL	OBL	OBL
Potamogeton nodosus	PTMNOD	Poir.	3	LONG-LEAVED PONDWEED	Potamogetonaceae		OBL	forb	PE	full	PONO2		MO	native	OBL	OBL	OBL
Potamogeton perfoliatus	PTMPER	L.	10	RED-HEADED PONDWEED	Potamogetonaceae	383	OBL	forb	PE	full	POPE7	X	MO	native	OBL	OBL	OBL
Potamogeton praelongus	PTMPRA	Wulfen	10	WHITE-STEMMED PONDWEED	Potamogetonaceae		OBL	forb	PE	full	POPR5	E	MO	native	OBL	OBL	OBL
Potamogeton pulcher	PTMPUL	Tuck.	8	SPOTTED PONDWEED	Potamogetonaceae		OBL	forb	PE	full	POPU6	E	MO	native	OBL	OBL	OBL
Potamogeton pusillus	PTMPUS	L.	4	SMALL PONDWEED	Potamogetonaceae	384	OBL	forb	PE	full	POPU7		MO	native	OBL	OBL	OBL
Potamogeton richardsonii	PTMRIC	(A. Benn.) Rydb.	10	RICHARDSON'S PONDWEED	Potamogetonaceae		OBL	forb	PE	full	PORI2	P	MO	native	OBL	OBL	OBL
Potamogeton robbinsii	PTMROB	Oakes	10	ROBBINS' PONDWEED	Potamogetonaceae		OBL	forb	PE	full	PORO2	E	MO	native	OBL	OBL	OBL
Potamogeton sp.	POTAMO	ND		ND	Potamogetonaceae		OBL	forb	PE	full	POTAM		MO				
Potamogeton spirillus	PTMSPI	Tuck.	10	SPIRAL PONDWEED	Potamogetonaceae		OBL	forb	PE	full	POSP3	X	MO	native	OBL	OBL	OBL
Potamogeton strictifolius	PTMSTR	A. Benn.	10	STRAIGHT-LEAVED PONDWEED	Potamogetonaceae		OBL	forb	PE	full	POST2	X	MO	native	OBL	OBL	OBL
Potamogeton tennesseensis	PTMTEN	Fernald	9	TENNESSEE PONDWEED	Potamogetonaceae		OBL	forb	PE	full	POTE4	P	MO	native	OBL	OBL	OBL
Potamogeton vaseyi	PTMVAS	J.W. Robbins	10	VASEY'S PONDWEED	Potamogetonaceae		OBL	forb	PE	full	POVA3	X	MO	native	OBL	OBL	OBL
Potamogeton zosteriformis	PTMZOS	Fernald	8	FLAT-STEMMED PONDWEED	Potamogetonaceae		OBL	forb	PE	full	POZO	T	MO	native	OBL	OBL	OBL
Potentilla anserina	POTANS	L.	5 syn	SILVERWEED	Rosaceae		OBL	forb	PE	full	ARAN7		DI	native	OBL	FACW	FACW
Potentilla argentea	POTARG	L.	0	SILVERY CINQUEFOIL	Rosaceae		UPL	forb	PE	advent	POAR8		DI	adventive	UPL	FACU	FACU
Potentilla arguta	POTARU	Pursh	5	TALL CINQUEFOIL	Rosaceae		UPL	forb	PE	full	POAR7	E	DI	native			
Potentilla canadensis	POTCAN	L.	3	RUNNING CINQUEFOIL	Rosaceae		(UPL)	forb	PE	full	POCA17		DI	native			
Potentilla fruticosa	POTFRU	L.	10	SHRUBBY CINQUEFOIL	Rosaceae		FACW	shrub	W	full	DAFRF		DI	native	FACW	FACW	FACW
Potentilla inclinata	POTINC	Villars	0	CINQUEFOIL	Rosaceae		(UPL)	forb	PE	advent	POIN10		DI	adventive			
Potentilla intermedia	POTINT	L.	0 syn	INTERMEDIATE CINQUEFOIL	Rosaceae	385	(UPL)	forb	PE	advent	POIN8		DI	adventive			
Potentilla norvegica	POTNOR	L.	1	STRAWBERRY-WEED	Rosaceae		FACU	forb	AN	full	PONO3		DI	native	FACU	FAC	FAC
Potentilla palustris	POTPAL	(L.) Scop.	8	MARSH CINQUEFOIL	Rosaceae		OBL	forb	PE	full	COPA28	P	DI	native	OBL	OBL	OBL
Potentilla paradoxa	POTPAR	Nutt.	9	BUSHY CINQUEFOIL	Rosaceae		OBL	forb	AN	full	POPA15	T	DI	native	OBL	FACW	FACW
Potentilla recta	POTREC	L.	0	ROUGH-FRUITED CINQUEFOIL	Rosaceae		(UPL)	forb	PE	advent	PORE5		DI	adventive			
Potentilla reptans	POTREP	L.	0	CREEPING CINQUEFOIL	Rosaceae		(UPL)	forb	PE	advent	PORE6		DI	adventive			
Potentilla simplex	POTSIM	Michx.	1	OLD FIELD CINQUEFOIL	Rosaceae		FACU-	forb	PE	full	POSI2		DI	native	FACU	FACU	FACU
Potentilla sp.	POTENT	ND		ND	Rosaceae		ND	ND	ND	ND	POTEN		DI				
Prenanthes alba	PREALB	L.	5	WHITE RATTLESNAKE-ROOT	Asteraceae		FACU	forb	PE	shade	PRAL2		DI	native	FACU	FACU	FACU
Prenanthes altissima	PREALT	L.	4	TALL RATTLESNAKE-ROOT	Asteraceae		FACU-	forb	PE	shade	PRAL3		DI	native	FACU	FACU	FACU
Prenanthes aspera	PREASP	Michx.	9	ROUGH RATTLESNAKE-ROOT	Asteraceae		(UPL)	forb	PE	shade	PRAS	E	DI	native			
Prenanthes crepidinea	PRECRE	Michx.	8	NODDING RATTLESNAKE-ROOT	Asteraceae		FACU	forb	PE	shade	PRCR		DI	native	FACU	FAC	FAC
Prenanthes racemosa	PRERAC	Michx.	8	PRAIRIE RATTLESNAKE-ROOT	Asteraceae		FACW-	forb	PE	full	PRRA	P	DI	native			
Prenanthes serpentaria	PRESER	Pursh	5	LION'S FOOT	Asteraceae		(UPL)	forb	PE	shade	PRSE		DI	native			
Prenanthes sp.	PRENAN	ND		ND	Asteraceae		ND	forb	PE	ND	PRENA		DI				
Prenanthes trifoliolata	PRETRI	(Cass.) Fernald	10	GALL-OF-THE-EARTH	Asteraceae		(UPL)	forb	PE	shade	PRTR	E	DI	native			
Proboscidea louisianica	PROLOU	(Mill.) Thell.	0	UNICORN-PLANT	Pedaliaceae		FACU	forb	AN	advent	PRLO		DI	adventive	FACU	FAC	FAC
Prosartes lanuginosa	PROLAN	(Michx.) D. Don	7 syn	YELLOW MANDARIN	Liliaceae		(UPL)	forb	PE	shade	PRLA9		DI	native			
Prosartes maculata	PROMAC	(Buckley) A. Gray	9 syn	NODDING MANDARIN	Liliaceae		(UPL)	forb	PE	shade	PRMA14	T	DI	native			
Prosartes sp.	PROSAR	ND		ND	Liliaceae		UPL	forb	PE	shade	PROSA		DI				
Proserpinaca palustris	PROPAL	L.	7	MERMAID-WEED	Haloragaceae		OBL	forb	PE	full	PRPA3		DI	native	OBL	OBL	OBL
Prunella vulgaris	PRUVUL	L.	0	SELF-HEAL	Lamiaceae	386	FACU+	forb	PE	partial	PRVU		DI	native	FACU	FAC	FAC
Prunus americana	PRUAME	Marshall	3	AMERICAN PLUM	Rosaceae		FACU-	sm tree	W	partial	PRAM		DI	native			
Prunus armeniaca	PRUARM	L.	0	APRICOT	Rosaceae		(UPL)	sm tree	W	full			DI	adventive	FACU	UPL	UPL
Prunus avium	PRUAVE	L.	0	SWEET CHERRY	Rosaceae		(UPL)	sm tree	W	advent	PRAV		DI	adventive			
Prunus cerasus	PRUCER	L.	0	SOUR CHERRY	Rosaceae		(UPL)	sm tree	W	advent	PRCE		DI	adventive			
Prunus hortulana	PRUHOR	L.H. Bailey	3	HORTULAN PLUM	Rosaceae		(UPL)	sm tree	W	full	PRHO		DI	native			
Prunus mahaleb	PRUMAH	L.	0	MAHALEB CHERRY	Rosaceae		(UPL)	sm tree	W	advent	PRMA		DI	adventive			
Prunus mexicana	PRUMEX	S. Watson	8 syn	BIGTREE PLUM	Rosaceae		(UPL)	sm tree	W	full	PRME	P	DI	native			
Prunus munsoniana	PRUMUN	W. Wight & Hedrick	3	MUNSON'S PLUM	Rosaceae		(UPL)	sm tree	W	full	PRMU		DI	native			
Prunus nigra	PRUNIG	Aiton	4	CANADA PLUM	Rosaceae		UPL	sm tree	W	full	PRNI	E	DI	native	UPL	FACU	FACU
Prunus pensylvanica	PRUPEN	L.f.	4	FIRE CHERRY	Rosaceae		FACU-	sm tree	W	partial	PRPE2		DI	native	FACU	FACU	FACU
Prunus persica	PRUPER	(L.) Batsch	0	PEACH	Rosaceae		(UPL)	sm tree	W	full	PRPE3		DI	adventive			
Prunus pumila	PRUPUM	L.	10	SAND CHERRY	Rosaceae	387	(UPL)	sm tree	W	full	PRPU3	E	DI	native			

Prunus serotina	PRUSER	Ehrh.	3	BLACK CHERRY	Rosaceae		FACU	tree	W	tree	PRSE2		DI	native	FACU	FACU	FACU
Prunus sp.	PRUNUS	ND		ND	Rosaceae		ND	ND	W	ND	PRUNU		DI				
Prunus tomentosa	PRUTOM	Thunb.	0	NANKING CHERRY	Rosaceae		(FACU)	shrub	W	advent	PRTO80		DI	adventive			
Prunus virginiana	PRUVIR	L.	2	CHOKE CHERRY	Rosaceae		FACU	sm tree	W	shade	PRVI		DI	native	FACU	FACU	FACU
Ptelea trifoliata	PTETRI	L.	5	HOP-TREE	Rutaceae		FAC	sm tree	W	shade	PTTR		DI	native	FAC	FACU	FACU
Pteridium aquilinum	PTEAQU	(L.) Kuhn	1	BRACKEN FERN	Dennstaedtiaceae	388	FACU	fern	PE	partial	PTAQ		SVP	native	FACU	FACU	FACU
Puccinellia distans	PUCDIS	(L.) Parl.	0	EUROPEAN ALKALI GRASS	Poaceae		OBL	grass	PE	advent	PUDI		MO	adventive	OBL	OBL	FACW
Puccinellia pallida	PUCPAL	(Torr.) R.T. Clausen	7 syn	PALE MANNA GRASS	Poaceae		OBL	grass	PE	partial	TOPAP		MO	native	OBL	OBL	OBL
Puccinellia sp.	PUCCIN	ND		ND	Poaceae		OBL	grass	PE	advent	PUCCI		MO				
Pueraria lobata	PUELOB	(Willd.) Ohwi	0 syn	KUDZU	Fabaceae		(UPL)	vine	W	advent	PUMOL		DI	adventive			
Pycnanthemum incanum	PYCINC	(L.) Michx.	6	HOARY MOUNTAIN-MINT	Lamiaceae		(UPL)	forb	PE	shade	PYIN		DI	native			
Pycnanthemum muticum	PYCMUT	(Michx.) Pers.	6	BLUNT MOUNTAIN-MINT	Lamiaceae		FACW	forb	PE	partial	PYMU		DI	native	FACW	FAC	FAC
Pycnanthemum pycnanthemoides	PYCPYC	(Leavenw.) Fernald	6	SOUTHERN MOUNTAIN-MINT	Lamiaceae	389	(UPL)	forb	PE	shade	PYPY		DI	native			
Pycnanthemum sp.	PYCNAN	ND		ND	Lamiaceae		ND	forb	PE	ND	PYCNA		DI				
Pycnanthemum tenuifolium	PYCTEN	Schrad.	4	NARROW-LEAVED MOUNTAIN-MINT	Lamiaceae		FACW	forb	PE	full	PYTE		DI	native	FACW	FAC	FAC
Pycnanthemum verticillatum var. pilosum	PYCVERP	(Nutt.) Cooperrider	5 syn	HAIRY MOUNTAIN-MINT	Lamiaceae		(FAC)	forb	PE	partial	PYVEP	T	DI	native	FAC	UPL	FACU
Pycnanthemum verticillatum var. verticillatum	PYCVERV	(Michx.) Pers.	4	WHORLED MOUNTAIN-MINT	Lamiaceae		(FAC)	forb	PE	partial	PYVEV		DI	native	FAC	UPL	FACU
Pycnanthemum virginianum	PYCVIR	(L.) Durand & B.D. Jackson	4	VIRGINIA MOUNTAIN-MINT	Lamiaceae		FAC	forb	PE	full	PYVI		DI	native	FAC	FACW	FACW
Pyrola chlorantha	PYRCHL	Sw.	8	GREEN-FLOWERED WINTERGREEN	Pyrolaceae		(FACU)	forb	PE	shade	PYCH	E	DI	native	UPL	FACU	FACU
Pyrola elliptica	PYRELL	Nutt.	7	SHINLEAF	Pyrolaceae		(UPL)	forb	PE	shade	PYEL		DI	native	UPL	FACU	FACU
Pyrola rotundifolia var. americana	PYRROT	(Sweet) Fernald	7 syn	ROUND-LEAVED WINTERGREEN	Pyrolaceae		FAC	forb	PE	shade	PYAM		DI	native	FAC	FACU	FAC
Pyrola secunda	PYRSEC	L.	8 syn	ONE-SIDED WINTERGREEN	Pyrolaceae	390	FAC	forb	PE	shade	ORSE	X	DI	native	FAC	FAC	FAC
Pyrola sp.	PYROLA	ND		ND	Pyrolaceae		ND	forb	PE	shade	PYROL		DI				
Pyrus angustifolia	PYRANG	Aiton	5 syn	NARROW-LEAVED CRABAPPLE	Rosaceae		(UPL)	sm tree	W	full	MAANA	X	DI	native			
Pyrus calleryana	PYRCAL	Decn.	0	CALLIERY PEAR	Rosaceae		(UPL)	sm tree	W	full	PYCA80		DI	adventive			
Pyrus communis	PYRCOM	L.	0	PEAR	Rosaceae		(UPL)	sm tree	W	full	PYCO		DI	adventive			
Pyrus coronaria	PYRCOR	L.	3 syn	WILD CRABAPPLE	Rosaceae	391	(UPL)	sm tree	W	full	MACO5		DI	native			
Pyrus ioensis	PYRIOE	(A.W. Wood) L.H Bailey	0 syn	PRAIRIE CRABAPPLE	Rosaceae		(UPL)	sm tree	W	full	MAIOI		DI	adventive			
Pyrus malus	PYRMAL	L.	0 syn	APPLE	Rosaceae		(UPL)	sm tree	W	full	MASY2		DI	adventive			
Pyrus sp.	PYRUS	ND		ND	Rosaceae		UPL	sm tree	W	ND	PYRUS		DI				
Quercus alba	QUEALB	L.	6	WHITE OAK	Fagaceae		FACU-	tree	W	tree	QUAL		DI	native	FACU	FACU	FACU
Quercus bicolor	QUEBIC	Willd.	7	SWAMP WHITE OAK	Fagaceae		FACW+	tree	W	tree	QUBI		DI	native	FACW	FACW	FACW
Quercus coccinea	QUECOC	Muenchh.	6	SCARLET OAK	Fagaceae	392	(UPL)	tree	W	tree	QUCO2		DI	native			
Quercus falcata	QUEFAL	Michx.	7	SPANISH OAK	Fagaceae		FACU-	tree	W	tree	QUFA	T	DI	native	FACU	FACU	FACU
Quercus imbricaria	QUEIMB	Michx.	5	SHINGLE OAK	Fagaceae		FAC	tree	W	tree	QUIM		DI	native	FAC	FACU	FACU
Quercus macrocarpa	QUEMAC	Michx.	6	BUR OAK	Fagaceae		FAC-	tree	W	tree	QUMA2		DI	native	FAC	FAC	FACU
Quercus marilandica	QUEMAR	Munchh.	8	BLACKJACK OAK	Fagaceae		(UPL)	tree	W	tree	QUMA3	P	DI	native			
Quercus muehlenbergii	QUEMUE	Engelm.	7	CHINQUAPIN OAK	Fagaceae		UPL	tree	W	tree	QUMU		DI	native	UPL	FACU	FACU
Quercus palustris	QUEPAL	Muenchh.	5	PIN OAK	Fagaceae		FACW	tree	W	tree	QUPA2		DI	native	FACW	FACW	FACW
Quercus prinus	QUEPRI	L.	7	ROCK CHESTNUT OAK	Fagaceae	393	(UPL)	tree	W	tree	QUPR2		DI	native	UPL	FACU	UPL
Quercus rubra	QUERUB	L.	6 syn	RED OAK	Fagaceae	394	FACU-	tree	W	tree	QURU		DI	native	FACU	FACU	FACU
Quercus shumardii	QUESHU	Buckley	7	SHUMARD OAK	Fagaceae		FAC+	tree	W	tree	QUSH		DI	native	FAC	FACW	FACW
Quercus sp.	QUERCU	ND		ND	Fagaceae		ND	tree	W	tree	QUERC		DI				
Quercus stellata	QUESTE	Wangenh.	7	POST OAK	Fagaceae		(UPL)	tree	W	tree	QUST		DI	native	UPL	FACU	FACU
Quercus velutina	QUEVEL	Lam.	7	BLACK OAK	Fagaceae		(UPL)	tree	W	tree	QUVE		DI	native			
Ranunculus abortivus	RANABO	L.	1	KIDNEY-LEAVED BUTTERCUP	Ranunculaceae		FACW-	forb	PE	shade	RAAB		DI	native	FACW	FACW	FAC
Ranunculus acris	RANACR	L.	0	TALL BUTTERCUP	Ranunculaceae		FAC+	forb	PE	advent	RAAC3		DI	adventive	FAC	FAC	FAC
Ranunculus allegheniensis	RANALL	Britton	5	ALLEGHENY CROWFOOT	Ranunculaceae		FAC	forb	PE	shade	RAAL2		DI	native	FAC	FAC	FAC
Ranunculus ambigens	RANAMB	S. Watson	8	WATER-PLANTAIN SPEARWORT	Ranunculaceae		OBL	forb	PE	partial	RAAM	X	DI	native	OBL	OBL	OBL
Ranunculus bulbosus	RANBUL	L.	0	BULBOUS BUTTERCUP	Ranunculaceae		UPL	forb	PE	advent	RABU		DI	adventive	UPL	FAC	FACW
Ranunculus fascicularis	RANFAS	Muhl. ex Bigelow	6	EARLY BUTTERCUP	Ranunculaceae		FACU	forb	PE	partial	RAFA	T	DI	native	FACU	FACU	FACU
Ranunculus ficaria	RANFIC	L.	0	LESSER CELADINE	Ranunculaceae		FAC	forb	PE	advent	RAFI		DI	adventive	FAC	FAC	FACW
Ranunculus flabellaris	RANFLA	Raf.	8	YELLOW WATER-BUTTERCUP	Ranunculaceae		OBL	forb	PE	partial	RAFL		DI	native	OBL	OBL	OBL
Ranunculus hispidus	RANHIS	Michx.	4 syn	NORTHERN SWAMP BUTTERCUP	Ranunculaceae	395	FAC	forb	PE	shade	RAHI		DI	native	FAC	FAC	FAC
Ranunculus longirostris	RANLON	Nutt.	5 syn	WHITE WATER CROWFOOT	Ranunculaceae		OBL	forb	PE	full	RALO2		DI	native	OBL	OBL	OBL
Ranunculus micranthus	RANMIC	Nutt.	5	SMALL-FLOWERED CROWFOOT	Ranunculaceae		FACU	forb	PE	shade	RAMI2		DI	native	FACU	FACU	FACU
Ranunculus pensylvanicus	RANPEN	L.f.	4	BRISTLY CROWFOOT	Ranunculaceae		OBL	forb	PE	full	RAPE2		DI	native	OBL	OBL	OBL
Ranunculus pusillus	RANPUS	Poir.	8	LOW SPEARWORT	Ranunculaceae		OBL	forb	AN	full	RAPU	E	DI	native	OBL	OBL	OBL
Ranunculus recurvatus	RANREC	Poir.	3	HOOKED CROWFOOT	Ranunculaceae		FAC+	forb	PE	shade	RARE2		DI	native	FAC	FACW	FACW
Ranunculus repens	RANREP	L.	0	CREEPING BUTTERCUP	Ranunculaceae	396	FAC	forb	PE	advent	RARE3		DI	adventive	FAC	FAC	FAC
Ranunculus sceleratus	RANSCE	L.	1	CURSED CROWFOOT	Ranunculaceae		OBL	forb	PE	full	RASC3		DI	native	OBL	OBL	OBL
Ranunculus sp.	RANUNC	ND		ND	Ranunculaceae		ND	forb	ND	ND	RANUN		DI				
Ranunculus testiculatus	RANTES	Crantz	0 syn	BUR BUTTERCUP	Ranunculaceae		(UPL)	forb	AN	advent	CETE5		DI	adventive			
Raphanus raphanistrum	RAPRAP	L.	0	JOINTED CHARLOCK	Brassicaceae		(FACU)	forb	BI	advent	RARA2		DI	adventive			
Raphanus sativus	RAPSAT	L.	0	RADISH	Brassicaceae		(FACU)	forb	BI	advent	RASA2		DI	adventive			
Raphanus sp.	RASPP	ND		ND	Brassicaceae		(FACU)	forb	BI	advent	RAPHA		DI				

Ratibida pinnata	RATPIN	(Vent.) Barnhart	5	GRAY-HEADED CONEFLOWER	Asteraceae	(UPL)	forb	PE	full	RAPI		DI	native			
Reseda alba	RESALB	L.	0	MIGNONETTE	Resedaceae	(UPL)	forb	AN	advent	REAL		DI	adventive			
Reseda luteola	RESLUT	L.	0	YELLOW-WEED	Resedaceae	(UPL)	forb	AN	advent	RELU2		DI	adventive			
Reseda sp.	RESSPP	ND		ND	Resedaceae	(UPL)	forb	AN	advent	RESED		DI				
Rhamnus alnifolia	RHAALN	L'Her	8	ALDER-LEAVED BUCKTHORN	Rhamnaceae	OBL	shrub	W	partial	RHAL		DI	native	OBL	OBL	OBL
Rhamnus caroliniana	RHACAR	Walter	4 syn	CAROLINA BUCKTHORN	Rhamnaceae	397 FAC	shrub	W	partial	FRCA13		DI	native	FAC	FAC	FAC
Rhamnus cathartica	RHACAT	L.	0	EUROPEAN BUCKTHORN	Rhamnaceae	FACU+	sm tree	W	advent	RHCA3		DI	adventive	FACU	FAC	FAC
Rhamnus frangula	RHAFRA	L.	0 syn	GLOSSY BUCKTHORN	Rhamnaceae	FAC	shrub	W	advent	FRAL4		DI	adventive	FAC	FACW	FAC
Rhamnus lanceolata	RHALAN	Pursh	4	LANCE-LEAVED BUCKTHORN	Rhamnaceae	398 (FACU-)	shrub	W	partial	RHLA		DI	native	FAC	FACW	FACW
Rhamnus sp.	RHAMNU	ND		ND	Rhamnaceae	ND	ND	W	ND	RHAMN		DI				
Rheum rhabarbarum	RHERHA	L.	0	RHUBARB	Polygonaceae	(FACU-)	forb	PE	advent	RHRH2		DI	adventive			
Rhexia virginica	RHEVIR	L.	7	VIRGINIA MEADOW-BEAUTY	Melastomataceae	OBL	forb	PE	full	RHVI	P	DI	native	OBL	OBL	OBL
Rhododendron calendulaceum	RHOCAL	(Michx.) Torr.	8	FLAME AZALEA	Ericaceae	(UPL)	shrub	W	shade	RHCA4	E	DI	native			
Rhododendron maximum	RHOMAX	L.	8	GREAT RHODEDENDRON	Ericaceae	FAC	shrub	W	shade	RHMA4	T	DI	native	FAC	FAC	FAC
Rhododendron periclymenoides	RHOPER	(Michx.) Shinners	7 syn	PINKSTER-FLOWER	Ericaceae	FAC	shrub	W	shade	RHPE4	T	DI	native	FAC	FAC	FAC
Rhododendron prinophyllum	RHOPRI	(Small) Millais	7	ROSE-SHELL AZALEA	Ericaceae	FAC	shrub	W	shade	RHPR	P	DI	native	FAC	FAC	FAC
Rhododendron sp.	RHODOD	ND		ND	Ericaceae	ND	shrub	W	shade	RHODO		DI	adventive			
Rhus aromatica Aiton var. arenaria	RHUAARE	(Greene) Fernald	10	BEACH SUMAC	Anacardiaceae	(UPL)	shrub	W	full	RHARA	X	DI	native	UPL	UPL	UPL
Rhus aromatica var. aromatica	RHUAARO	Aiton	3	FRAGRANT SUMAC	Anacardiaceae	(UPL)	shrub	W	full	RHARA2		DI	native	UPL	UPL	UPL
Rhus copallinum	RHUCOP	L.	4	WINGED SUMAC	Anacardiaceae	399 FACU-	shrub	W	full	RHCO		DI	native	FACU	UPL	UPL
Rhus glabra	RHUGLA	L.	2	SMOOTH SUMAC	Anacardiaceae	(UPL)	shrub	W	full	RHGL		DI	native			
Rhus sp.	RHUS	ND		ND	Anacardiaceae	ND	shrub	W	full	RHUS		DI				
Rhus typhina	RHUTYP	L.	2	STAGHORN SUMAC	Anacardiaceae	(UPL)	shrub	W	full	RHTY		DI	native			
Rhynchospora alba	RHYALB	(L.) Vahl	10	WHITE BEAK-RUSH	Cyperaceae	OBL	sedge	PE	full	RHAL3	P	MO	native	OBL	OBL	OBL
Rhynchospora capillacea	RHYCPC	Torr.	9	NEEDLE BEAK-RUSH	Cyperaceae	OBL	sedge	PE	full	RHCA11		MO	native	OBL	OBL	OBL
Rhynchospora capitellata	RHYCPT	(Michx.) Vahl	7	BROWNISH BEAK-RUSH	Cyperaceae	OBL	sedge	PE	full	RHCA12		MO	native	OBL	OBL	OBL
Rhynchospora recognita	RHYREC	(Gale) Kral	10 syn	GRASS-LIKE BEAK-RUSH	Cyperaceae	400 (FACW)	sedge	PE	full	RHRE8	E	MO	native	FACW		
Rhynchospora sp.	RHYNCH	ND		ND	Cyperaceae	ND	sedge	PE	full	RHYNC3		MO				
Ribes americanum	RIBAME	Mill.	4	WILD BLACK CURRANT	Grossulariaceae	FACW	shrub	W	partial	RIAM2		DI	native	FACW	FACW	FACW
Ribes cynosbati	RIBCYN	L.	3	DOGBERRY	Grossulariaceae	401 (UPL)	shrub	W	partial	RICY		DI	native	FACU	FAC	FACU
Ribes glandulosum	RIBGLA	Grauer	10	SKUNK CURRANT	Grossulariaceae	FACW	shrub	W	partial	RIGL	X	DI	native	FACW	FACW	FACW
Ribes hirtellum	RIBHIR	Michx.	7	SWAMP GOOSEBERRY	Grossulariaceae	402 FAC	shrub	W	partial	RIHI		DI	native	FAC	FACW	FACW
Ribes missouriense	RIBMIS	Nutt.	8	MISSOURI GOOSEBERRY	Grossulariaceae	(UPL)	shrub	W	partial	RIMI	T	DI	native			
Ribes odoratum	RIBODO	H. Wendl.	0	BUFFALO CURRANT	Grossulariaceae	FACU	shrub	W	advent	RIAUV		DI	adventive	FACW	FAC	FACU
Ribes rotundifolium	RIBROT	Michx.	0	APPALACHIAN GOOSEBERRY	Grossulariaceae	(UPL)	shrub	W	advent	RIRO2		DI	adventive			
Ribes sativum	RIBSAT	Syme	0 syn	GARDEN RED CURRANT	Grossulariaceae	(UPL)	shrub	W	advent	RIRU80		DI	adventive			
Ribes sp.	RIBES	ND		ND	Grossulariaceae	ND	shrub	W	ND	RIBES		DI				
Ribes triste	RIBTRI	Pall.	8	SWAMP RED CURRANT	Grossulariaceae	OBL	shrub	W	full	RITR	E	DI	native	OBL	OBL	OBL
Ribes uva-crispa	RIBUVA	L.	0	GARDEN GOOSEBERRY	Grossulariaceae	(FACU-)	shrub	W	advent	RIUV80		DI	adventive			
Riccia fluitans	RICFLU	L.		ND	Ricciaceae	ND	bryo	BR	bryo	RIFL4		BR	adventive			
Ricciocarpos natans	RICNAT	(L.) Corda		ND	Ricciaceae	ND	bryo	BR	bryo	RINA2		BR	adventive			
Ricinus communis	RICCOM	L.	0	CASTOR-BEAN	Euphorbiaceae	(UPL)	forb	AN	advent	RICO3		DI	adventive	UPL	FACU	FACU
Robinia hispida	ROBHIS	L.	0	BRISTLY LOCUST	Fabaceae	(UPL)	shrub	W	advent	ROHI		DI	adventive			
Robinia pseudoacacia	ROBPSE	L.	0	BLACK LOCUST	Fabaceae	FACU-	tree	W	tree	ROPS		DI	native	FACU	FACU	FACU
Robinia viscosa	ROBVIS	Vent.	0	CLAMMY LOCUST	Fabaceae	UPL	shrub	W	advent	ROVI		DI	adventive			
Rorippa aquatica	RORAQU	(Eaton) E.J. Palmer and Steyermark	10 syn	LAKE CRESS	Brassicaceae	OBL	forb	PE	full	NEAQ2	T	DI	native	OBL	OBL	OBL
Rorippa nasturtium-aquaticum	RORNAS	(L.) Hayek	0 syn	WATERCRESS	Brassicaceae	OBL	forb	PE	partial	NAOF		DI	adventive	OBL	OBL	OBL
Rorippa palustris	RORPAL	(L.) Besser	2 syn	YELLOW CRESS	Brassicaceae	403 OBL	forb	AN	full	ROPA2		DI	native	OBL	OBL	OBL
Rorippa sessiliflora	RORSES	(Nutt.) Hitch.	6	SOUTHER YELLOW CRESS	Brassicaceae	OBL	forb	AN	full	ROSE		DI	native	OBL	OBL	OBL
Rorippa sp.	RORIPP	ND		ND	Brassicaceae	ND	forb	ND	ND	RORIP		DI				
Rorippa sylvestris	RORSYL	(L.) Besser	0 syn	CREEPING YELLOW CRESS	Brassicaceae	FACW	forb	PE	full	ROSY		DI	adventive	FACW	OBL	OBL
Rosa arkansana	ROSARK	Porter	4 syn	PRAIRIE ROSE	Rosaceae	(UPL)	shrub	W	full	ROAR3	X	DI	native	FACU	FACU	FACU
Rosa blanda	ROSBLA	Aiton	4	SMOOTH ROSE	Rosaceae	FACU	shrub	W	full	ROBL	T	DI	native	FACU	FACU	FACU
Rosa canina	ROSCAN	L.	0	DOG ROSE	Rosaceae	UPL	shrub	W	advent	ROCA3		DI	adventive			
Rosa carolina	ROSCAR	L.	4	PASTURE ROSE	Rosaceae	(UPL)	shrub	W	full	ROCA4		DI	native	FACU	FACU	FACU
Rosa eglanteria	ROSEGL	L.	0	SWEETBRIAR	Rosaceae	UPL	shrub	W	advent	ROEG		DI	adventive	UPL	UPL	FACU
Rosa gallica	ROSGAL	L.	0	FRENCH ROSE	Rosaceae	(UPL)	shrub	W	advent	ROGA		DI	adventive			
Rosa majalis	ROSMAJ	Herrm.	0	CINNAMON ROSE	Rosaceae	(UPL)	shrub	W	advent	ROMA81		DI	adventive			
Rosa micrantha	ROSMIC	J. E. Smith	0	CINNAMON ROSE	Rosaceae	FACU	shrub	W	advent	ROMI		DI	adventive	FACU	FACU	FACU
Rosa multiflora	ROSMUL	Thunb. ex Murray	0	MULTIFLORA ROSE	Rosaceae	FACU	shrub	W	advent	ROMU		DI	adventive	FACU	FACU	FACU
Rosa nitida	ROSNIT	Willd.	0	CINNAMON ROSE	Rosaceae	(UPL)	shrub	W	advent	RONI		DI	adventive	FACW		FACW
Rosa palustris	ROSPAL	Marshall	5	SWAMP ROSE	Rosaceae	OBL	shrub	W	full	ROPA		DI	native	OBL	OBL	OBL
Rosa rugosa	ROSRUG	Thunb.	0	RUGOSA ROSE	Rosaceae	FACU-	shrub	W	advent	RORU		DI	adventive	FACU	FACU	FACU
Rosa setigera	ROSSET	Michx.	4	CLIMBING PRAIRIE ROSE	Rosaceae	406 FACU	shrub	W	full	ROSE2		DI	native	FACU	FACU	FACU
Rosa sp.	ROSA	ND		ND	Rosaceae	ND	shrub	W	ND	ROSA5		DI				
Rosa wichuraiana	ROSWIC	Crep.	0	MEMORIAL ROSE	Rosaceae	UPL	shrub	W	advent	ROWI		DI	adventive			

Rotala ramosior	ROTRAM	(L.) Koehne	6	TOOTH-CUP	Lythraceae		OBL	forb	AN	full	RORA		DI	native	OBL	OBL	OBL
Rubus allegheniensis	RUBALL	Porter	1	COMMON BLACKBERRY	Rosaceae	407	FACU-	shrub	W	full	RUAL		DI	native	FACU	FACU	FACU
Rubus caesius	RUBCAE	L.	0	EUROPEAN DEWBERRY	Rosaceae		(FACU)	shrub	W	advent			DI	adventive			FACU
Rubus discolor	RUBDIS	Weihe & Nees	0	HIMALAYAN BLACKBERRY	Rosaceae		(UPL)	shrub	W	advent	RUAR9		DI	adventive	UPL	UPL	UPL
Rubus flagellaris	RUBFLA	Willd.	0	NORTHERN DEWBERRY	Rosaceae	408	FACU	shrub	W	partial	RUFL		DI	adventive	FACU	FACU	FACU
Rubus hispidus	RUBHIS	L.	5	SWAMP DEWBERRY	Rosaceae	409	FACW	forb	PE	partial	RUHI		DI	native	FACW	FACW	FACW
Rubus idaeus L. var. strigosus	RUBIDAS	(Michx.) Maxim.	6 syn	WILD RED RASPBERRY	Rosaceae		(FAC-)	shrub	W	full	RUIDS2		DI	native	FAC	FACU	FACU
Rubus ideaus L. var. ideaus	RUBIDAI	L.	0	RED RASPBERRY	Rosaceae		(FAC-)	shrub	W	full	RUIDI		DI	adventive	FAC	FACU	FACU
Rubus laciniatus	RUBLAC	Willd.	0	CUT-LEAVED BLACKBERRY	Rosaceae		(UPL)	shrub	W	advent	RULA		DI	adventive	UPL	UPL	UPL
Rubus occidentalis	RUBOCC	L.	1	BLACK RASPBERRY	Rosaceae		(UPL)	shrub	W	full	RUOC		DI	native			
Rubus odoratus	RUBODO	L.	5	FLOWERING RASPBERRY	Rosaceae		(UPL)	shrub	W	full	RUOD		DI	native			
Rubus parviflorus	RUBPAR	L.	0	JAPANESE/TRAILING RASPBER.	Rosaceae		(UPL)	shrub	W	advent			DI	adventive		FACU	FACU
Rubus pensilvanicus	RUBPEN	Poir.	1	PENNSYLVANIA BLACKBERRY	Rosaceae	410	FACU	shrub	W	full	RUPE3		DI	native			FACU
Rubus phoenicolasius	RUBPHO	Maxim.	0	WINEBERRY	Rosaceae		(UPL)	shrub	W	advent	RUPH		DI	adventive			FACU
Rubus pubescens	RUBPUB	Raf.	1	DWARF RASPBERRY	Rosaceae		FACW	forb	PE	partial	RUPU		DI	native	FACW	FACW	FACW
Rubus sp.	RUBUS	ND		ND	Rosaceae		ND	ND	ND	ND	RUBUS		DI				
Rubus trivialis	RUBTRI	Michx.	3	COASTAL-PLAIN DEWBERRY	Rosaceae	552	FACU	shrub	W	partial	RUTR	E	DI	native	FACU	FACU	FACU
Rudbeckia fulgida	RUDFUL	Aiton	6	ORANGE CONEFLOWER	Asteraceae	411	FAC	forb	PE	full	RUFU2		DI	native	FAC	OBL	OBL
Rudbeckia hirta	RUDHIR	L.	1	BLACK-EYED SUSAN	Asteraceae	412	FACU-	forb	PE	full	RUHI2		DI	native	FACU	FACU	FACU
Rudbeckia laciniata	RUDLAC	l.	6	GREEN-HEADED CONEFLOWER	Asteraceae	413	FACW	forb	PE	partial	RULA3		DI	native	FACW	FACW	FACW
Rudbeckia sp.	RUDBEC	ND		ND	Asteraceae		ND	forb	ND	ND	RUDBE		DI				
Rudbeckia triloba	RUDTRI	L.	5	THREE-LOBED CONEFLOWER	Asteraceae		FACU	forb	BI	full	RUTR2		DI	native	FACU	FACU	FACU
Ruellia caroliniensis	RUECAR	(J.F. Gmel.) Steud.	4	CAROLINA RUELLIA	Acanthaceae		(UPL)	forb	PE	full	RUCA4		DI	native	FACU	FAC	FACU
Ruellia humilis	RUEHUM	Nutt.	6	WILD PETUNIA	Acanthaceae	414	UPL	forb	PE	full	RUHU		DI	native	FACU	FACU	FACU
Ruellia sp.	RUELLI	ND		ND	Acanthaceae		ND	forb	PE	full	RUELL		DI				
Ruellia strepens	RUESTR	L.	5	SMOOTH RUELLIA	Acanthaceae		FAC	forb	PE	full	RUST2		DI	native	FAC	FAC	FAC
Rumex acetosella	RUMACE	L.	0	SHEEP SORREL	Polygonaceae		UPL	forb	PE	advent	RUAC3		DI	adventive	UPL	FACU	FACU
Rumex altissimus	RUMALT	A.W. Wood	2	PALE DOCK	Polygonaceae		FACW-	forb	PE	full	RUAL4		DI	native	FACW	FACW	FACW
Rumex conglomeratus	RUMCON	Murray	0	CLUSTERED DOCK	Polygonaceae		FAC	forb	PE	advent	RUCO2		DI	adventive	FAC	FACW	FACW
Rumex crispus	RUMCRI	L.	0	CURLY DOCK	Polygonaceae		FACU	forb	PE	advent	RUCR		DI	adventive	FAC	FAC	FAC
Rumex maritimus	RUMMAR	L.	0	GOLDEN DOCK	Polygonaceae	415	FACW	forb	AN	advent	RUMA4		DI	adventive	OBL	FACW	FACW
Rumex obtusifolius	RUMOBT	L.	0	BITTER DOCK	Polygonaceae		FACU-	forb	PE	advent	RUOB		DI	adventive	FACU	FACW	FAC
Rumex orbiculatus	RUMORB	A. Gray	5	GREAT WATER DOCK	Polygonaceae		OBL	forb	PE	full	RUOR2		DI	native			
Rumex patientia	RUMPAT	L.	0	PATIENCE DOCK	Polygonaceae		(UPL)	forb	PE	advent	RUPA5		DI	adventive			
Rumex sp.	RUMEX	ND		ND	Polygonaceae		ND	forb	ND	ND	RUMEX		DI				
Rumex verticillatus	RUMVER	L.	6	SWAMP DOCK	Polygonaceae		OBL	forb	PE	full	RUVE3		DI	native	OBL	OBL	OBL
Ruppia cirrhosa	RUPCIR	(Petagna) Grande	3 syn	DITCH-GRASS	Ruppiaceae	416	(OBL)	forb	PE	full	RUCI2		MO	native	OBL	OBL	OBL
Sabatia angularis	SABANG	(L.) Pursh	4	ROSE-PINK	Gentianaceae		FAC+	forb	BI	full	SAAN		DI	native	FAC	FAC	FAC
Saccharum alopecuroides	SACALO	(L.) Nutt.	6 syn	SILVER PLUME GRASS	Poaceae	539	FAC	grass	PE	full	SAAL21	E	MO	native	FAC	FACU	FACU
Saccharum ravennae	SACRAV	(L.) L.	0	PLUME GRASS	Poaceae		FAC	grass	PE	full			MO	adventive	UPL	FACW	UPL
Sagina decumbens	SAGDEC	(Ell.) Torr. & A. Gray	0	WESTERN PEARLWORT	Caryphyllaceae		FAC	forb	AN	full	SADE	E	DI	native	FAC	FAC	FAC
Sagina procumbens	SAGPRO	L.	0	PEARLWORT	Caryphyllaceae		FACW-	forb	PE	advent	SAPR		DI	adventive	FACW	FACW	FAC
Sagina sp.	SAGINA	ND		ND	Caryophyllaceae		ND	forb	ND	ND	SAGIN		DI				
Sagittaria australis	SAGAUS	(J.G. Sm.) Small	3	LONG-BEAKED ARROWHEAD	Alismataceae		OBL	forb	PE	full	SAAU2		MO	native	OBL	OBL	OBL
Sagittaria brevirostra	SAGBRE	Mack. & Bush	6	MIDWESTERN ARROWHEAD	Alismataceae		OBL	forb	PE	full	SABR8		MO	native	OBL	OBL	OBL
Sagittaria cuneata	SAGCUN	E. Sheld.	8	WAPATO	Alismataceae		OBL	forb	PE	full	SACU	T	MO	native	OBL	OBL	OBL
Sagittaria graminea	SAGGRA	Michx.	9	GRASS-LEAVED ARROWHEAD	Alismataceae	417	OBL	forb	PE	full	SAGR	E	MO	native	OBL	OBL	OBL
Sagittaria latifolia	SAGLAT	Willd.	1	COMMON ARROWHEAD	Alismataceae	418	OBL	forb	PE	full	SALA2		MO	native	OBL	OBL	OBL
Sagittaria montevidensis	SAGMON	Cham. & Schlect.	8 syn	SOUTHERN WAPATO	Alismataceae	540	OBL	forb	AN	full	SAMO	P	MO	native	OBL		OBL
Sagittaria platyphylla	SAGPLA	(Engelm.) J.G. Sm.	6 syn	ELLIPTIC-LEAVED ARROWHEAD	Alismataceae		OBL	forb	PE	full	SAPL	E	MO	native	OBL	OBL	OBL
Sagittaria rigida	SAGRIG	Pursh	8	DEER'S-TONGUE ARROWHEAD	Alismataceae		OBL	forb	PE	full	SARI	P	MO	native	OBL	OBL	OBL
Sagittaria sp.	SAGITT	ND		ND	Alismataceae		OBL	forb	PE	full	SAGIT		MO				
Salicornia europaea	SALEUR	L.	0	GLASSWORT	Chenopodiaceae		OBL	forb	AN	advent	SADE10		DI	adventive	OBL	OBL	OBL
Salix alba	SLXALB	L.	0	WHITE WILLOW	Salicaceae	419	FACW	tree	W	tree	SAAL2		DI	adventive	FACW	FACW	FACW
Salix amygdaloides	SLXAMY	Andersson	3	PEACH-LEAF WILLOW	Salicaceae		FACW	tree	W	full	SAAM2		DI	native	FACW	FACW	FACW
Salix babylonica	SLXBAB	L.	0	WEEPING WILLOW	Salicaceae		FACW-	tree	W	tree	SAPE12		DI	adventive	FACW	FAC	
Salix bebbiana	SLXBEB	Sarg.	5	BEBB'S WILLOW	Salicaceae		FACW	shrub	W	full	SABE2		DI	native	FACW	FACW	FACW
Salix candida	SLXCAN	Flugge ex Willd.	10	HOARY WILLOW	Salicaceae		OBL	shrub	W	full	SACA4	P	DI	native	OBL	OBL	OBL
Salix caprea	SLXCAP	L.	0	GOAT WILLOW	Salicaceae		(UPL)	shrub	W	advent	SACA22		DI	adventive	OBL	FACW	FAC
Salix caroliniana	SLXCAR	Michx.	10	CAROLINA WILLOW	Salicaceae		OBL	shrub	W	full	SACA5	P	DI	native	OBL	OBL	OBL
Salix cinerea	SLXCIN	L.	0	GREY WILLOW	Salicaceae		(FACW)	tree	W	advent	SACI		DI	adventive	FACW	FACW	FACW
Salix discolor	SLXDIS	Muhl.	3	PUSSY WILLOW	Salicaceae	420	FACW	shrub	W	full	SADI		DI	native	FACW	FACW	FACW
Salix eriocephala	SLXERI	Michx.	2 syn	HEART-LEAVED WILLOW	Salicaceae	421	FACW	shrub	W	full	SAER		DI	native	FACW	FACW	FACW
Salix exigua	SLXEXI	Nutt.	1 syn	SANDBAR WILLOW	Salicaceae	422	OBL	shrub	W	full	SAIN3		DI	native	FACW	FACW	FACW
Salix fragilis	SLXFRA	L.	0	CRACK WILLOW	Salicaceae		FAC+	tree	W	tree	SAFR		DI	adventive	FAC	FAC	FAC
Salix humilis	SLXHUM	Marshall	4 syn	PRAIRIE WILLOW	Salicaceae	423	FACU	shrub	W	full	SAHU2		DI	native	FACU	FACU	FACU

Salix lucida	SLXLUC	Muhl.	4	SHINING WILLOW	Salicaceae		FACW	shrub	W	full	SALU		DI	native	FACW	FACW	FACW
Salix myricoides	SLXMYR	(Muhl.) J. Carey	10	BLUE-LEAVED WILLOW	Salicaceae	424	FAC	shrub	W	full	SAMY2	P	DI	native	FACW	FACW	FACW
Salix nigra	SLXNIG	Marshall	2	BLACK WILLOW	Salicaceae		FACW+	tree	W	tree	SANI		DI	native	OBL	OBL	OBL
Salix occidentalis	SLXOCC	Walter	5 syn	WESTERN WILLOW	Salicaceae		(UPL)	shrub	W	full	SACA5		DI	native			
Salix pedicellaris	SLXPED	Pursh	9	BOG WILLOW	Salicaceae	425	OBL	shrub	W	full	SAPE2	E	DI	native	OBL	OBL	OBL
Salix pentandra	SLXPEN	L.	0	BAY-LEAVED WILLOW	Salicaceae		(UPL)	tree	W	advent	SAPE4		DI	adventive			
Salix petiolaris	SLXPET	Sm.	8	SLENDER WILLOW	Salicaceae	426	OBL	shrub	W	full	SAPE5	T	DI	native	FACW	OBL	FACW
Salix purpurea	SLXPUR	L.	0	BASKET WILLOW	Salicaceae		(FACW)	shrub	W	advent	SAPU2		DI	adventive	FACW	FACW	FACW
Salix sericea	SLXSRC	Marshall	4	SILKY WILLOW	Salicaceae		OBL	shrub	W	full	SASE		DI	native	OBL	OBL	OBL
Salix serissima	SLXSRS	(L.H. Bailey) Fernald	10	AUTUMN WILLOW	Salicaceae		OBL	shrub	W	full	SASE2	P	DI	native	OBL	OBL	OBL
Salix sp.	SALIX	ND		ND	Salicaceae		ND	ND	W	ND	SALIX		DI				
Salsola kali	SALKAL	L.	0 syn	RUSSIAN THISTLE	Chenopodiaceae	427	FACU	forb	AN	advent	SAKA		DI	adventive	FACU		FACU
Salvia azurea	SALAZU	Michx. ex Lam.	0	BLUE SAGE	Lamiaceae		(UPL)	forb	PE	advent	SAAZ		DI	adventive			
Salvia coccinea	SALCOC	Buc'hoz ex Etl.	0	CRIMSON SAGE	Lamiaceae		(UPL)	forb	PE	advent	SACO5		DI	adventive			
Salvia lyrata	SALLYR	L.	3	LYRE-LEAVED SAGE	Lamiaceae		(UPL)	forb	PE	full	SALY2		DI	native	FACU	FACW	FACW
Salvia officinalis	SALOFF	L.	0	GARDEN SAGE	Lamiaceae		(UPL)	forb	PE	advent	SAOF2		DI	adventive			
Salvia pratensis	SALPRA	L.	0	MEADOW SAGE	Lamiaceae		(UPL)	forb	PE	advent	SAPR2		DI	adventive			
Salvia reflexa	SALREF	Hornem.	0	ROCKY MOUNTAIN SAGE	Lamiaceae		UPL	forb	AN	advent	SARE3		DI	adventive			
Salvia sp.	SALVIA	ND		ND	Lamiaceae		UPL	forb	ND	ND	SALVI		DI				
Salvia splendens	SALSPL	Sellow ex Roem. & Schult.	0	SCARLET SAGE	Lamiaceae		(UPL)	forb	PE	advent	SASP6		DI	adventive			
Salvia x superba	SALSUB	Stapf	0	SAGE	Lamiaceae		(UPL)	forb	PE	advent	SASU11		DI	adventive			
Sambucus canadensis	SAMCAN	L.	3	COMMON ELDERBERRY	Caprifoliaceae		FACW-	shrub	W	full	SANIC4		DI	native	FAC	FACW	FACW
Sambucus pubens	SAMPUB	(Michx.) House	7 syn	RED-BERRIED ELDER	Caprifoliaceae		FACU	shrub	W	full	SARAR3		DI	native	FACU	FACU	FACU
Sambucus sp.	SAMBUC	ND		ND	Caprifoliaceae		ND	shrub	W	full	SAMBU		DI				
Samolus floribundus	SAMFLO	Kunth	4 syn	WATER-PIMPERNEL	Primulaceae		OBL	forb	PE	full	SAVAP		DI	native	OBL	OBL	OBL
Sanguinaria canadensis	SANCAN	L.	5	BLOODROOT	Papaveraceae	428	UPL	forb	PE	shade	SACA13		DI	native	UPL	FACU	FACU
Sanguisorba canadensis	SANGCA	L.	8	CANADA BURNET	Rosaceae		FACW+	forb	PE	full	SACA14		DI	native	FACW	FACW	FACW
Sanicula canadensis	SANICAN	L.	3	SHORT-STYLED SNAKEROOT	Apiaceae	429	UPL	forb	PE	shade	SACA15		DI	native	UPL	FACU	FACU
Sanicula gregaria	SANGRE	E.P. Bicknell	3	CLUSTERED SNAKEROOT	Apiaceae		FACU	forb	PE	shade	SAOD		DI	native	FACU	FAC	FAC
Sanicula marilandica	SANIMA	L.	3	BLACK SNAKEROOT	Apiaceae		UPL	forb	PE	shade	SAMA2		DI	native	FACU	FACU	FACU
Sanicula sp.	SANICU	ND	3	ND	Apiaceae		ND	forb	PE	shade	SANIC		DI				
Sanicula trifoliata	SANITR	E.P. Bicknell	3	LARGE-FRUITED SNAKEROOT	Apiaceae		(UPL)	forb	PE	shade	SATR4		DI	native			
Saponaria officinalis	SAPOFF	L.	0	SOAPWORT	Caryophyllaceae		FACU-	forb	PE	advent	SAOF4		DI	adventive	FACU	FACU	FACU
Sarracenia purpurea	SARPUR	L.	9	PITCHER-PLANT	Sarraceniaceae		OBL	forb	PE	full	SAPU4	P	DI	native	OBL	OBL	OBL
Sassafras albidum	SASALB	(Nutt.) Nees	3	SASSAFRAS	Lauraceae	430	FACU-	tree	W	tree	SAAL5		DI	native	FACU	FACU	FACU
Satureja hortensis	SATHOR	L.	0	SUMMER SAVORY	Lamiaceae		(UPL)	forb	PE	advent	SAHO3		DI	adventive			
Saururus cernuus	SAUCER	L.	8	LIZARD'S-TAIL	Saururaceae		OBL	forb	PE	shade	SACE		MO	native	OBL	OBL	OBL
Saxifraga pensylvanica	SAXPEN	L.	7	SWAMP SAXIFRAGE	Saxifragaceae		OBL	forb	PE	partial	SAPE8		DI	native	OBL	OBL	OBL
Saxifraga sp.	SAXIFR	ND		ND	Saxifragaceae		ND	forb	PE	partial	SAXIF		DI				
Saxifraga virginiensis	SAXVIR	Michx.	5	EARLY SAXIFRAGE	Saxifragaceae		FAC-	forb	PE	shade	SAVI5		DI	native	FAC	FACU	FACU
Scabiosa columbaria	SCACOL	L.	0	SCABIOUS	Dipsacaceae		(UPL)	forb	PE	advent	SCCO6		DI	adventive			
Scandix pecten-veneris	SCAPEC	L.	0	VENUS' COMB	Apiaceae		(UPL)	forb	AN	advent	SCPE		DI	adventive			
Scheuchzeria palustris	SCHPAL	L.	10	POD-GRASS	Scheuchzeriaceae	431	OBL	forb	PE	full	SCPA2	E	MO	native	OBL	OBL	OBL
Schizachne purpurascens	SCHPURP	(Torr.) Swallen	10	FALSE MELIC	Poaceae		FACU-	grass	PE	shade	SCPU	T	MO	native	FACU	FACU	FACU
Schizachyrium littorale	SCHLIT	(Nash) E.P. Bicknell	10 syn	COASTAL LITTLE BLUESTEM	Poaceae	432	(UPL)	grass	PE	full	SCLI11	E	MO	native	FACW	FACW	FACW
Schizachyrium scoparium	SCHSCO	(Michx.) Nash	5 syn	LITTLE BLUESTEM	Poaceae		FACU-	grass	PE	full	SCSC		MO	native	FACU	FACU	FACU
Schizachyrium sp.	SCHIZA	ND		ND	Poaceae		ND	grass	PE	full	SCHIZ4		MO				
Schoenoplectus acutus	SCHACU	(Muhl. ex Bigelow) A. Love & D. Love	7 syn	HARD-STEMMED BULRUSH	Cyperaceae	433	OBL	sedge	PE	full	SCAC3		MO	native	OBL	OBL	OBL
Schoenoplectus americanus	SCHAME	(Pers.) Volk. ex Schinz & R. Keller	9 syn	OLNEY'S BULRUSH	Cyperaceae	434	OBL	sedge	PE	full	SCAM6	E	MO	native	OBL	OBL	OBL
Schoenoplectus mucronatus	SCHMUC	(L.) Palla	0	RICEFIELD BULRUSH	Cyperaceae	557	OBL	sedge	PE	advent	SCMU10		MO	adventive	OBL	OBL	OBL
Schoenoplectus pungens	SCHPUN	(Vahl) Palla	5 syn	THREE-SQUARE	Cyperaceae	435	FACW+	sedge	PE	full	SCPU10		MO	native	OBL	OBL	OBL
Schoenoplectus purshianus	SCHPURS	(Fernald) M.T. Strong	6 syn	PURSH'S BULRUSH	Cyperaceae	436	OBL	sedge	AN	full	SCPU13		MO	native	OBL	OBL	OBL
Schoenoplectus saximontanus	SCHSAX	(Fernald) J. Raynal	7	MOUNTAIN BULRUSH	Cyperaceae	553	OBL	sedge	AN	full	SCSA8	E	MO	native	OBL	OBL	
Schoenoplectus smithii	SCHSMI	(A. Gray) Sojak	9 syn	SMITH'S BULRUSH	Cyperaceae	437	OBL	sedge	AN	full	SCSM2	E	MO	native	OBL	OBL	OBL
Schoenoplectus sp.	SCHOEN	ND		ND	Cyperaceae		ND	sedge	ND	full	SCHOE6		MO				
Schoenoplectus subterminalis	SCHSUB	(Torr.) Sojak	10 syn	SWAYING-RUSH	Cyperaceae		OBL	sedge	PE	full	SCSU10	E	MO	native	OBL	OBL	OBL
Schoenoplectus tabernaemontani	SCHTAB	(C.C. Gmel.) Palla	2 syn	SOFT-STEMMED BULRUSH	Cyperaceae	438	OBL	sedge	PE	full	SCTA2		MO	native	OBL	OBL	OBL
Schoenoplectus torreyi	SCHTOR	(Olney) Palla	10 syn	TORREY'S BULRUSH	Cyperaceae		OBL	sedge	PE	full	SCTO3	E	MO	native	OBL	OBL	OBL
Scilla non-scripta	SCINON	(L.) Hoffmanns. & Link	0 syn	ENGLISH BLUEBELL	Liliaceae		(UPL)	forb	PE	advent	HYNO		MO	adventive			
Scirpus atrovirens	SCIATR	Willd.	1	GREEN BULRUSH	Cyperaceae		OBL	sedge	PE	full	SCAT2		MO	native	OBL	OBL	OBL
Scirpus cyperinus	SCICYP	(L.) Kunth.	1	WOOL-GRASS	Cyperaceae	439	FACW+	sedge	PE	full	SCCY		MO	native	FACW	OBL	OBL
Scirpus expansus	SCIEXP	Fernald	9	WOODLAND BULRUSH	Cyperaceae		OBL	sedge	PE	partial	SCEX	P	MO	native	OBL	OBL	OBL
Scirpus georgianus	SCIGEO	R.M. Harper	2 syn	GEORGIA BULRUSH	Cyperaceae	440	OBL	sedge	PE	full	SCGE2		MO	native	OBL	OBL	OBL
Scirpus hattorianus	SCIHAT	Makino	1	SMOOTH-LVD. DARK GREEN BULR.	Cyperaceae		(OBL)	sedge	PE	full	SCHA3		MO	native	OBL	OBL	OBL
Scirpus pedicellatus	SCIPED	Fernald	3 syn	STALKED BULRUSH	Cyperaceae	441	OBL	sedge	PE	full	SCPE3		MO	native	OBL	OBL	OBL
Scirpus pendulus	SCIPEN	Muhl.	2 syn	DROOPING BULRUSH	Cyperaceae	442	OBL	sedge	PE	full	SCPE4		MO	native	OBL	OBL	OBL

Scirpus polyphyllus	SCIPOL	Vahl	6	LEAFY BULRUSH	Cyperaceae		OBL	sedge	PE	full	SCPO2		MO	native	OBL	OBL	OBL
Scirpus sp.	SCIRPU	ND		ND	Cyperaceae		ND	sedge	PE	ND	SCIRP		MO				
Scleranthus annuus	SCLANN	L.	0	ANNUAL KNAWEL	Caryophyllaceae		FACU-	forb	AN	advent	SCAN2		DI	adventive	FACU	FACU	FACU
Scleria oligantha	SCLOLI	Michx.	9	TUBERCLED NUT-RUSH	Cyperaceae		FACU+	sedge	PE	full	SCOL2	P	MO	native	FACU	FACU	
Scleria pauciflora	SCLPAU	Muhl. ex Willd.	9	FEW-FLOWERED NUT-RUSH	Cyperaceae	443	FACU+	sedge	PE	full	SCPA5	P	MO	native	FACU	FACU	FACU
Scleria sp.	SCLERI	ND		ND	Cyperaceae		ND	sedge	PE	full	SCLER2		MO				
Scleria triglomerata	SCLTRI	Michx.	7	TALL NUT-RUSH	Cyperaceae		FAC	sedge	PE	full	SCTR	P	MO	native	FAC	FAC	FAC
Scleria verticillata	SCLVER	Muhl. ex Willd.	9	LOW NUT-RUSH	Cyperaceae		OBL	sedge	AN	full	SCVE2		MO	native	OBL	OBL	OBL
Scrophularia lanceolata	SCRLAN	Pursh	4	AMERICAN FIGWORT	Scrophulariaceae		FACU+	forb	PE	partial	SCLA		DI	native	FACU	FACU	FACU
Scrophularia marilandica	SCRMAR	L.	4	MARYLAND FIGWORT	Scrophulariaceae		FACU-	forb	PE	shade	SCMA2		DI	native	FACU	FACU	FACU
Scrophularia sp.	SCROPH	ND		ND	Scrophulariaceae		ND	forb	PE	partial	SCROP		DI				
Scutellaria elliptica	SCUELL	Muhl. ex Spreng	5	HAIRY SKULLCAP	Lamiaceae	444	(UPL)	forb	PE	partial	SCEL		DI	native			
Scutellaria galericulata	SCUGAL	L.	6 syn	MARSH SKULLCAP	Lamiaceae		OBL	forb	PE	full	SCGA		DI	native	OBL	OBL	OBL
Scutellaria incana	SCUINC	Biehler	4	DOWNY SKULLCAP	Lamiaceae		(UPL)	forb	PE	shade	SCIN		DI	native			
Scutellaria integrifolia	SCUINT	L.	6	HYSSOP SKULLCAP	Lamiaceae		FACW	forb	PE	partial	SCIN2		DI	native	FACW	FACW	FACW
Scutellaria lateriflora	SCULAT	L.	3	MAD-DOG SKULLCAP	Lamiaceae		FACW+	forb	PE	partial	SCLA2		DI	native	FACW	OBL	OBL
Scutellaria nervosa	SCUNER	Pursh	6	VEINED SKULLCAP	Lamiaceae	445	FAC	forb	PE	shade	SCNE2		DI	native	FAC	FAC	FAC
Scutellaria ovata	SCUOVA	Hill	5	HEART-LEAVED SKULLCAP	Lamiaceae	446	FACU	forb	PE	shade	SCOV		DI	native	FACU	FACU	FACU
Scutellaria parvula	SCUPAR	Michx.	6	SMALL SKULLCAP	Lamiaceae	447	UPL	forb	PE	full	SCPA7		DI	native	UPL	FACU	FACU
Scutellaria saxatilis	SCUSAX	Riddell	8	ROCK SKULLCAP	Lamiaceae		(UPL)	forb	PE	partial	SCSA5	P	DI	native			
Scutellaria serrata	SCUSER	Andrews	7	SHOWY SKULLCAP	Lamiaceae		(UPL)	forb	PE	shade	SCSE5		DI	native			
Scutellaria sp.	SCUTEL	ND		ND	Lamiaceae		ND	forb	PE	ND	SCUTE		DI				
Secale cereale	SECCER	L.	0	ANNUAL RYE	Poaceae		(UPL)	grass	AN	advent	SECE		MO	adventive			
Sedum acre	SEDACR	L.	0	GOLDEN-CARPET	Crassulaceae		(UPL)	forb	PE	advent	SEAC		DI	adventive			
Sedum album	SEDALB	L.	0	WHITE STONECROP	Crassulaceae		(UPL)	forb	PE	advent	SEAL		DI	adventive			
Sedum purpureum	SEDPUR	(L.) J.A. Schultes	0 syn	GARDEN ORPINE	Crassulaceae		(UPL)	forb	PE	advent	HYTET2		DI	adventive			
Sedum sarmentosum	SEDSAR	Bunge	0	CREEPING STONECROP	Crassulaceae		(UPL)	forb	PE	advent	SESA		DI	adventive			
Sedum sexangulare	SEDSEX	L.	0	SIX-RANKED STONECROP	Crassulaceae		(UPL)	forb	PE	advent	SESE6		DI	adventive			
Sedum sp.	SEDUM	ND		ND	Crassulaceae		UPL	forb	PE	ND	SEDUM		DI				
Sedum telephioides	SEDTEL	Michx.	0	AMERICAN ORPINE	Crassulaceae		(UPL)	forb	PE	advent	HYTE9		DI	adventive			
Sedum ternatum	SEDTER	Michx.	5	WILD STONECROP	Crassulaceae		(UPL)	forb	PE	full	SETE3		DI	native	FACU		
Selaginella apoda	SELAPO	(L.) Spring	7	MEADOW SPIKE-MOSS	Selaginellaceae		FACW	fern	PE	partial	SEAP		SVP	native	FACW	FACW	FACW
Selaginella eclipes	SELECL	W.R. Buck	9	MIDWEST SPIKE-MOSS	Selaginellaceae		(FACW+)	fern	PE	partial	SEEC	P	SVP	native			FACW
Selaginella rupestris	SELRUP	(L.) Spring	10	ROCK SPIKE-MOSS	Selaginellaceae		(UPL)	fern	PE	full	SERU	X	SVP	native			
Selaginella sp.	SELAGI	ND		ND	Selaginellaceae		ND	fern	PE	partial	SELAG		SVP				
Senecio anonymous	SENANO	A.W. Wood	2 syn	APPALACHIAN SQUAW-WEED	Asteraceae		(UPL)	forb	PE	full	PAAN6		DI	native	UPL	UPL	UPL
Senecio aureus	SENAUR	L.	4 syn	GOLDEN RAGWORT	Asteraceae		FACW	forb	PE	shade	PAAU3		DI	native	FACW	FACW	FACW
Senecio glabellus	SENGLA	Poir.	0 syn	BUTTERWEED	Asteraceae		OBL	forb	AN	advent	PAGL17		DI	adventive	OBL	FACW	FACW
Senecio obovatus	SENOBO	Muhl. ex Willd.	4	ROUND-LEAVED SQUAW WEED	Asteraceae		FACU-	forb	PE	shade	PAOB6		DI	native	FACU	FACU	FACU
Senecio pauperculus	SENPAU	Michx.	9 syn	BALSAM SQUAW-WEED	Asteraceae		FAC	forb	PE	full	PAPA20	T	DI	native	FAC	FAC	FAC
Senecio plattensis	SENPLA	Nutt.	5 syn	PRAIRIE RAGWORT	Asteraceae		UPL	forb	BI	full	PAPL12		DI	native	FACU	FACU	FACU
Senecio sp.	SENECI	ND		ND	Asteraceae		ND	forb	ND	ND	SENEC		DI				
Senecio sylvaticus	SENSYL	L.	0	WOODLAND GROUNDSEL	Asteraceae		(UPL)	forb	AN	advent	SESY		DI	adventive	UPL		UPL
Senecio vulgaris	SENVUL	L.	0 syn	COMMON SQUAW-WEED	Asteraceae		FACU	forb	AN	advent	SEVU		DI	adventive	FACU	UPL	FACU
Senna hebecarpa	SENHEB	(Fernald) Irwin & Barneby	4 syn	NORTHERN WILD SENNA	Fabaceae		FAC	forb	PE	full	SEHE3		DI	native	FAC	FACW	FACW
Senna marilandica	SENMAR	(L.) Link	4 syn	SOUTHERN WILD SENNA	Fabaceae		FAC+	forb	PE	full	SEMA11		DI	native	FAC	FACW	FACW
Senna sp.	SENNA	ND	4	ND	Fabaceae		ND	forb	PE	full	SENNA		DI				
Sericocarpus asteroides	SERAST	(Cronquist) BSP	4 syn	TOOTHED WHITE-TOPPED ASTER	Asteraceae		(UPL)	forb	PE	shade	SEAS3		DI	native			
Sericocarpus linifolius	SERLIN	(L.) BSP	8 syn	NARROW-LEAVED ASTER	Asteraceae		(UPL)	forb	PE	partial	SELI5	T	DI	native			
Sericocarpus sp.	SERIOC	Greene		ASTER	Asteraceae		ND	forb	PE	ND	ASTER		DI				
Setaria faberi	SETFAB	R.A.W. Herrm.	0	GIANT FOXTAIL GRASS	Poaceae		UPL	grass	AN	advent	SEFA		MO	adventive	UPL	FACU	FACU
Setaria geniculata	SETGEN	(Lam.) P. Beauv.	0	JOINTED FOXTAIL GRASS	Poaceae		FAC	grass	PE	advent	SEPA10		MO	adventive	FAC	FAC	FAC
Setaria glauca	SETGLA	(L.) P. Beauv.	0	YELLOW FOXTAIL GRASS	Poaceae		FAC	grass	AN	advent	SEPUP2		MO	adventive			
Setaria italica	SETITA	(L.) P. Beauv.	0	FOXTAIL-MILLET	Poaceae		FACU	grass	AN	advent	SEIT		MO	adventive	FACU	FACU	FACU
Setaria parviflora	SETPAR	(Poir.) Kerguelen	4	KNOTROOT BRISTLE GRASS	Poaceae	548	FAC	grass	PE	full	SEPA10		MO	native	FAC	FAC	FAC
Setaria sp.	SETARI	ND		ND	Poaceae		ND	grass	ND	ND	SETAR		MO				
Setaria verticillata	SETVER	(L.) P. Beauv.	0	BUR FOXTAIL GRASS	Poaceae		FAC	grass	AN	advent	SEVE3		MO	adventive	FAC	FAC	FACU
Setaria viridis	SETVIR	(L.) P. Beauv.	0	GREEN FOXTAIL GRASS	Poaceae		(UPL)	grass	AN	advent	SEVI4		MO	adventive			
Shepherdia canadensis	SHECAN	(L.) Nutt.	9	CANADA BUFFALO-BERRY	Elaeagnaceae		UPL	forb	PE	full	SHCA	P	DI	native	UPL	UPL	UPL
Sherardia arvensis	SHEARV	L.	0	FIELD MADDER	Rubiaceae		(UPL)	forb	AN	advent	SHAR2		DI	adventive			
Sibara virginica	SIBVIR	(L.) Rollins	0	VIRGINIA ROCK CRESS	Brassicaceae	448	UPL	forb	AN	advent	SIVI2		DI	adventive	UPL	FACU	FACU
Sicyos angulatus	SICANG	L.	3	BUR-CUCUMBER	Cucurbitaceae		FACU	vine	AN	partial	SIAN		DI	native	FACU	FACW	FACW
Sida hermaphrodita	SIDHER	(L.) Rusby	6	VIRGINIA MALLOW	Malvaceae		FAC	forb	PE	full	SIHE3	P	DI	native	FAC	FACU	FACU
Sida sp.	SIDA	ND		ND	Malvaceae		ND	forb	ND	ND	SIDA		DI				
Sida spinosa	SIDSPI	L.	0	PRICKLY SIDA	Malvaceae		UPL	forb	AN	advent	SISP		DI	adventive	UPL	FACU	FACU
Silene antirrhina	SILANT	L.	1	SLEEPY CATCHFLY	Caryophyllaceae		(UPL)	forb	AN	full	SIAN2		DI	native			

Silene armeria	SILARM	L.	0	GARDEN CATCHFLY	Caryophyllaceae		(UPL)	forb	AN	advent	SIAR		DI	adventive			
Silene caroliniana Walter subsp. pensylvanica	SILCARP	(Michx.) Fernald	8	CAROLINA CATCHFLY	Caryophyllaceae		(UPL)	forb	PE	full	SICAP	T	DI	native			
Silene caroliniana Walter subsp. wherryi	SILCARW	(Small) Fernald	9	WHERRY'S CATCHFLY	Caryophyllaceae		(UPL)	forb	PE	full	SICAW	T	DI	native			
Silene conica	SILCON	L.	0	STRIATE CATCHFLY	Caryophyllaceae		(UPL)	forb	AN	advent	SICO3		DI	adventive			
Silene csereii	SILCSE	Baumg.	0	GLAUCOUS CAMPION	Caryophyllaceae		(UPL)	forb	BI	advent	SICS		DI	adventive			
Silene dichotoma	SILDIC	Ehrh.	0	FORKED CATCHFLY	Caryophyllaceae		(UPL)	forb	AN	advent	SIDI2		DI	adventive			
Silene dioica	SILDIO	(L.) Clairv.	0 syn	RED CAMPION	Caryophyllaceae		(UPL)	forb	PE	advent	SIDI4		DI	adventive			
Silene latifolia	SILLAT	Poir.	0 syn	WHITE CAMPION	Caryophyllaceae	449	(UPL)	forb	BI	advent	SILA21		DI	adventive			
Silene nivea	SILNIV	(Nutt.) Muhl. ex Otth.	8	SNOWY CAMPION	Caryophyllaceae		FAC	forb	PE	shade	SINI	E	DI	native	FAC	FACW	FACW
Silene noctiflora	SILNOC	L.	0	NIGHT-FLOWERING CATCHFLY	Caryophyllaceae		(UPL)	forb	AN	advent	SINO		DI	adventive			
Silene regia	SILREG	Sims	8	ROYAL CATCHFLY	Caryophyllaceae		(UPL)	forb	PE	full	SIRE2	T	DI	native			
Silene rotundifolia	SILROT	Nutt.	10	ROUND-LEAVED CATCHFLY	Caryophyllaceae		(UPL)	forb	PE	full	SIRO4	P	DI	native			
Silene sp.	SILENE	ND		ND	Caryophyllaceae		ND	forb	ND	ND	SILEN		DI				
Silene stellata	SILSTE	(L.) W.T. Aiton	6	STARRY CAMPION	Caryophyllaceae		(UPL)	forb	PE	shade	SIST		DI	native			
Silene virginica	SILVIR	L.	5	FIRE-PINK	Caryophyllaceae		(UPL)	forb	PE	full	SIVI4		DI	native			
Silene vulgaris	SILVUL	(Moench) Garcke	0	BLADDER CAMPION	Caryophyllaceae	450	(UPL)	forb	PE	advent	SIVU		DI	adventive			
Silphium laciniatum	SLPLAC	L.	8	COMPASS PLANT	Asteraceae		(UPL)	forb	PE	full	SILA3	E	DI	native			
Silphium perfoliatum	SLPPER	L.	6	CUP-PLANT	Asteraceae		FACU	forb	PE	full	SIPE2		DI	native	FAC	FACW	FACW
Silphium sp.	SILPHI	ND		ND	Asteraceae		ND	forb	PE	full	SILPH		DI				
Silphium terebinthinaceum	SLPTER	Jacq.	8	PRAIRIE DOCK	Asteraceae	451	UPL	forb	PE	full	SITE		DI	native	FACU	FAC	FAC
Silphium trifoliatum	SLPTRI	L.	5	WHORLED ROSIN-WEED	Asteraceae		(FAC)	forb	PE	full	SITR7		DI	native			
Silybum marianum	SILMAR	(L.) Gaertn.	0	MILK-THISTLE	Asteraceae		(UPL)	forb	BI	advent	SIMA3		DI	adventive			
Sinapsis alba	SINALB	L.	0	WHITE MUSTARD	Brassicaceae		(UPL)	forb	AN	advent	SIAR4		DI	adventive			
Sinapsis arvensis	SINARV	L.	0 syn	CHARLOCK	Brassicaceae		(UPL)	forb	AN	advent	SINAP		DI	adventive			
Sinapsis sp.	SINAPI	ND		ND	Brassicaceae		UPL	forb	AN	advent	SIAL5		DI				
Sisymbrium altissimum	SISALT	L.	0	TALL TUMBLE MUSTARD	Brassicaceae		FACU-	forb	AN	advent	SIAL2		DI	adventive	FACU	FACU	FACU
Sisymbrium loeselii	SISLOE	L.	0	TALL HEDGE MUSTARD	Brassicaceae		(UPL)	forb	AN	advent	SILO3		DI	adventive			
Sisymbrium officinale	SISOFF	(L.) Scop.	0	HEDGE MUSTARD	Brassicaceae		(UPL)	forb	AN	advent	SIOF		DI	adventive			
Sisymbrium sp.	SISYMB	ND		ND	Brassicaceae		ND	forb	AN	advent	SISYM		DI				
Sisyrinchium albidum	SISALB	Raf.	6	PALE BLUE-EYED-GRASS	Iridaceae		FAC	forb	PE	full	SIAL3		MO	native	FAC	FACU	FACU
Sisyrinchium angustifolium	SISANG	Mill.	2	STOUT BLUE-EYED GRASS	Iridaceae		FACW-	forb	PE	full	SIAN3		MO	native	FACW	FAC	FAC
Sisyrinchium atlanticum	SISATL	E.P. Bicknell	10	ATLANTIC BLUE-EYED-GRASS	Iridaceae		FACW	forb	PE	full	SIAT	E	MO	native	FACW	FACW	FACW
Sisyrinchium montanum	SISMON	Greene	7	NORTHERN BLUE-EYED-GRASS	Iridaceae	452	FAC	forb	PE	full	SIMO2	T	MO	native	FAC	FAC	FAC
Sisyrinchium mucronatum	SISMUC	Michx.	8	NARROW-LEAVED BLUE-EYED-G.	Iridaceae		FAC+	forb	PE	full	SIMU3	E	MO	native	FAC	FACW	FAC
Sisyrinchium sp.	SISYRI	ND		ND	Iridaceae		ND	forb	PE	full	SISYR		MO				
Sium suave	SIUSUA	Walter	6	WATER-PARSNIP	Apiaceae		OBL	forb	PE	partial	SISU2		DI	native	OBL	OBL	OBL
Smilax ecirrhata	SMXECI	(Engelm.) S. Watson	5	UPRIGHT CARRION-FLOWER	Smilacaceae		(UPL)	forb	PE	shade	SMEC		MO	native			
Smilax glauca	SMXGLA	Walter	5	CAT GREENBRIER	Smilacaceae	453	FACU	vine	W	shade	SMGL		MO	native	FACU	FACU	FACU
Smilax herbacea	SMXHER	L.	4 syn	CARRION-FLOWER	Smilacaceae		FAC	forb	PE	partial	SMHE		MO	native	FAC	FAC	FAC
Smilax hispida	SMXHIS	Muhl.	3 syn	BRISTLY GREENBRIER	Smilacaceae		(FAC)	vine	W	shade	SMTA2		MO	native	FAC	FAC	FAC
Smilax illinoensis	SMXILL	Mangalay	6	ILLINOIS GREENBRIER	Smilacaceae		(UPL)	vine	W	shade	SMIL		MO	native			
Smilax lasioneura	SMXLAS	Hook.	6 syn	PALE CARRION-FLOWER	Smilacaceae	454	(FAC)	forb	PE	shade	SMLA3		MO	native	FAC		
Smilax pulverulenta	SMXPUL	Michx.	6 syn	DOWNY CARRION-FLOWER	Smilacaceae	455	FACU	forb	PE	shade	SMPU2	E	MO	native	FACU	FACU	FACU
Smilax rotundifolia	SMXROT	L.	4	COMMON GREENBRIER	Smilacaceae		FAC	vine	W	shade	SMRO		MO	native	FAC	FAC	FAC
Smilax sp.	SMILAX	ND		ND	Smilacaceae		ND	ND	ND	partial	SMILA2		MO				
Solanum carolinense	SLMCAR	L.	0	HORSE NETTLE	Solanaceae		UPL	forb	PE	advent	SOCA3		DI	adventive	FACU	FACU	FACU
Solanum dulcamara	SLMDUL	L.	0	BITTERSWEET NIGHTSHADE	Solanaceae	456	FAC-	vine	PE	advent	SODU		DI	adventive	FAC	FAC	FAC
Solanum lycopersicum	SLMLYC	L.	0	GARDEN TOMATO	Solanaceae		(FAC)	forb	AN	advent	SOLY2		DI	adventive			
Solanum nigrum	SLMNIG	L.	1	BLACK NIGHTSHADE	Solanaceae	457	FACU-	forb	AN	partial	SOPT7		DI	native	FACU		
Solanum physalifolium	SLMPHY	Rusby	0	HAIRY NIGHTSHADE	Solanaceae		(FAC)	forb	AN	advent	SOPH		DI	adventive			
Solanum rostratum	SLMROS	Dunal	0	BUFFALO-BUR	Solanaceae	458	(UPL)	forb	AN	advent	SORO		DI	adventive			
Solanum sp.	SOLANU	ND		ND	Solanaceae		ND	ND	ND	ND	SOLAN		DI				
Solanum triflorum	SLMTRI	Nutt.	0	CUT-LEAVED NIGHTSHADE	Solanaceae		(UPL)	forb	PE	advent	SOTR		DI	adventive			
Solanum tuberosum	SLMTUB	L.	0	POTATO	Solanaceae		(FACU-)	forb	PE	advent	SOTU		DI	adventive			
Solidago arguta	SOLARG	Aiton	6	CUT-LEAF GOLDENROD	Asteraceae		(UPL)	forb	PE	partial	SOAR	X	DI	native	UPL	UPL	FACU
Solidago bicolor	SOLBIC	L.	5	WHITE GOLDENROD	Asteraceae		(UPL)	forb	PE	shade	SOBI		DI	native			
Solidago caesia	SOLCAE	L.	5	BLUE-STEMMED GOLDENROD	Asteraceae		FACU	forb	PE	shade	SOCA4		DI	native	FACU	FACU	FACU
Solidago canadensis	SOLCAN	L.	1 syn	CANADA GOLDENROD	Asteraceae	459	FACU	forb	PE	full	SOCA6		DI	native	FACU	FACU	FACU
Solidago erecta	SOLERE	Pursh	6 syn	SLENDER GOLDENROD	Asteraceae		(UPL)	forb	PE	shade	SOER		DI	native			
Solidago flexicaulis	SOLFLE	L.	5	ZIGZAG GOLDENROD	Asteraceae		FACU	forb	PE	shade	SOFL2		DI	native	FACU	FACU	FACU
Solidago gigantea	SOLGIG	Aiton	3	SMOOTH GOLDENROD	Asteraceae	460	FACW	forb	PE	full	SOGI		DI	native	FACW	FACW	FACW
Solidago hispida	SOLHIS	Muhl. ex Willd.	4	HAIRY GOLDENROD	Asteraceae		(UPL)	forb	PE	full	SOHI		DI	native			
Solidago juncea	SOLJUN	Aiton	2	PLUME GOLDENROD	Asteraceae		(UPL)	forb	PE	partial	SOJU		DI	native			
Solidago nemoralis	SOLNEM	Aiton	2	GRAY GOLDENROD	Asteraceae		(UPL)	forb	PE	full	SONE		DI	native			
Solidago odora	SOLODO	Aiton	8	SWEET GOLDENROD	Asteraceae		(UPL)	forb	PE	shade	SOOD	T	DI	native			
Solidago ohioensis	SOLOHI	Riddell	9	OHIO GOLDENROD	Asteraceae		OBL	forb	PE	full	OLOH		DI	native	OBL	OBL	OBL

Solidago patula	SOLPAT	Muhl. ex Willd.	8	ROUGH-LEAVED GOLDENROD	Asteraceae	461	OBL	forb	PE	partial	SOPA2		DI	native	OBL	OBL	OBL
Solidago ptarmicoides	SOLPTA	(Nees) B. Boivin	10 syn	WHITE UPLAND GOLDENROD	Asteraceae		(UPL)	forb	PE	full	OLAL2	X	DI	native			
Solidago puberula	SOLPUB	Nutt.	5	DUSTY GOLDENROD	Asteraceae		FACU-	forb	PE	full	SOPU	E	DI	native	FACU		FACU
Solidago riddellii	SOLRID	Frank ex Riddell	8	RIDDELL'S GOLDENROD	Asteraceae		OBL	forb	PE	full	OLRI2		DI	native	OBL	OBL	OBL
Solidago rigida	SOLRIG	L.	8	STIFF GOLDENROD	Asteraceae	462	UPL	forb	PE	full	OLRIR		DI	native			
Solidago rugosa	SOLRUG	Mill.	2	ROUGH GOLDENROD	Asteraceae	463	FAC	forb	PE	full	SORU2		DI	native	FAC	FAC	FAC
Solidago sempervirens	SOLSEM	L.	0	SEASIDE GOLDENROD	Asteraceae		FACW	forb	PE	advent	SOSE		DI	adventive	FACW	FACW	FACW
Solidago sp.	SOLIDA	ND		ND	Asteraceae		ND	forb	PE	ND	SOLID		DI				
Solidago speciosa Nutt. var. rigidiuscula	SOLSPE	T. & G.	8	SLENDER SHOWY GOLDENROD	Asteraceae	563	(UPL)	forb	PE	full	SOSPR		DI	native			
Solidago speciosa var. speciosa	SOLSPE	Nutt.	5	SHOWY GOLDENROD	Asteraceae	464	(UPL)	forb	PE	full	SOSPS4		DI	native			
Solidago sphacelata	SOLSPH	Raf.	7	FALSE GOLDENROD	Asteraceae		(UPL)	forb	PE	shade	SOSP4	E	DI	native			
Solidago squarrosa	SOLSQU	Muhl.	7 syn	LEAFY GOLDENROD	Asteraceae		(UPL)	forb	PE	shade	SOSQ	T	DI	native			
Solidago uliginosa	SOLULI	Nutt.	9	BOG GOLDENROD	Asteraceae	465	OBL	forb	PE	full	SOUL		DI	native	OBL	OBL	OBL
Solidago ulmifolia	SOLULM	Muhl. ex Willd.	5	ELM-LEAVED GOLDENROD	Asteraceae		(UPL)	forb	PE	shade	SOUL2		DI	native			
Sonchus arvensis	SONARV	L.	0	FIELD SOW-THISTLE	Asteraceae	466	UPL	forb	PE	advent	SOAR2		DI	adventive	FACU	FACU	FACU
Sonchus asper	SONASP	(L.) Hill	0	PRICKLY SOW-THISTLE	Asteraceae		FAC	forb	AN	advent	SOAS		DI	adventive	FAC	FACU	FACU
Sonchus oleraceus	SONOLE	L.	0	COMMON SOW-THISTLE	Asteraceae		UPL	forb	AN	advent	SOOL		DI	adventive	UPL	FACU	FACU
Sonchus sp.	SONCHU	ND		ND	Asteraceae		ND	forb	ND	advent	SONCH		DI				
Sorbaria sorbifolia	SORSOR	(L.) A. Br.	0	FALSE SPIRAEA	Rosaceae		(UPL)	shrub	W	advent	SOSO2		DI	adventive			
Sorbus aucuparia	SORAUC	L.	0 syn	EUROPEAN MOUNTAIN-ASH	Rosaceae		(UPL)	sm tree	W	advent	SOAU		DI	adventive			
Sorbus decora	SORDEC	(Sarg.) C.K. Schneid.	4 syn	WESTERN MOUNTAIN-ASH	Rosaceae		FAC	sm tree	W	shade	SODE3	E	DI	native		UPL	FACU
Sorbus sp.	SORBUS	ND		ND	Rosaceae		ND	sm tree	W	ND	SORBU		DI				
Sorghastrum nutans	SORNUT	(L.) Nash	5	INDIAN GRASS	Poaceae		UPL	grass	PE	full	SONU2		MO	native	FACU	FACU	FACU
Sorghum bicolor	SORBIC	(L.) Moench	0	SORGHUM	Poaceae	467	UPL	grass	AN	advent	SOBI2		MO	adventive	UPL	UPL	UPL
Sorghum halepense	SORHAL	(L.) Pers.	0	JOHNSON GRASS	Poaceae		FACU	grass	AN	advent	SOHA		MO	adventive	FACU	FACU	FACU
Sorghum sp.	SORGHU	ND		ND	Poaceae		ND	grass	ND	advent	SORGH2		MO				
Sparganium americanum	SPAAME	Nutt.	6	AMERICAN BUR-REED	Sparganiaceae		OBL	forb	PE	full	SPAM		MO	native	OBL	OBL	OBL
Sparganium androcladum	SPAAND	(Engelm.) Morong	7	KEELED BUR-REED	Sparganiaceae		OBL	forb	PE	full	SPAN	T	MO	native	OBL	OBL	OBL
Sparganium emersum	SPACHL	Rehmann	8 syn	SMALL BUR-REED	Sparganiaceae	468	OBL	forb	PE	full	SPEM2	E	MO	native	OBL	OBL	OBL
Sparganium eurycarpum	SPAEUR	Engelm. ex A. Gray	4	GIANT BUR-REED	Sparganiaceae		OBL	forb	PE	full	SPEU		MO	native	OBL	OBL	OBL
Sparganium sp.	SPARGA	ND		ND	Sparganiaceae		OBL	forb	PE	full	SPARG		MO				
Spartina pectinata	SPAPEC	Link	5	PRAIRIE CORD GRASS	Poaceae		OBL	grass	PE	full	SPPE		MO	native	OBL	FACW	FACW
Spenopholis pensylvanica	SPHPEN	(L.) Hitchc.	5 syn	SWAMP OATS	Poaceae		OBL	grass	PE	full	SPAR		MO	native			
Spergula arvensis	SPEARV	L.	0	CORN SPURREY	Caryophyllaceae		(UPL)	forb	AN	advent	SPSA5		DI	adventive			
Spergularia marina	SPEMAR	(L.) Griseb.	0	SALT MARSH SAND-SPURREY	Caryophyllaceae		OBL	forb	AN	advent	SPMA10		DI	adventive			
Spergularia media	SPEMED	(L.) C. Presl. ex Griseb.	0	SALT SPURREY	Caryophyllaceae		FACW	forb	PE	advent	SPRU		DI	adventive	FACW	FACU	FACU
Spergularia rubra	SPERUB	(L.) J. Presl. & C. Presl.	0	SAND SPURREY	Caryophyllaceae		FACU	forb	AN	advent	SPERG2		DI	adventive	FACU	FACU	FACU
Spergularia sp.	SPERGU	ND		ND	Caryophyllaceae		ND	forb	ND	advent	SPGL2	P	DI				
Spermacoce glabra	SPEGLA	Michx.	8	Smooth Buttonweed	Rubiaceae		FACW	forb	PE	shade	SPHAG2		DI	native	FACW	FACW	
Sphagnum sp.	MOSS	ND		ND	Musci		ND	bryo	BR	bryo	SPNI		BR				
Sphenopholis nitida	SPHNIT	(Biehler) Scribn.	7	SHINING WEDGE GRASS	Poaceae		(UPL)	grass	PE	shade	SPIN3		MO	native		FAC	
Sphenopholis obtusata var. major	SPHOBTM	(Torr.) Erdman	4 syn	SLENDER WEDGE GRASS	Poaceae		(FAC)	grass	PE	full	SPOB	T	MO	native		FAC	FAC
Sphenopholis obtusata var. obtusata	SPHOBTO	(Michx.) Scribn.	8 syn	PRAIRIE WEDGE GRASS	Poaceae		FAC-	grass	PE	full	SPPE3	P	MO	native	FAC	FAC	FAC
Sphenopholis sp.	SPHENO	ND		ND	Poaceae		ND	grass	PE	ND	SPHEN		MO				
Spiraea alba	SPIALA	Du Roi	3	MEADOW-SWEET	Rosaceae		FACW+	shrub	W	full	SPAL2		DI	native	FACW	FACW	FACW
Spiraea japonica	SPIJAP	L.f.	0	JAPANESE SPIRAEA	Rosaceae		FACU-	shrub	W	advent	SPJA		DI	adventive	FACU	UPL	UPL
Spiraea prunifolia	SPIPRU	Siebold & Zucc.	0	BRIDLE-WREATH	Rosaceae		(UPL)	shrub	W	advent	SPPR		DI	adventive			
Spiraea sp.	SPIRAE	ND		ND	Rosaceae		ND	shrub	W	ND	SPIRA		DI				
Spiraea tomentosa	SPITOM	L.	4	STEEPLEBUSH	Rosaceae	469	FACW	shrub	W	full	SPTO2		DI	native	FACW	FACW	FACW
Spiraea virginiana	SPIVIR	Britton	10	APPALACHIAN SPIRAEA	Rosaceae		FACU	shrub	W	shade	SPVI2	E	DI	native	FACU		
Spiranthes cernua var. cernua	SPRCERC	(L.) Rich.	4 syn	NODDING LADIES'-TRESSES	Orchidaceae		FACW	forb	PE	full	SPCE		MO	native	FACW	FACW	FACW
Spiranthes cernua var. ochroleuca	SPRCERO	(Rydb.) Ames	5 syn	YELLOW LADIES'-TRESSES	Orchidaceae		(FACU)	forb	PE	full	SPOC		MO	native	FACW	FACW	FACW
Spiranthes lacera	SPRLAC	(Raf.) Raf.	4 syn	SLENDER LADIES'-TRESSES	Orchidaceae	470	FACU-	forb	PE	full	SPLA4		MO	native	FACU	FAC	FAC
Spiranthes lucida	SPRLUC	(H. H. Eaton) Ames	7	SHINING LADIES'-TRESSES	Orchidaceae		FACW	forb	PE	full	SPLU2	P	MO	native	FACW	FACW	FACW
Spiranthes magnicamporum	SPRMAG	Sheviak	8	GREAT PLAINS LADIES'-TRESSES	Orchidaceae		FACU-	forb	PE	full	SPMA5	P	MO	native	FACU	FAC	FACU
Spiranthes ovalis	SPROVA	Lindl.	6	LESSER LADIES'-TRESSES	Orchidaceae	471	FAC	forb	PE	full	SPOV		MO	native	FAC	FAC	FAC
Spiranthes romanzoffiana	SPRROM	Cham.	10	HOODED LADIES'-TRESSES	Orchidaceae	472	OBL	forb	PE	full	SPRO	E	MO	native	OBL	OBL	OBL
Spiranthes sp.	SPIRAN	ND		ND	Orchidaceae		ND	forb	PE	full	SPIRA2		MO				
Spiranthes tuberosa	SPRTUB	Raf.	6	LITTLE LADIES'-TRESSES	Orchidaceae		FACU-	forb	PE	full	SPTU		MO	native	FACU	UPL	UPL
Spiranthes vernalis	SPRVER	Engelm. & A. Gray	7	NARROW-LEAVED LADIES'-TR.	Orchidaceae		FAC	forb	PE	full	SPVE		MO	native	FAC	FAC	FAC
Spirodela polyrhiza	SPIPOL	(L.) Schleid.	5	GREATER DUCKWEED	Lemnaceae		OBL	forb	AN	full	SPPO		MO	native	OBL	OBL	OBL
Sporobolus asper	SPOASP	(P. Beauv.) Kunth	2 syn	TALL DROPSEED	Poaceae		(UPL)	grass	PE	full	SPCOC2		MO	native			
Sporobolus cryptandrus	SPOCRY	(Torr.) A. Gray	6	SAND DROPSEED	Poaceae		(UPL)	grass	PE	full	SPCR		MO	native	UPL	FACU	FACU
Sporobolus heterolepis	SPOHET	(A. Gray) A. Gray	8	PRAIRIE DROPSEED	Poaceae		(UPL)	grass	PE	full	SPHE	T	MO	native	UPL	FACU	FACU
Sporobolus neglectus	SPONEG	Nash	2	SMALL RUSH GRASS	Poaceae		FACU-	grass	AN	full	SPNE2		MO	native	FACU	UPL	FACU
Sporobolus ozarkanus	SPOOZA	Fernald	5	OZARK RUSH GRASS	Poaceae	473	(UPL)	grass	AN	full	SPVAO		MO	native	FACU	UPL	FACU

Sporobolus sp.	SPOROB	ND		ND	Poaceae		ND	grass	ND	full	SPORO		MO			
Sporobolus vaginiflorus	SPOVAG	(Torr.) A.W. Wood	2	SHEATHED RUSH GRASS	Poaceae	474	UPL	grass	AN	full	SPVA		MO	native		
Stachys aspera	STAASP	Michx.	2 syn	ROUGH HEDGE-NETTLE	Lamiaceae		FACW	forb	PE	full	STAS		DI	native	FACW	FACW	FACW
Stachys cordata	STACOR	Riddell	4 syn	HEART-LEAVED HEDGE-NETTLE	Lamiaceae		FAC	forb	PE	full	STCO9		DI	native	FAC	FAC	FAC
Stachys germanica	STAGER	L.	0	DOWN WOODWORT	Lamiaceae		(FAC-)	forb	PE	advent	STGE		DI	adventive			
Stachys palustris	STAPAL	L.	6	MARSH HEDGE-NETTLE	Lamiaceae	475	OBL	forb	PE	full	STPA		DI	native	OBL	OBL	OBL
Stachys sp.	STACHY	ND		ND	Lamiaceae		ND	forb	PE	full	STACH		DI				
Stachys tenuifolia	STATEN	Willd.	4 syn	SMOOTH HEDGE-NETTLE	Lamiaceae		FACW+	forb	PE	full	STTE		DI	native	FACW	OBL	FACW
Standing dead	STNDEAD	ND		ND	ND		ND	tree	ND	tree			ND	adventive			
Staphylea trifolia	STATRI	L.	6	BLADDERNUT	Staphyleaceae		FAC	shrub	W	shade	STTR		DI	native	FAC	FAC	FAC
Stellaria alsine	STEALS	Grimm	0	BOG STITCHWORT	Caryphyllaceae		OBL	forb	AN	advent	STAL4		DI	adventive	OBL	OBL	OBL
Stellaria aquatica	STEAQU	(L.) Scop.	0 syn	WATER CHICKWEED	Caryophyllaceae		FACW	forb	PE	full	MYAQ		DI	adventive	FACW	FACW	FAC
Stellaria graminea	STEGRA	L.	0	COMMON STITCHWORT	Caryophyllaceae		FACU-	forb	PE	full	STGR		DI	adventive	FACU	UPL	UPL
Stellaria holostea	STEHOL	L.	0	EASTER-BELL	Caryophyllaceae		(FAC)	forb	PE	advent	STHO2		DI	adventive			
Stellaria longifolia	STELON	Muhl. ex Willd.	4	LONG-LEAVED STITCHWORT	Caryophyllaceae		FACW	forb	PE	shade	STLO		DI	native	FACW	FACW	FACW
Stellaria media	STEMED	(L.) Vill.	0	COMMON CHICKWEED	Caryophyllaceae		UPL	forb	AN	full	STME2		DI	adventive	UPL	FACU	FACU
Stellaria pallida	STEPAL	(Dumort) Pire	0	LESSER CHICKWEED	Caryophyllaceae		(UPL)	forb	AN	full	STMEP		DI	adventive	UPL	FACU	FACU
Stellaria pubera	STEPUB	Michx.	5	STAR CHICKWEED	Caryophyllaceae	476	(UPL)	forb	PE	full	STPU		DI	native			
Stellaria sp.	STELLA	ND		ND	Caryophyllaceae		ND	forb	ND	ND	STELL		DI				
Stenanthium gramineum	STNGRA	(Ker Gawl.) Morong	8	FEATHER-BELLS	Liliaceae		FACW	forb	PE	shade	STGR2	P	DI	native	FACW	FAC	FAC
Stipa spartea	STISPA	Trin.	10 syn	PORCUPINE GRASS	Poaceae		(UPL)	grass	PE	full	HESP11	E	MO	native			
Streptopus lanceolatus	STRROS	(Aiton) Reveal	8 syn	ROSE TWISTED-STALK	Liliaceae	477	FAC-	forb	PE	shade	STLA16	E	DI	native	FAC	FAC	FACU
Strophostyles helvula	STRHEL	(L.) Elliott	3	WILD BEAN	Fabaceae		FACU-	forb	AN	partial	STHE9		DI	native	FACU	FAC	FAC
Strophostyles leiosperma	STRLEI	(T. & G.) Piper	0	SMALL-FLOWERED WILD BEAN	Fabaceae		(FACU-)	forb	AN	advent	STLE6		DI	adventive			
Strophostyles sp.	STROPH	ND		ND	Fabaceae		ND	forb	ND	ND	STROP		DI				
Strophostyles umbellata	STRUMB	(Muhl. ex Willd.) Britton	0	PERENNIAL WILD BEAN	Fabaceae	478	FACU	forb	PE	advent	STUM2		DI	adventive	FACU	FACU	FACU
Stuckenia filiformis	STUFIL	(Pers.) Boerner	10 syn	FILIFORM PONDWEED	Potamogetonaceae	479	OBL	forb	PE	full	STFI6	X	MO	native	OBL	OBL	OBL
Stuckenia pectinata	STUPEC	(L.) Boerner	2 syn	SAGO PONDWEED	Potamogetonaceae		OBL	forb	PE	full	STPE15		MO	native	OBL	OBL	OBL
Stuckenia sp.	STUCKE	ND		ND	Potamogetonaceae		OBL	forb	PE	full	STUCK		MO				
Stylophorum diphyllum	STYDIP	(Michx.) Nutt.	6	WOOD POPPY	Papaveraceae		(UPL)	forb	PE	shade	STDI3		DI	native			
Stylosanthes biflora	STYBIF	(Michx.) B.S.P.	3	PENCIL-FLOWER	Fabaceae	480	(UPL)	forb	PE	shade	STBI2		DI	native			
Styrax grandifolius	STYGRA	Aiton	9	BIGLEAF SNOWBELL	Styracaceae	481	FACU	forb	W	shade	STGR4	X	DI	native	FACU	UPL	
Suaeda calceoliformis	SUACAL	(Hook.) Moq.	0	PLAINS SEA-BLITE	Chenopodiaceae		OBL	forb	PE	advent	SUCA2		DI	adventive	FACW	FACW	FACW
Sullivantia sullivantii	SULSUL	(Torr. & A. Gray) Britton	9	SULLIVANTIA	Saxifragaceae		(UPL)	forb	PE	shade	SUSU3		DI	native			
Symphoricarpos albus var. albus	SYMALBA	(L.) S.F. Blake	8	SNOWBERRY	Caprifoliaceae		FACU-	shrub	W	partial	SYALA	X	DI	native	FACU	FACU	FACU
Symphoricarpos albus var. laevigatus	SYMALBL	(Fernald) S.F. Blake	0	WESTERN SNOWBERRY	Caprifoliaceae		(UPL)	shrub	W	advent	SYALL		DI	adventive	FACU	FACU	FACU
Symphoricarpos occidentalis	SYMOCC	Hook.	0	WOLFBERRY	Caprifoliaceae		(FACU)	shrub	W	advent	SYOC		DI	adventive	UPL	UPL	FACU
Symphoricarpos orbiculatus	SYMORB	Moench	3	CORALBERRY	Caprifoliaceae		UPL	shrub	W	partial	SYOR		DI	native	FACU	FACU	FACU
Symphoricarpos sp.	SYMPHO	ND		ND	Caprifoliaceae		ND	shrub	W	ND	SYMPH		DI				
Symphyotrichom oblongifolium	SYMOBL	(Nutt.) G.L. Nesom	7 syn	SHALE BARREN A.	Asteraceae		(UPL)	forb	PE	full	SYOB	T	DI	native			
Symphyotrichum boreale	SYMBOR	(Torr. & A. Gray) A. Love & D. Love	9	NORTHERN BOG ASTER		32	OBL	forb	PE	full	SYBO2		DI	native	OBL	OBL	OBL
Symphyotrichum ciliatum	SYMBRA	(Ledeb.) G.L. Nesom	0 syn	WESTERN ANNUAL ASTER	Asteraceae		(FAC)	forb	AN	advent	SYCI2		DI	adventive	FAC	FAC	FAC
Symphyotrichum cordifolium	SYMCOR	(L.) G.L. Nesom	4 syn	BLUE WOOD ASTER	Asteraceae		(UPL)	forb	PE	shade	SYCO4		DI	native			
Symphyotrichum drummondii	SYMDRU	(Lindl.) G.L. Neson	6 syn	DRUMMOND'S ASTER	Asteraceae		(UPL)	forb	PE	shade	SYDRD	T	DI	native			
Symphyotrichum dumosum	SYMDUM	(L.) G.L. Nesom	9 syn	BUSHY ASTER	Asteraceae	33	FAC	forb	PE	full	SYDUD2	T	DI	native	FAC	FAC	FAC
Symphyotrichum ericoides	SYMERI	(L.) G.L. Nesom	2 syn	WHITE HEATH ASTER	Asteraceae	34	FACU	forb	PE	full	SYERE		DI	native	FACU	FACU	FACU
Symphyotrichum firmum	SYMFIR	(L.) G.L. Nesom	7 syn	SHINING ASTER	Asteraceae	35	(OBL)	forb	PE	full	SYPUP		DI	native	OBL	OBL	OBL
Symphyotrichum laeve	SYMFIR	(L.) A. Love & D. Love	7 syn	SMOOTH ASTER	Asteraceae		UPL	forb	PE	full	SYLAL3		DI	native	FACU	FACU	FACU
Symphyotrichum lanceolatum	SYMLAN	(Willd.) G.L. Nesom	3 syn	EASTERN LINED ASTER	Asteraceae	36	(FACW)	forb	PE	full	SYLAL4		DI	native	FACW	FAC	FACW
Symphyotrichum lateriflorum	SYMLAT	(L.) A. Love & D. Love	2 syn	CALICO ASTER	Asteraceae		FACW-	forb	PE	shade	SYLAL7		DI	native	FACW	FACW	FAC
Symphyotrichum lowrieanum	SYMLOW	(T.C. Porter) G.L. Nesom	6 syn	LOWRIES' ASTER	Asteraceae	37	(UPL)	forb	PE	shade	SYLO2		DI	native			
Symphyotrichum novae-angliae	SYMNOV	(L.) G.L. Nesom	2 syn	NEW ENGLAND ASTER	Asteraceae		FACW-	forb	PE	full	SYNO2		DI	native	FACW	FACW	FACW
Symphyotrichum ontarione	SYMONT	(Wiegand) G.L. Nesom	7 syn	BOTTOMLAND ASTER	Asteraceae		FAC	forb	PE	shade	SYON2		DI	native	FAC	FAC	FAC
Symphyotrichum oolentangiense	SYMOOL	(Riddell) G.L. Nesom	7 syn	SKY BLUE ASTER	Asteraceae	38	(UPL)	forb	PE	full	SYOOO		DI	native			
Symphyotrichum patens	SYMPAT	(Aiton) G.L. Nesom	6 syn	CLASPING-LEAVED ASTER	Asteraceae	39	(UPL)	forb	PE	partial	SYPAP2		DI	native			
Symphyotrichum pilosum	SYMPIL	(Willd.) G.L. Nesom	1 syn	AWL ASTER	Asteraceae	40	UPL	forb	PE	full	SYPIP3		DI	native	FAC	FACU	FACU
Symphyotrichum praealtum	SYMPRA	(Poir.) G.L. Nesom	6 syn	VEINY LINED ASTER	Asteraceae		FACW	forb	PE	full	SYPRP		DI	native	FACW	FACW	FACW
Symphyotrichum prenanthoides	SYMPRE	(Muhl. ex Willd.) G.L. Nesom	4 syn	ZIGZAG ASTER	Asteraceae		FAC	forb	PE	partial				native	FAC	FAC	FAC
Symphyotrichum puniceum	SYMPUN	(L.) A. Love & D. Love	7 syn	FEN ASTER	Asteraceae	41	OBL	forb	PE	full	SYPUP		DI	native	OBL	OBL	OBL
Symphyotrichum racemosum	SYMRAC	(Elliott) G.L. Neson	2 syn	SMALL-HEADED ASTER	Asteraceae		FACW	forb	PE	full	SYRA5		DI	native	FACW	FACW	FACW
Symphyotrichum shortii	SYMSHO	(Lindl.) G.L. Nesom	4 syn	SHORT'S ASTER	Asteraceae		(UPL)	forb	PE	shade	SYSH		DI	native			
Symphyotrichum sp.	SYMPHY	Nees		ASTER	Asteraceae		ND	forb	PE	ND	ASTER		DI				
Symphyotrichum subulatum	SYMSUB	(Michx.) G.L. Nesom	0 syn	ANNUAL SALT-MARSH ASTER	Asteraceae		OBL	forb	AN	advent	SYSU5		DI	adventive	OBL	OBL	FACW
Symphyotrichum urophyllum	SYMSAG	(Lindl.) G.L. Nesom	3 syn	ARROW-LEAVED ASTER	Asteraceae	555	(UPL)	forb	PE	shade	SYCO4		DI	native			
Symphytrichum undulatum	SYMUND	(L.) G.L. Nesom	3 syn	CLASPING HEART-LVD ASTER	Asteraceae		(UPL)	forb	PE	full	SYUN		DI	native			
Symphytum asperum	SYMASP	Lepech.	0	ROUGH COMFREY	Boraginaceae		(UPL)	forb	PE	advent	SYAS		DI	adventive	UPL	UPL	UPL

Symphytum officinale	SYMOFF	L.	0	COMMON COMFREY	Boraginaceae		(UPL)	forb	PE	advent	SYOF		DI	adventive			
Symphytum sp.	SYMPHY	ND		ND	Boraginaceae		UPL	forb	PE	advent	SYMPH2		DI				
Symplocarpus foetidus	SYNFOE	(L.) Salisb. ex Barton	6	SKUNK-CABBAGE	Araceae	482	OBL	forb	PE	shade	SYFO		MO	native	OBL	OBL	OBL
Synandra hispidula	SYNHIS	(Michx.) Baill.	7	SYNANDRA	Lamiaceae		FAC-	forb	PE	shade	SYHI		DI	native	FAC	FAC	
Syringa vulgaris	SYRVUL	L.	0	COMMON LILAC	Oleaceae		(UPL)	forb	W	advent	SYVU		DI	adventive			
Taenidia integerrima	TAEINT	(L.) Drude	6	YELLOW-PIMPERNEL	Apiaceae		(UPL)	forb	PE	full	TAIN		DI	native			
Tamarix chinensis	TAMCHI	Lour.	0	CHINESE TAMARISK	Tamaricaceae		FACW	shrub	W	advent	TACH2		DI	adventive	FACW	FACW	FAC
Tanacetum vulgare	TANVUL	L.	0	COMMON TANSY	Asteraceae		(UPL)	forb	PE	advent	TAVU		DI	adventive	UPL	UPL	FACU
Taraxacum laevigatum	TARLAE	(Willd.) DC.	0	RED-SEEDED DANDELION	Asteraceae		(UPL)	forb	PE	advent	TALA2		DI	adventive			
Taraxacum officinale	TAROFF	Weber ex F.H. Wigg.	0	COMMON DANDELION	Asteraceae		FACU-	forb	PE	advent	TAOF		DI	adventive	FACU	FACU	FACU
Taraxacum sp.	TARAXA	ND		ND	Asteraceae		ND	forb	PE	advent	TARAX		DI				
Taxodium distichum	TAXDIS	(L.) Rich	0	BALD CYPRESS	Taxodiaceae		OBL	tree	W	advent	TADI2		DI	adventive	OBL	OBL	OBL
Taxus canadensis	TAXCAN	Marshall	8	AMERICAN YEW	Taxaceae		FAC	shrub	W	shade	TACA7		GYMN	native	FAC	FACU	FACU
Tephrosia virginiana	TEPVIR	(L.) Pers.	6	GOAT'S-RUE	Fabaceae		(UPL)	forb	PE	full	TEVI		DI	native			
Teucrium canadense	TEUCAN	L.	3	AMERICAN GERMANDER	Lamiaceae	483	FACW-	forb	PE	full	TECA3		DI	native	FACW	FACW	FACW
Thalictrum dasycarpum	THADAS	Fisch. & Ave-Lall.	4	PURPLE MEADOW-RUE	Ranunculaceae		FACW	forb	PE	full	THDA		DI	native	FACW	FACW	FACW
Thalictrum dioicum	THADIO	L.	5	EARLY MEADOW-RUE	Ranunculaceae		FAC	forb	PE	full	THDI		DI	native	FAC	FACU	FACU
Thalictrum pubescens	THAPUB	Pursh	5	TALL MEADOW-RUE	Ranunculaceae	484	FACW+	forb	PE	full	THPU2		DI	native	FACW	FAC	FACW
Thalictrum revolutum	THAREV	DC.	7	SKUNK MEADOW-RUE	Ranunculaceae		UPL	forb	PE	full	THRE		DI	native	UPL	FAC	FAC
Thalictrum sp.	THALIC	ND		ND	Ranunculaceae		ND	forb	PE	full	THALI2		DI				
Thaspium barbinode	THABAR	(Michx.) Nutt.	4	BEARDED MEADOW-PARSNIP	Apiaceae	485	UPL	forb	PE	full	THBA		DI	native	FACU	FACU	UPL
Thaspium sp.	THASPI	ND	4	ND	Apiaceae		ND	forb	PE	full	THASP		DI				
Thaspium trifoliatum	THATRI	(L.) A. Gray	4	YELLOW MEADOW-PARSNIP	Apiaceae	486	(FACU)	forb	PE	full	THTR		DI	native			
Thelypteris hexagonaptera	THEHEX	(Michx.) Weath.	7 syn	BROAD BEECH-FERN	Thelypteridaceae		FAC	fern	PE	shade	PHHE11		SVP	native			
Thelypteris novaboracensis	THENOV	(L.) Nieuwl.	4 syn	NEW YORK FERN	Thelypteridaceae		FAC	fern	PE	shade	THNO		SVP	native			
Thelypteris palustris	THEPAL	Schott	6 syn	MARSH FERN	Thelypteridaceae	487	FACW+	fern	PE	full	THPA		SVP	native	FACW	OBL	FACW
Thelypteris phegopteris	THEPHE	(L.) Sloss	9 syn	LONG BEECH-FERN	Thelypteridaceae		FACU	fern	PE	shade	PHCO24	P	SVP	native			
Thelypteris sp.	THELYP	ND		ND	Thelypteridaceae		ND	fern	PE	shade	THELY2		SVP				
Thlaspi alliaceum	THLALL	L.	0	GARLIC PENNY-CRESS	Brassicaceae		(FACW-)	forb	AN	advent	THAL2		DI	adventive			
Thlaspi arvense	THLARV	L.	0	FIELD PENNY CRESS	Brassicaceae		UPL	forb	AN	advent	THAR5		DI	adventive	UPL	FACU	UPL
Thlaspi perfoliatum	THLPER	L.	0	PERFOLIATE PENNY CRESS	Brassicaceae		(UPL)	forb	AN	advent	MIPE8		DI	adventive			
Thlaspi sp.	THLASP	ND		ND	Brassicaceae		UPL	forb	AN	advent	THLAS		DI				
Thuja occidentalis	THUOCC	L.	9	ARBOR VITAE	Cupressaceae		FACW	tree	W	tree	THOC2	P	GYMN	native	FACW	FACW	FACW
Thymelaea passerina	THYPAS	(L.) Coss. & Germ.	0	THYMELAEA	Thymelaeaceae		(FACU)	forb	AN	advent	THPA7		DI	adventive			
Thymus serpyllum	THYSER	L.	0	WILD THYME	Lamiaceae		(FACU)	forb	PE	advent	THPRA		DI	adventive			
Tiarella cordifolia	TIACOR	L.	6	FOAMFLOWER	Saxifragaceae		FAC-	forb	PE	shade	TICO		DI	native	FAC	FACU	FACU
Tilia americana	TILAME	L.	6	AMERICAN BASSWOOD	Tiliaceae	488	FACU	tree	W	tree	TIAM		DI	native	FACU	FACU	FACU
Tilia heterophylla	TILHET	Vent.	6 syn	WHITE BASSWOOD	Tiliaceae		(FACU)	tree	W	tree	TIAMH		DI	native			
Tilia sp.	TILIA	ND	6	ND	Tiliaceae		FACU	tree	W	tree	TILIA		DI				
Tipularia discolor	TIPDIS	(Pursh) Nutt.	6	CRANE-FLY ORCHID	Orchidaceae		FACU	forb	PE	shade	TIDI		MO	native	FACU	FACU	FACU
Torilis arvensis	TORARV	(Huds.) Link	0	FIELD HEDGE-PARSLEY	Apiaceae		(UPL)	forb	AN	advent	TOAR		DI	adventive			
Torilis japonica	TORJAP	(Houtt.) DC.	0	JAPANESE HEDGE-PARSLEY	Apiaceae		(UPL)	forb	AN	advent	TOJA		DI	adventive			
Torilis sp.	TORILI	ND		ND	Apiaceae		UPL	forb	AN	advent	TORIL		DI				
Toxicodendron radicans	TOXRAD	(L.) Kuntze	1 syn	POISON-IVY	Anacardiaceae		FAC	vine	W	partial	TORA2		DI	native	FAC	FAC	FAC
Toxicodendron rydbergii	TOXRYD	(Small ex Rydb.) Greene	3 syn	NORTHERN POISON-IVY	Anacardiaceae	489	FAC-	vine	W	partial	TORY	E	DI	native	FAC	FAC	FAC
Toxicodendron vernix	TOXVER	(L.) Kuntze	7 syn	POISON SUMAC	Anacardiaceae		OBL	shrub	W	full	TOVE		DI	native	OBL	OBL	OBL
Tradescantia bracteata	TRABRA	Small	0	LONG-BRACTED SPIDERWORT	Commelinaceae		UPL	forb	PE	advent	TRBR		DI	adventive	UPL	FACU	FACU
Tradescantia ohiensis	TRAOHI	Raf.	5	OHIO SPIDERWORT	Commelinaceae		FAC	forb	PE	full	TROH		DI	native	FAC	FACU	FACU
Tradescantia sp.	TRADES	ND	5	ND	Commelinaceae		ND	forb	PE	ND	TRADE		DI				
Tradescantia subaspera	TRASUB	Ker Gawl.	5	ZIGZAG SPIDERWORT	Commelinaceae		(FACU)	forb	PE	shade	TRSU2		DI	native			
Tradescantia virginiana	TRAVIR	L.	5	VIRGINIA SPIDERWORT	Commelinaceae		FACU	forb	PE	shade	TRVI		DI	native	FACU	UPL	UPL
Tragopogon dubius	TRADUB	Scop.	0	FIELD GOAT'S-BEARD	Asteraceae		(UPL)	forb	PE	advent	TRDU		DI	adventive			
Tragopogon porrifolius	TRAPOR	L.	0	SALSIFY	Asteraceae		(UPL)	forb	PE	advent	TRPO		DI	adventive			
Tragopogon pratensis	TRAPRA	L.	0	YELLOW GOAT'S-BEARD	Asteraceae		(UPL)	forb	PE	advent	TRLA30		DI	adventive			
Tragopogon sp.	TRAGOP	ND		ND	Asteraceae		UPL	forb	PE	advent	TRAGO		DI				
Triadenum fraseri	TRIFRA	(Spach) Gleason	6 syn	FRASER'S ST. JOHN'S-WORT	Clusiaceae		OBL	forb	PE	full	TRFR		DI	native	OBL	OBL	OBL
Triadenum sp.	TRIADE	ND		ND	Clusiaceae		OBL	forb	PE	ND	TRIAD		DI				
Triadenum tubulosum	TRITUB	(Walter) Gleason	8 syn	MARSH ST. JOHN'S-WORT	Clusiaceae	490	OBL	forb	PE	shade	TRTU	T	DI	native	OBL	OBL	OBL
Triadenum virginicum	TRIVIR	(L.) Raf.	6 syn	VIRGINIA MARSH ST. JOHN'S-W.	Clusiaceae	491	OBL	forb	PE	full	TRVI2		DI	native	OBL	OBL	OBL
Triadenum walteri	TRIWAL	(J.G. Gmel) Gleason	8 syn	WALTER'S ST. JOHN'S-WORT	Clusiaceae		OBL	forb	PE	partial	TRWA	T	DI	native	OBL	OBL	
Triantha glutinosa	TRIGLU	(Michx.) Baker	10 syn	FALSE ASPHODEL	Liliaceae		OBL	forb	PE	full	TRGL5	T	MO	native	OBL	OBL	OBL
Tribulus terrestris	TRITER	L.	0	PUNCTURE-VINE	Zygophyllaceae		(UPL)	forb	AN	advent	TRTE		DI	adventive			
Trichomanes boschianum	TRIBOS	J.W. Sturm	10	APPALACHIAN FILMY FERN	Hymenophyllaceae		FACW	fern	PE	shade	TRBO	E	SVP	native	FACW	FACW	
Trichomanes intricatum	TRIINT	Farrar	10	WEFT FERN	Hymenophyllaceae		(UPL)	fern	PE	shade	TRIN13		SVP	native			
Trichomanes sp.	TRICHO	ND	10	ND	Hymenophyllaceae		ND	fern	PE	shade	TRICH5		SVP	native			
Trichophorum planifolium	TRIPLA	(Spreng.) Palla	7 syn	FLAT-LEAVED BULRUSH	Cyperaceae		(UPL)	sedge	PE	partial	TRPL6		MO	native			

Trichostema dichotomum	TRIDOC	L.	4 syn	BLUECURLS	Lamiaceae		(UPL)	forb	AN	full	TRDI2		DI	native	UPL	UPL	UPL
Trichostema setaceum	TRISET	Houtt.	7 syn	NARROW-LEAVED BLUECURLS	Lamiaceae		(UPL)	forb	AN	full	TRSE5	E	DI	native			
Trichostema sp.	TRICHS	ND		ND	Lamiaceae		UPL	forb	AN	full	TRICH9		DI				
Tridens flavus	TRIFLA	(L.) Hitchc.	1 syn	GREASE GRASS	Poaceae		FACU	grass	PE	full	TRFL2		MO	native	FACU	UPL	UPL
Trientalis borealis	TRIBOR	Raf.	7	STARFLOWER	Primulaceae		FAC	forb	PE	shade	TRBO2		DI	native	FAC	FAC	FAC
Trifolium arvense	TRFARV	L.	0	RABBIT-FOOT CLOVER	Fabaceae		(UPL)	forb	AN	advent	TRAR4		DI	adventive			
Trifolium aureum	TRFAUR	Pollich	0	PALMATE HOP CLOVER	Fabaceae	492	(UPL)	forb	AN	advent	TRAU2		DI	adventive			
Trifolium campestre	TRFCAM	Schreb.	0	PINNATE HOP CLOVER	Fabaceae	493	(UPL)	forb	AN	advent	TRCA5		DI	adventive			
Trifolium dubium	TRFDUB	Sibth.	0	LITTLE HOP CLOVER	Fabaceae		UPL	forb	AN	advent	TRDU2		DI	adventive	UPL	FACU	FACU
Trifolium hybridum	TRFHYB	L.	0	ALSIKE CLOVER	Fabaceae		FACU-	forb	PE	advent	TRHY		DI	adventive	FACU	FACU	FACU
Trifolium incarnatum	TRFINC	L.	0	CRIMSON CLOVER	Fabaceae		(UPL)	forb	AN	advent	TRIN3		DI	adventive			
Trifolium pratense	TRFPRA	L.	0	RED CLOVER	Fabaceae		FACU-	forb	PE	advent	TRPR2		DI	adventive	FACU	FACU	FACU
Trifolium reflexum	TRFREF	L.	8	BUFFALO CLOVER	Fabaceae	494	(UPL)	forb	BI	partial	TRRE2	E	DI	native			
Trifolium repens	TRFREP	L.	0	WHITE CLOVER	Fabaceae		FACU-	forb	PE	advent	TRRE3		DI	adventive	FACU	FACU	FACU
Trifolium sp.	TRIFOL	ND		ND	Fabaceae		ND	forb	ND	ND	TRIFO		DI				
Trifolium stoloniferum	TRFSTO	Muhl. ex Eaton	5	RUNNING BUFFALO CLOVER	Fabaceae		(FACU+)	forb	PE	partial	TRST4	E	DI	native			
Triglochin maritima	TRIMAR	L.	10	SEASIDE ARROW-GRASS	Juncaginaceae	495	OBL	forb	PE	full	TRMA20	T	MO	native	OBL	OBL	OBL
Triglochin palustre	TRIPAL	L.	10	MARSH ARROW-GRASS	Juncaginaceae	496	OBL	forb	PE	full	TRPA28	P	MO	native	OBL	OBL	OBL
Triglochin sp.	TRIGLO	ND	10	ND	Juncaginaceae		OBL	forb	PE	full	TRIGL		MO				
Trillium cernuum	TRLCER	L.	7	NODDING TRILLIUM	Liliaceae		FACW	forb	PE	shade	TRCE	X	MO	native	FACW	FAC	FAC
Trillium erectum	TRLERE	L.	7	PURPLE TRILLIUM	Liliaceae		FACU-	forb	PE	shade	TRER3		MO	native	FACU	UPL	FACU
Trillium flexipes	TRLFLE	Raf.	6	DROOPING TRILLIUM	Liliaceae		FAC	forb	PE	shade	TRFL6		MO	native	FAC	FACU	FAC
Trillium grandiflorum	TRLGRA	(Michx.) Salisb.	5	LARGE-FLOWERED TRILLIUM	Liliaceae		(UPL)	forb	PE	shade	TRGR4		MO	native			
Trillium nivale	TRLNIV	Riddell	9	SNOW TRILLIUM	Liliaceae		(UPL)	forb	PE	shade	TRNI2		MO	native			
Trillium recurvatum	TRLREC	L.C. Beck	6	PRAIRIE WAKE-ROBIN	Liliaceae		UPL	forb	PE	shade	TRRE5	T	MO	native	UPL	FACU	FACU
Trillium sessile	TRLSES	L.	5	TOAD-SHADE	Liliaceae		UPL	forb	PE	shade	TRSE2		MO	native	UPL	FACU	FACU
Trillium sp.	TRILLI	ND		ND	Liliaceae		ND	forb	PE	shade	TRILL		MO				
Trillium undulatum	TRLUND	Willd.	8	PAINTED TRILLIUM	Liliaceae		FACU	forb	PE	shade	TRUN	E	MO	native	FACU		FACU
Triodanis perfoliata	TRDPER	(L.) Nieuwl.	2 syn	VENUS'-LOOKING-GLASS	Scrophulariaceae		FAC	forb	AN	full	TRPE4		DI	native	FAC	FAC	FACU
Triosteum angustifolium	TRIANG	L.	5	LESSER HORSE-GENTIAN	Caprifoliaceae		FAC	forb	PE	full	TRAN3		DI	native	FAC	FAC	FAC
Triosteum aurantiacum	TRIAUR	E.P. Bicknell	5	WILD COFFEE	Caprifoliaceae		(UPL)	forb	PE	full	TRAU4		DI	native			
Triosteum perfoliatum	TRIPER	L.	5	TINKER'S-WEED	Caprifoliaceae		(UPL)	forb	PE	full	TRPE5		DI	native			
Triosteum sp.	TRIOST	ND	5	ND	Caprifoliaceae		ND	forb	PE	full	TRIOS		DI				
Triphora trianthophora	TRITRI	(Sw.) Rydb.	9	THREE-BIRD ORCHID	Orchidaceae	497	UPL	forb	PE	shade	TRTR3	P	MO	native	UPL	FACU	FACU
Triplasis purpurea	TRIPUR	(Walter) Chapm.	9	PURPLE SAND GRASS	Poaceae		(UPL)	grass	AN	full	TRPU4	P	MO	native			
Tripsacum dactyloides	TRIDAC	(L.) L.	0	GAMA GRASS	Poaceae		(UPL)	grass	PE	advent	TRDA3		MO	adventive	FACW	FAC	FAC
Triticum aestivum	TRIAES	L.	0	WHEAT	Poaceae		UPL	grass	AN	advent	TRAE		MO	adventive			
Trollius laxus	TROLAX	Salisb.	9	SPREADING GLOBEFLOWER	Ranunculaceae		OBL	forb	PE	partial	TRLA14	E	DI	native	OBL		OBL
Tsuga canadensis	TSUCAN	(L.) Carriere	8	EASTERN HEMLOCK	Pinaceae		FACU	tree	W	tree	TSCA		GYMN	native	FACU	FACU	FACU
Tulipa gesneriana	TULGES	L.	0	TULIP	Liliaceae		UPL	forb	PE	advent	TUGE		MO	adventive			
Tussilago farfara	TUSFAR	L.	0	COLTSFOOT	Asteraceae		FACU	forb	PE	advent	TUFA		DI	adventive	FACU	FACU	FACU
Typha angustifolia	TYPANG	L.	0	NARROW-LEAVED CAT-TAIL	Typhaceae	498	OBL	forb	PE	advent	TYAN		MO	adventive	OBL	OBL	OBL
Typha latifolia	TYPLAT	L.	1	BROAD-LEAVED CAT-TAIL	Typhaceae		OBL	forb	PE	full	TYLA		MO	native	OBL	OBL	OBL
Typha sp.	TYPHA	ND		ND	Typhaceae		OBL	forb	PE	ND	TYPHA		MO				
Typha x glauca	TYPGLA	Godr.	0	HYBRID CAT-TAIL	Typhaceae	499	OBL	forb	PE	advent	TYGL		MO	adventive	OBL	OBL	OBL
Ulmus americana	ULMAME	L.	2	AMERICAN ELM	Ulmaceae		FACW-	tree	W	tree	ULAM		DI	native	FACW	FACW	FACW
Ulmus pumila	ULMPUM	L.	0	SIBERIAN ELM	Ulmaceae		(UPL)	tree	W	tree	ULPU		DI	adventive	FACU	UPL	FACU
Ulmus rubra	ULMRUB	Muhl.	3	SLIPPERY ELM	Ulmaceae		FAC	tree	W	tree	ULRU		DI	native	FAC	FAC	FAC
Ulmus sp.	ULMUS	ND		ND	Ulmaceae		ND	ND	W	ND	ULMUS		DI				
Ulmus thomasii	ULMTHO	Sarg.	7	ROCK ELM	Ulmaceae		FACU+	sm tree	W	partial	ULTH	P	DI	native	FACU	FAC	FAC
Urtica chamaedryoides	URTCHA	Pursh	9	SPRING NETTLE	Urticaceae		FACU	forb	AN	shade	URCH3	E	DI	native	FACU	FACU	FACU
Urtica dioica L. var. procera	URTIDIOP	(Muhl. ex Willd.) Wedd.	1	AMERICAN STINGING NETTLE	Urticaceae	500	(FAC-)	forb	PE	full	URDIG		DI	native	FACU	FACW	FAC
Urtica dioica var. dioica	URTDIOD	L.	0	EUROPEAN STINGING NETTLE	Urticaceae		(FACU)	forb	PE	advent	URDID		DI	adventive	FACU	FACW	FAC
Urtica sp.	URTICA	ND		ND	Urticaceae		ND	forb	ND	ND	URTIC		DI				
Utricularia cornuta	UTRCOR	Michx.	10	HORNED BLADDERWORT	Lentibulariaceae		OBL	forb	PE	full	UTCO	E	DI	native	OBL	OBL	OBL
Utricularia geminiscapa	UTRGEM	Benj.	10	TWO-SCAPED BLADDERWORT	Lentibulariaceae		OBL	forb	PE	full	UTGE	E	DI	native	OBL	OBL	OBL
Utricularia gibba	UTRGIB	L.	8	HUMPED BLADDERWORT	Lentibulariaceae		OBL	forb	PE	full	UTGI		DI	native	OBL	OBL	OBL
Utricularia intermedia	UTRINT	Hayne	10	FLAT-LEAVED BLADDERWORT	Lentibulariaceae		OBL	forb	PE	full	UTIN2	T	DI	native	OBL	OBL	OBL
Utricularia minor	UTRMIN	L.	8	LESSER BLADDERWORT	Lentibulariaceae		OBL	forb	PE	full	UTMI	T	DI	native	OBL	OBL	OBL
Utricularia sp.	UTRICU	ND		ND	Lentibulariaceae		OBL	forb	PE	full	UTRIC		DI				
Utricularia vulgaris	UTRVUL	L.	6	COMMON BLADDERWORT	Lentibulariaceae	501	OBL	forb	PE	full	UTMA		DI	native	OBL	OBL	OBL
Uvularia grandiflora	UVUGRA	Sm.	5	LARGE-FLOWERED BELLWORT	Liliaceae		(UPL)	forb	PE	shade	UVGR		MO	native			
Uvularia perfoliata	UVUPER	L.	5	PERFOLIATE BELLWORT	Liliaceae		FACU	forb	PE	shade	UVPE		MO	native	FACU	FACU	FACU
Uvularia sessilifolia	UVUSES	L.	5	MERRY-BELLS	Liliaceae		FACU-	forb	PE	shade	UVSE		MO	native	FAC	FACU	FACU
Uvularia sp.	UVULAR	ND	5	ND	Liliaceae		ND	forb	PE	shade	UVULA		MO				
Vaccaria hispanica	VACHIS	(Mill.) Rauschert	0 syn	COW-HERB	Caryophyllaceae		(UPL)	forb	AN	advent	VAHI2		DI	adventive	FAC	UPL	UPL

Vaccinium angustifolium	VACANG	Aiton	7	LOW SUGARBERRY	Ericaceae	502	FACU-	shrub	W	shade	VAAN		DI	native	FACU	FACU	FACU
Vaccinium corymbosum	VACCOR	L.	6	HIGHBUSH BLUEBERRY	Ericaceae	503	FACW-	shrub	W	partial	VACO		DI	native	FACW	FACW	FACW
Vaccinium macrocarpon	VACMAC	Aiton	8	LARGE CRANBERRY	Ericaceae		OBL	shrub	W	full	VAMA		DI	native	OBL	OBL	OBL
Vaccinium myrtilloides	VACMYR	Michx.	9	VELVET-LEAVED BLUEBERRY	Ericaceae		FAC	shrub	W	shade	VAMY	E	DI	native	FACW	FACW	FACW
Vaccinium oxycoccos	VACOXY	L.	10	SMALL CRANBERRY	Ericaceae		OBL	shrub	W	full	VAOX	T	DI	native	OBL	OBL	OBL
Vaccinium pallidum	VACPAL	Aiton	6	LOW BLUEBERRY	Ericaceae	504	(UPL)	shrub	W	shade	VAPA4		DI	native			
Vaccinium sp.	VACCIN	ND		ND	Ericaceae		ND	shrub	W	ND	VACCI		DI				
Vaccinium stamineum	VACSTA	L.	6	DEERBERRY	Ericaceae	505	FACU-	shrub	W	shade	VAST		DI	native	FACU	FACU	FACU
Valeriana ciliata	VALCIL	Torr. & A. Gray	10 syn	PRAIRIE VALERIAN	Valerianaceae		OBL	forb	PE	full	VAEDC	E	DI	native		FACW	FACW
Valeriana officinalis	VALOFF	L.	0	GARDEN VALERIAN	Valerianaceae		(FACU)	forb	PE	advent	VAOF		DI	adventive			
Valeriana pauciflora	VALPAU	Michx.	7	LARGE-FLOWERED VALERIAN	Valerianaceae		FACW	forb	PE	full	VAPA2		DI	native	FACW	FACW	FACW
Valeriana sp.	VALERI	ND		ND	Valerianaceae		ND	forb	PE	ND	VALER		DI				
Valeriana uliginosa	VALULI	(Torr. & A. Gray) Rydb.	10	SWAMP VALERIAN	Valerianaceae		(FACW+)	forb	PE	full	VAUL2	X	DI	native			OBL
Valerianella chenopodifolia	VALCHE	(Pursh) DC.	4	GOOSEFOOT CORN-SALAD	Valerianaceae		(FAC-)	forb	AN	full	VACH		DI	native			FAC
Valerianella locusta	VALLOC	(L.) Latourr.	0	EUROPEAN CORN-SALAD	Valerianaceae		(UPL)	forb	AN	advent	VALO		DI	adventive			
Valerianella radiata	VALRAD	(L.) Dufr.	0	CORN-SALAD	Valerianaceae		FAC	forb	AN	advent	VARA		DI	adventive	FAC	FAC	FAC
Valerianella sp.	VALERN	ND		ND	Valerianaceae		ND	forb	AN	ND	VALER2		DI				
Valerianella umbilicata	VALUMB	(Sull.) A.W. Wood	2	BEAKED CORN-SALAD	Valerianaceae		FAC	forb	AN	full	VAUM		DI	native	FAC	FACW	FACW
Vallisneria americana	VALAME	Michx.	8	WATER-CELERY	Hydrocharitaceae		OBL	forb	PE	full	VAAM3		MO	native	OBL	OBL	OBL
Veratrum viride	VERVIRI	Aiton	6	FALSE HELLEBORE	Liliaceae		FACW+	forb	PE	shade	VEVI		MO	native	FACW		FACW
Verbascum blattaria	VERBLA	L.	0	MOTH MULLEIN	Scrophulariaceae		(UPL)	forb	BI	advent	VEBL		DI	adventive	UPL	FACU	FACU
Verbascum phlomoides	VERPHL	L.	0	CLASPING-LEAVED MULLEIN	Scrophulariaceae		(UPL)	forb	BI	advent	VEPH		DI	adventive			
Verbascum sp.	VERBAS	ND		ND	Scrophulariaceae		UPL	forb	BI	advent	VERBA		DI				
Verbascum thapsus	VERTHA	L.	0	COMMON MULLEIN	Scrophulariaceae		(UPL)	forb	BI	advent	VETH		DI	adventive	FACU	UPL	UPL
Verbascum virgatum	VERVIRG	Stokes	0	TWIGGY MULLEIN	Scrophulariaceae		(UPL)	forb	BI	advent	VEVI2		DI	adventive			
Verbena bracteata	VERBRA	Lag. & Rodr.	0	BRACTED VERVAIN	Verbenaceae		UPL	forb	PE	full	VEBR		DI	native	UPL	FACU	FACU
Verbena canadensis	VERCAN	(L.) Britton	0	ROSE VERVAIN	Verbenaceae		(UPL)	forb	PE	advent	GLCA2		DI	adventive			
Verbena hastata	VERHAS	L.	4	BLUE VERVAIN	Verbenaceae		FACW+	forb	PE	full	VEHA2		DI	native	FACW	FACW	FACW
Verbena simplex	VERSIM	Lehm.	5	NARROW-LEAVED VERVAIN	Verbenaceae		(UPL)	forb	PE	full	VESI		DI	native			
Verbena sp.	VERBEN	ND		ND	Verbenaceae		ND	forb	PE	ND	VERBE		DI				
Verbena stricta	VERSTR	Vent.	3	HOARY VERVAIN	Verbenaceae		(UPL)	forb	PE	full	VEST		DI	native			
Verbena urticifolia	VERURT	L.	3	WHITE VERVAIN	Verbenaceae		FACU	forb	PE	full	VEUR		DI	native	FAC	FAC	FAC
Verbesina alternifolia	VERALT	(L.) Britton ex Kearney	5 syn	WINGSTEM	Asteraceae		FAC	forb	PE	partial	VEAL		DI	native	FAC	FACW	FACW
Verbesina helianthoides	VERHEL	Michx.	5	HAIRY WINGSTEM	Asteraceae		(UPL)	forb	PE	full	VEHE	P	DI	native			
Verbesina occidentalis	VEROCC	(L.) Walter	5	YELLOW CROWN-BEARD	Asteraceae		UPL	forb	PE	shade	VEOC	E	DI	native	FACU	FACU	
Verbesina sp.	VERBES	ND	5	ND	Asteraceae		ND	forb	PE	ND	VERBE2		DI				
Verbesina virginica	VERVIRA	L.	0	FROSTWEED	Asteraceae		UPL	forb	PE	advent	VEVI3		DI	adventive	UPL	FACU	
Vernonia fasciculata	VERFAS	Michx.	8	WESTERN IRONWEED	Asteraceae		FAC+	forb	PE	full	VEFA2	T	DI	native	FAC	FACW	FACW
Vernonia gigantea	VERGIG	(Walter) Trel.	2	TALL IRONWEED	Asteraceae		FAC	forb	PE	full	VEGI		DI	native	FAC	FAC	FAC
Vernonia missurica	VERMIS	Raf.	8	MISSOURI IRONWEED	Asteraceae		FACU+	forb	PE	full	VEMI2	E	DI	native	FACU	FAC	FAC
Vernonia noveboracensis	VERNOV	(L.) Michx.	3	NEW YORK IRONWEED	Asteraceae		FACW+	forb	PE	full	VENO	X	DI	native	FACW	FACW	FACW
Vernonia sp.	VERNON	ND		ND	Asteraceae		ND	forb	PE	full	VERNO		DI				
Veronica agrestis	VERAGR	L.	0	FIELD SPEEDWELL	Scrophulariaceae		(UPL)	forb	AN	advent	VEAG		DI	adventive			
Veronica americana	VERAME	Schwein. ex Benth.	6	AMERICAN BROOKLIME	Scrophulariaceae		OBL	forb	PE	partial	VEAM2		DI	native	OBL	OBL	OBL
Veronica anagallis-aquatica	VERANA	L.	6	WATER SPEEDWELL	Scrophulariaceae		OBL	forb	PE	full	VEAN2		DI	native	OBL	OBL	OBL
Veronica arvensis	VERARV	L.	0	CORN SPEEDWELL	Scrophulariaceae		(UPL)	forb	AN	advent	VEAR		DI	adventive	UPL	FACU	FACU
Veronica beccabunga	VERBEC	L.	0	EUROPEAN BROOKLIME	Scrophulariaceae		OBL	forb	PE	advent	VEBE		DI	adventive	OBL	OBL	OBL
Veronica catenata	VERCAT	Pennell	6	SWEET-WATER SPEEDWELL	Scrophulariaceae		OBL	forb	PE	full	VEAN2		DI	native	OBL	OBL	OBL
Veronica chamaedrys	VERCHA	L.	0	BIRD'S-EYE SPEEDWELL	Scrophulariaceae		(UPL)	forb	PE	advent	VECH		DI	adventive	UPL	UPL	UPL
Veronica filiformis	VERFIL	Sm.	0	CREEPING SPEEDWELL	Scrophulariaceae		(UPL)	forb	PE	advent	VEFI		DI	adventive			
Veronica hederifolia	VERHED	L.	0	IVY-LEAVED SPEEDWELL	Scrophulariaceae		(UPL)	forb	AN	advent	VEHE2		DI	adventive			
Veronica latifolia	VERLAT	L.	0	BROAD-LEAVED SPEEDWELL	Scrophulariaceae	506	(UPL)	forb	PE	advent	VEAUT		DI	adventive			
Veronica longifolia	VERLON	L.	0	GARDEN SPEEDWELL	Scrophulariaceae		(UPL)	forb	PE	advent	PSLO6		DI	adventive			
Veronica officinalis	VEROFF	L.	0	COMMON SPEEDWELL	Scrophulariaceae		FACU-	forb	PE	advent	VEOF2		DI	adventive	FACU	UPL	FACU
Veronica peregrina var. peregrina	VERPERP	L.	1	PURSLANE SPEEDWELL	Scrophulariaceae	507	FACU-	forb	AN	full	VEPEP		DI	native	FAC	FACW	FAC
Veronica peregrina var. xalapensis	VERPERX	(Kunth) H. St. John & F.A. Warren	0	HAIRY PURSLANE SPEEDWELL	Scrophulariaceae		FACU-	forb	AN	advent	VEPEX2		DI	adventive	FAC	FACW	FAC
Veronica persica	VERPER	Poir.	0	CAT'S-EYE SPEEDWELL	Scrophulariaceae		(UPL)	forb	AN	advent	VEPE3		DI	adventive			
Veronica polita	VERPOL	Fr.	0	WAYSIDE SPEEDWELL	Scrophulariaceae		(UPL)	forb	AN	advent	VEPO		DI	adventive			
Veronica scutellata	VERSCU	L.	6	MARSH SPEEDWELL	Scrophulariaceae		OBL	forb	PE	full	VESC2		DI	native	OBL	OBL	OBL
Veronica serpyllifolia	VERSER	L.	0	THYME-LEAVED SPEEDWELL	Scrophulariaceae		FAC+	forb	PE	advent	VESE		DI	adventive	FAC	FACW	FAC
Veronica sp.	VERONI	ND		ND	Scrophulariaceae		ND	forb	ND	ND	VERON		DI				
Veronica verna	VERVER	L.	0	SPRING SPEEDWELL	Scrophulariaceae		(UPL)	forb	AN	advent	VEVE		DI	adventive			
Veronicastrum virginicum	VERVIRM	(L.) Farw.	7	CULVER'S-ROOT	Scrophulariaceae		FACU	forb	PE	full	VEVI4		DI	native	FACU	FAC	FAC
Viburnum acerifolium	VIBACE	L.	6	MAPLE-LEAVED VIBURNUM	Caprifoliaceae	508	(UPL)	shrub	W	shade	VIAC		DI	native	UPL	UPL	UPL
Viburnum alnifolium	VIBALN	Marshall	8	HOBBLEBUSH	Caprifoliaceae	509	FAC	shrub	W	shade	VILA11	T	DI	native	FACU		FACU
Viburnum cassinoides	VIBCAS	L.	5 syn	WITHE-ROD	Caprifoliaceae		FACW	shrub	W	shade	VINUC		DI	native	OBL	FACW	FACW

Viburnum dentatum	VIBDEN	L.	2	ARROW-WOOD	Caprifoliaceae	510	FAC	shrub	W	full	VIDE		DI	native	FAC	FAC	FAC
Viburnum lantana	VIBLAN	L.	0	WAYFARING TREE	Caprifoliaceae		(UPL)	shrub	W	advent	VILA		DI	adventive			
Viburnum lentago	VIBLEN	L.	5	NANNYBERRY	Caprifoliaceae		FAC	shrub	W	partial	VILE		DI	native	FAC	FAC	FAC
Viburnum molle	VIBMOL	Michx.	6	SOFT-LEAVED ARROW-WOOD	Caprifoliaceae		(UPL)	shrub	W	shade	VIMO	T	DI	native			
Viburnum opulus L. var. americana	VIBOPUA	Aiton	8	HIGHBUSH-CRANBERRY	Caprifoliaceae		FACW	shrub	W	shade	VIOPA2	E	DI	native	FACW	FAC	FACW
Viburnum opulus var. opulus	VIBOPUO	L.	0 syn	EUROPEAN CRANBERRY-BUSH	Caprifoliaceae		FACW	shrub	W	advent	VIOPO		DI	adventive	FACW	FAC	FACW
Viburnum prunifolium	VIBPRU	L.	4	BLACK-HAW	Caprifoliaceae		FACU	shrub	W	shade	VIPR		DI	native	FACU	FACU	FACU
Viburnum rafinesquianum	VIBRAF	Schult.	5	DOWNY ARROW-WOOD	Caprifoliaceae	511	(UPL)	shrub	W	shade	VIRA		DI	native			
Viburnum recognitum	VIBREC	Aiton	2 syn	NORTHERN ARROW-WOOD	Caprifoliaceae		FACW-	shrub	W	partial	VIRE7		DI	native	FAC	FAC	FAC
Viburnum rufidulum	VIBRUF	Raf.	6	SOUTHERN BLACK-HAW	Caprifoliaceae		(UPL)	shrub	W	partial	VIRU	P	DI	native	UPL	FACU	
Viburnum seiboldii	VIBSIE	MIq.	0	SEIBOLD'S ARROWWOOD	Caprifoliaceae		(FACU)	shrub	W	partial			MO	adventive			
Viburnum sp.	VIBURN	ND		ND	Caprifoliaceae		ND	shrub	W	ND	VIBUR		DI				
Vicia americana	VICAME	Muhl. ex Willd.	5	AMERICAN VETCH	Fabaceae		(UPL)	forb	PE	full	VIAM		DI	native	FACU	FACU	FACU
Vicia angustifolia	VICANG	L.	0	NARROW-LEAVED VETCH	Fabaceae		FACU-	vine	AN	advent	VISAN2		DI	adventive	FACU	FACU	FACU
Vicia caroliniana	VICCAR	Walter	5	CAROLINA WOOD VETCH	Fabaceae		FACU-	forb	PE	full	VICA2		DI	native	FACU	UPL	UPL
Vicia cracca	VICCRA	L.	0	BIRD VETCH	Fabaceae		(UPL)	forb	PE	advent	VICR		DI	adventive			
Vicia dasycarpa	VICDAS	Ten.	0	WOOLLY-PODDED VETCH	Fabaceae		(UPL)	forb	AN	advent	VIVIV8		DI	adventive			
Vicia hirsuta	VICHIR	(L.) Gray	0	TINY VETCH	Fabaceae		(UPL)	forb	AN	advent	VIHI		DI	adventive			
Vicia sativa	VICSAT	L.	0 syn	COMMON VETCH	Fabaceae	512	FACU-	forb	AN	advent	VISA		DI	adventive	FACU	FACU	FACU
Vicia sp.	VICIA	ND		ND	Fabaceae		ND	forb	ND	ND	VICIA		DI				
Vicia tetrasperma	VICTET	(L.) Schrebr.	0	FOUR-SEEDED VETCH	Fabaceae		(UPL)	vine	AN	advent	VITE		DI	adventive			
Vicia villosa	VICVIL	Roth	0	HAIRY VETCH	Fabaceae		(UPL)	forb	AN	advent	VIVI		DI	adventive			
Vinca major	VINMAJ	L.	0	GREATER PERIWINKLE	Apocynaceae		(FACU-)	forb	PE	advent	VIMA		DI	adventive			
Vinca minor	VINMIN	L.	0	PERIWINKLE	Apocynaceae		(UPL)	vine	PE	advent	VIMI2		DI	adventive			
Vincetoxicum nigrum	VINNIG	(L.) Moench	0 syn	BLACK SWALLOW-WORT	Asclepiadaceae		(UPL)	forb	PE	advent	CYLO11		DI	adventive			
Viola arvensis	VIOARV	Murray	0	EUROPEAN FIELD-PANSY	Violaceae		(UPL)	forb	AN	advent	VIAR		DI	adventive			
Viola blanda	VIOBLA	Willd.	7	SWEET WHITE VIOLET	Violaceae	513	FACW	forb	PE	shade	VIBL		DI	native	FACW	FACW	FACW
Viola canadensis	VIOCAN	L.	5	CANADA VIOLET	Violaceae		(UPL)	forb	PE	shade	VICA4		DI	native	FAC	FACU	FACU
Viola conspersa	VIOCON	Rchb.	5	AMERICAN DOG VIOLET	Violaceae		FACW	forb	PE	partial	VILA10		DI	native	FAC	FACW	FAC
Viola cucullata	VIOCUC	Aiton	6 syn	MARSH BLUE VIOLET	Violaceae	514	FACW+	forb	PE	partial	VICU		DI	native	FACW	OBL	OBL
Viola hastata	VIOHAS	Michx.	7	HALBERD-LEAVED VIOLET	Violaceae		(UPL)	forb	PE	shade	VIHA2		DI	native	UPL	UPL	UPL
Viola lanceolata	VIOLAN	L.	8	LANCE-LEAVED VIOLET	Violaceae		OBL	forb	PE	full	VILA4	P	DI	native	OBL	OBL	OBL
Viola macloskeyi	VIOMAC	F.E. Lloyd	8 syn	NORTHERN WHITE VIOLET	Violaceae	515	(OBL)	forb	PE	partial	VIMA2		DI	native	FACW	OBL	OBL
Viola missouriensis	VIOMIS	Greene	10 syn	MISSOURI VIOLET	Violaceae		FACU	forb	PE	shade	VIMI3	E	DI	native	FACU	FACW	FAC
Viola nephrophylla	VIONEP	Greene	10	NORTHERN BOG VIOLET	Violaceae	516	FACW	forb	PE	partial	VINE	E	DI	native	FACW	FACW	FACW
Viola odorata	VIOODO	L.	0	SWEET VIOLET	Violaceae		(UPL)	forb	PE	advent	VIOD		DI	adventive			
Viola palmata L. var. pedatifida	VIOPPED	(G. Don) Cronquist	9 syn	PRAIRIE VIOLET	Violaceae	518	FACU-	forb	PE	full	VIPE2	E	DI	native	FACU	FACU	FACU
Viola palmata var. palmata	VIOPPAL	L.	4 syn	PALMATE-LEAVED VIOLET	Violaceae	517	FACW	forb	PE	partial	VIPA18		DI	native	FACU	FACU	FACU
Viola pedata	VIOPED	L.	8	BIRD-FOOT VIOLET	Violaceae		UPL	forb	PE	full	VIPE	T	DI	native	FACU	UPL	UPL
Viola primulifolia	VIOPRI	L.	8	PRIMROSE-LEAVED VIOLET	Violaceae		FAC+	forb	PE	full	VIPR4	E	DI	native	FAC	FACW	FACW
Viola pubescens	VIOPUB	Aiton	4	DOWNY YELLOW VIOLET	Violaceae	519	FACU-	forb	PE	shade	VIPU3		DI	native	FACU	FACU	FACU
Viola rafinesquii	VIORAF	Greene	2 syn	FIELD PANSY	Violaceae	520	(UPL)	forb	AN	full	VIBI		DI	native			
Viola rostrata	VIOROS	Pursh	5	LONG-SPURRED VIOLET	Violaceae		FACU	forb	PE	shade	VIRO		DI	native	FACU	FACU	FACU
Viola rotundifolia	VIOROT	Michx.	8	ROUND-LEAVED VIOLET	Violaceae		FAC+	forb	PE	shade	VIRO2		DI	native	FAC	FAC	FAC
Viola sagittata	VIOSAG	Aiton	4	ARROW-LEAVED VIOLET	Violaceae	521	FACW	forb	PE	full	VISA2		DI	native	FAC	FAC	FAC
Viola sororia	VIOSOR	Willd.	1 syn	COMMON BLUE VIOLET	Violaceae	522	FAC-	forb	PE	shade	VISO		DI	native	FAC	FAC	FAC
Viola sp.	VIOLA	ND		ND	Violaceae		ND	forb	ND	ND	VIOLA		DI				
Viola striata	VIOSTR	Aiton	5	STRIPED CREAMY VIOLET	Violaceae		FACW	forb	PE	partial	VIST3		DI	native	FACW	FACW	FACW
Viola tricolor	VIOTRC	L.	0	JOHNNY-JUMP-UP	Violaceae		(UPL)	forb	AN	advent	VITR		DI	adventive			
Viola tripartita	VIOTRP	Elliott	7	WEDGE-LEAVED VIOLET	Violaceae	523	(UPL)	forb	PE	shade	VITR4	T	DI	native			
Viola villosa	VIOVIL	Brainerd	6 syn	SOUTHERN WOOD VIOLET	Violaceae	524	FACU-	forb	PE	full	VIVI3		DI	native	FACU	FACU	
Viola walteri	VIOWAL	House	9	WALTER'S VIOLET	Violaceae		(UPL)	forb	PE	shade	VIWA	T	DI	native	FACU	FACU	FACU
Vitex negundo	VITNEG	L.	0	CUT-LEAVED CHASTE-TREE	Verbenaceae		(UPL)	sm tree	W	advent	VINE2		DI	adventive			
Vitis aestivalis	VITAES	Michx.	4	SUMMER GRAPE	Vitaceae	525	FACU	vine	W	shade	VIAE		DI	native	FACU	FACU	FACU
Vitis cinerea	VITCIN	(Engelm.) Millard	6	PIGEON GRAPE	Vitaceae	526	FACW	vine	W	partial	VICI2		DI	native	FACW	FACW	FACW
Vitis labrusca	VITLAB	L.	3	FOX GRAPE	Vitaceae	527	FACU	vine	W	full	VILA8		DI	native	FACU	FACU	FACU
Vitis riparia	VITRIP	Michx.	3	RIVERBANK GRAPE	Vitaceae		FACW	vine	W	partial	VIRI		DI	native	FACW	FACW	FAC
Vitis sp.	VITIS	ND		ND	Vitaceae		ND	vine	W	ND	VITIS		DI				
Vitis vulpina	VITVUL	L.	3	FROST GRAPE	Vitaceae		FAC	vine	W	shade	VIVU		DI	native	FAC	FAC	FAC
Vittaria appalachiana	VITAPP	Farrar & Mickel	10	APPALACHIAN SHOESTRING FERN	Vittariaceae	528	(FACU)	fern	PE	shade	VIAP2		DI	native			
Vulpia bromoides	VULBRO	(L.) Gray	0	6-WEEKS BROME GRASS	Poaceae		FACW	grass	AN	advent	VUBR		MO	adventive	FACW	UPL	UPL
Vulpia myuros	VULMYU	(L.) C.C. Gmel.	0	RAT-TAIL FESCUE	Poaceae		UPL	grass	AN	advent	VUMY		MO	adventive	UPL	FACU	FACU
Vulpia octoflora	VULOCT	(Walter) Rydb.	4 syn	SIX-WEEKS FESCUE	Poaceae	529	(UPL)	grass	AN	full	VUOC		MO	native	UPL	FACU	FACU
Waldsteinia fragarioides	WALFRA	(Michx.) Tratt.	6	BARREN STRAWBERRY	Rosaceae		(UPL)	forb	PE	full	WAFR		DI	native			
Wisteria floribunda	WISFLO	(Willd.) DC	0	JAPANESE WISTERIA	Fabaceae		(FACU)	shrub	W	advent	WIFL		DI	adventive			
Wisteria frutescens	WISFRU	(L.) Poir.	0	AMERICAN WISTERIA	Fabaceae		FACW-	vine	PE	advent	WIFR		DI	adventive	FACW	FACW	FACW

Wolffia borealis	WOLBOR	(Engelm. ex Hegelm.) Landolt	6	NORTHERN WATER-MEAL	Lemnaceae	530	OBL	forb	AN	full	WOBO		MO	native	OBL	OBL	OBL
Wolffia brasiliensis	WOLBRA	Weddell	6 syn	BRAZILIAN WATER-MEAL	Lemnaceae	531	OBL	forb	AN	full	WOBR		MO	native	OBL	OBL	OBL
Wolffia columbiana	WOLCOL	Karsten	3	COMMON WATER-MEAL	Lemnaceae		OBL	forb	AN	full	WOCO		MO	native	OBL	OBL	OBL
Wolffia sp.	WOLFFI	ND		ND	Lemnaceae		OBL	forb	AN	full	WOLFF		MO				
Wolffiella gladiata	WOLGLA	(Hegelm.) Hegelm.	7 syn	WOLFFIELLA	Lemnaceae		OBL	forb	AN	full	WOGL2	P	MO	native	OBL	OBL	OBL
Woodsia ilvensis	WOOILV	(L.) R. Br.	9	RUSTY CLIFF FERN	Dryopteridaceae		(UPL)	fern	PE	shade	WOIL	X	SVP	native			
Woodsia obtusa	WOOOBT	(Spreng.) Torr.	6	BLUNT-LOBED CLIFF FERN	Dryopteridaceae		(UPL)	fern	PE	shade	WOOB2		SVP	native			
Woodsia sp.	WOODSI	ND		ND	Dryopteridaceae		UPL	fern	PE	shade	WOODS		SVP				
Woodwardia areolata	WOOARE	(L.) T. Moore	6	NETTED CHAIN FERN	Blechnaceae		FACW+	fern	PE	full	WOAR	P	SVP	native	FACW	OBL	OBL
Woodwardia sp.	WOODWA	ND		ND	Blechnaceae		ND	fern	PE	full	WOODW		SVP				
Woodwardia virginica	WOOVIR	(L.) Sm.	8	VIRGINIA CHAIN FERN	Blechnaceae		OBL	fern	PE	full	WOVI		SVP	native	OBL	OBL	OBL
Xanthium sp.	XANTHI	ND		ND	Asteraceae		ND	forb	AN	advent	XANTH2		DI				
Xanthium spinosum	XANSPI	L.	0	SPINY COCKLEBUR	Asteraceae		FACU	forb	AN	advent	XASP2		DI	adventive	FACU	FACU	FACU
Xanthium strumarium	XANSTR	L.	0	COMMON COCKLEBUR	Asteraceae	532	FAC	forb	AN	advent	XAST		DI	adventive	FAC	FAC	FAC
Xanthorhiza simplicissima	XANSIM	Marshall	0	YELLOW-ROOT	Ranunculaceae		FACW	forb	PE	advent	XASI		DI	adventive	FACW	FACW	FACW
Xyris difformis	XYRDIF	Chapm.	10	CAROLINA YELLOW-EYED-GRASS	Xyridaceae	533	OBL	forb	PE	full	XYDI	E	MO	native	OBL	OBL	OBL
Xyris sp.	XYRIS	ND	10	ND	Xyridaceae		OBL	forb	PE	full	XYRIS		MO				
Xyris torta	XYRTOR	Sm.	10	TWISTED YELLOW-EYED-GRASS	Xyridaceae		OBL	forb	PE	full	XYTO	T	MO	native	OBL	OBL	OBL
Yucca filamentosa	YUCFIL	L.	0	YUCCA	Agavaceae		(UPL)	forb	PE	advent	YUFI		MO	adventive			
Zannichellia palustris	ZANPAL	L.	6	HORNED-PONDWEED	Najadaceae		OBL	forb	PE	full	ZAPA		MO	native	OBL	OBL	OBL
Zanthoxylum americanum	ZANAME	Mill.	3	PRICKLY-ASH	Rutaceae		FACU	shrub	W	shade	ZAAM		DI	native	FACU	FACU	FACU
Zea mays	ZEAMAY	L.	0	CORN	Poaceae		(UPL)	grass	AN	advent	ZEMA		MO	adventive			
Zigadenus elegans	ZIGELE	Pursh	10	WAND-LILY	Liliaceae	534	FAC+	forb	PE	shade	ZIEL2	P	MO	native			
Zizania aquatica	ZIZAQU	L.	9	WILD RICE	Poaceae		OBL	grass	AN	full	ZIAQ	T	DI	native	OBL	OBL	OBL
Zizia aptera	ZIZAPT	(A. Gray) Fernald	7	HEART-LEAVED GOLDEN ALEX.	Apiaceae		FAC	forb	PE	full	ZIAP		DI	native	FAC	FACU	FACU
Zizia aurea	ZIZAUR	(L.) W.D.J. Koch	6	GOLDEN ALEXANDERS	Apiaceae		FAC	forb	PE	full	ZIAU		DI	native	FAC	FAC	FAC
Zizia sp.	ZIZIA	ND		ND	Apiaceae		FAC	forb	PE	full	ZIZIA		DI				
Zosterella dubia	ZOSDUB	(Jacq.) Small	5 syn	WATER STAR-GRASS	Pontederiaceae		OBL	forb	PE	full	HEDU2		MO	native	OBL	OBL	OBL

Appendix F. Mud Creek Preserve site soil investigation report.

ROGER J. CASE, PROFESSIONAL SOIL SCIENTIST

POST OFFICE BOX 489, CLAVERACK, NEW YORK 12513 |
518-851-7953 CELL: 518-755-5023 | cptdirt@verizon.net

May 8, 2020

To: James Curatolo, Executive Director
The Wetland Trust
4729 State Route 414
Burdett, New York 14818

Re: Test Pits @ Fish and Game Road, Claverack, New York

This soil investigation was done on May 6, 2020. The test pits were logged by Roger J. Case. CPSC, CPSS. Jeremy Waddell represented The Wetland Trust and James Archer was the backhoe operator. The purpose of the investigation was to determine that the soil profiles in the upland adjacent to the delineated wetlands were non-hydric upland soil profiles that could; by design, excavation, grading and replanting be converted to wetland.

The site is a broad area of clayey lacustrine deposits that have been until recently farmed. The Columbia County Soil Survey indicates that the soils in the area of concern is mostly (KnA) Kingsbury and Rhinebeck soils in a complex where they cannot easily be mapped separately. Based on our investigation; the soils are dominantly somewhat poorly drained Rhinebeck silty clay loam with some inclusions of moderately well drained Hudson silt loam.

The fields had until recently been harvested for hay. Drainage patterns in the fields suggest that the surface drainage practice of bedding had been used to enhance surface runoff so hay could be harvested. There may be some subsurface drainage in the field. None was observed at the time of this investigation.

The wetlands had been delineated previous to this investigation.

Rhinebeck soils are very deep, somewhat poorly and poorly drained soils formed in clayey lacustrine deposits. Hudson soils are very deep moderately well drained soils occurring in similar settings.

Typically, both soils will have seeps just above the very firm clayey layers in the substratum.

Five test pits were observed outside the previously delineated wetland.

DEEP SOIL TEST PIT OBSERVATIONS

Test Pit #1 0 to 10 inches, brown (10YR 4/3) silt loam.
10 to 19 inches, light yellowish brown (2.5Y 6/4) silty clay loam.
19 to 24 inches, grayish brown (2.5Y 5/2) silty clay loam
24 to 36 + inches, light gray (2.5Y 7/2) silty clay loam, with few medium distinct (2.5Y 6/4) mottles and strong seeps at 34 inches.

A boundary condition is at 19 inches
Soil series: Hudson silt loam

Test Pit #2 0 to 10 inches, dark gray (2.5Y 4/1) silty clay loam.
10 to 25 inches, light brownish gray (2.5Y 6/2) silty clay with common fine and medium distinct (10YR 5/4) mottles
25 to 36 + inches, gray (2.5Y 5/1) GLEYED layers of silt and clay with strong seeps at 30 inches.

A boundary condition is at 0 inches
Soil series: Rhinebeck silty clay loam

Test Pit #3 0 to 10 inches, light olive brown (2.5Y 5/3) silty clay loam.
10 to 23 inches, light yellowish brown (2.5Y 6/4) silty clay loam.
23 to 42 + inches, light gray (2.5Y 6/1) silty clay with strong seeps at 34 inches.

A boundary condition is at 23 inches
Soil series: Hudson silt loam

Test Pit #4 0 to 12 inches, light olive brown (2.5Y 5/3) silty clay loam.
12 to 25 inches, light yellowish brown (2.5Y 6/4) silty clay loam.
25 to 36 + inches, light brownish gray (2.5Y 6/2) silty clay loam with strong seeps at 26 inches.

A boundary condition is at 25 inches
Soil series: Hudson silt loam

Test Pit #5 0 to 17 inches, gray (2.5Y 6/1) silty clay loam.
17 to 33 inches, light brownish gray (2.5Y 7/1) silty clay with common fine and medium distinct (10YR 5/4) mottles
33 to 40 + inches, gray (2.5Y 7/1) GLEYED layers of silt and clay with strong seeps at 31 inches.

A boundary condition is at 0 inches
Soil series: Rhinebeck silty clay loam

Conclusions:

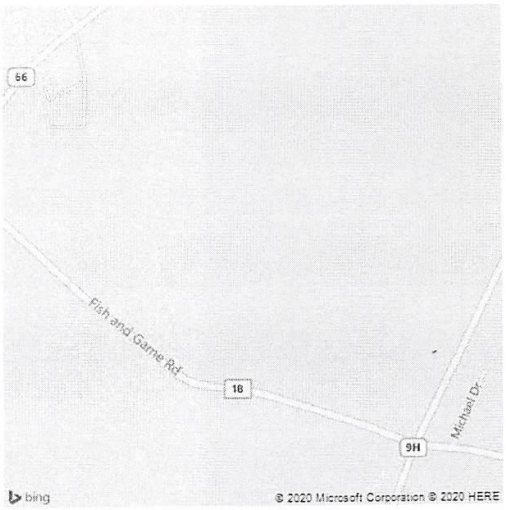
Three of the five test pits observed were non-hydric soils in marginal upland landscape settings. With proper design, grading and plantings locations adjacent to test pits 1,3 & 4 should successfully convert to wetlands.

The existing wetlands in the vicinity of this investigation have a long history of agricultural impacts and have diminished value in its current condition. No water fowl, reptiles or amphibians were observed on the property. Wetlands in the undisturbed locations on the property are likely high value.

fish and game road hudson ny - Bing https://www.bing.com/maps?q=fish+and+game+road+hudson+n...

bing maps

Notes





Approximate locations of the deep soil test pits @ Fish & Game Road



Test pit #1: Non-hydric Hudson silt loam



Test pit #2: Hydric Rhinebeck silty clay loam



Test pit #3: Non Hydric Hudson silt loam



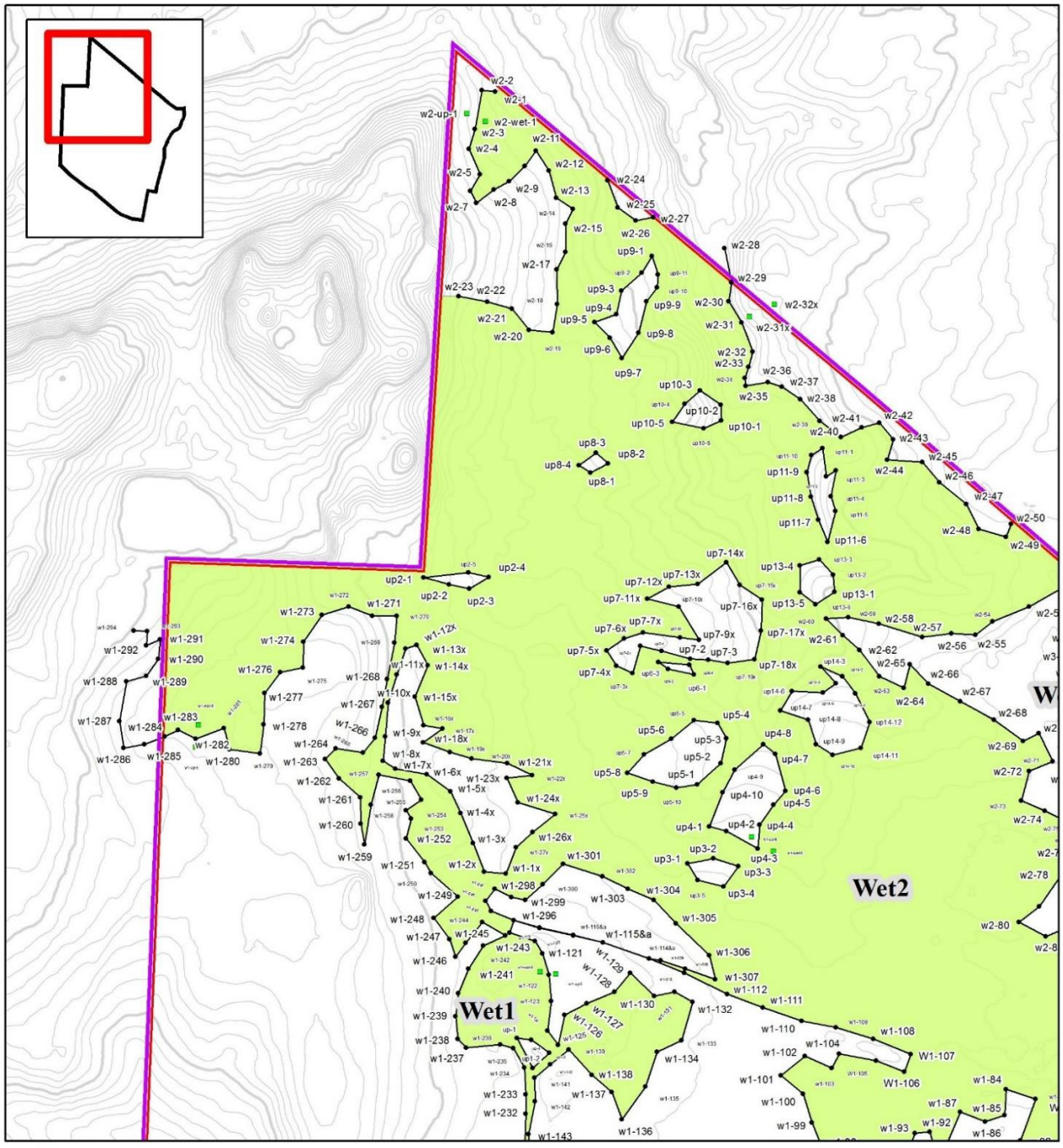
Test pit #4: Non-hydric Hudson silt loam



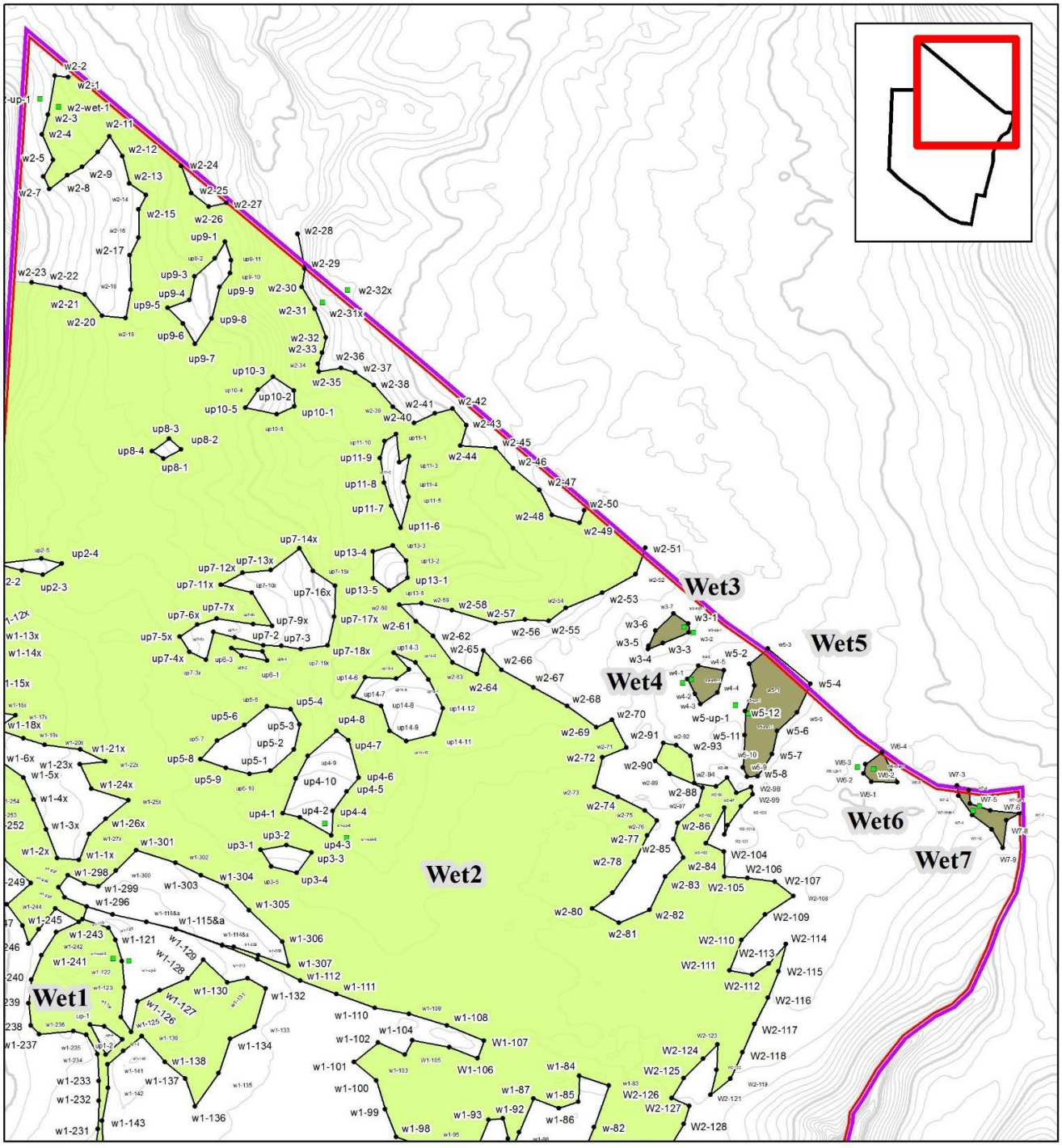
Test pit #5: Hydric Rhinebeck silty clay loam

Appendix G. Mud Creek Preserve mitigation site wetland delineation map and report.

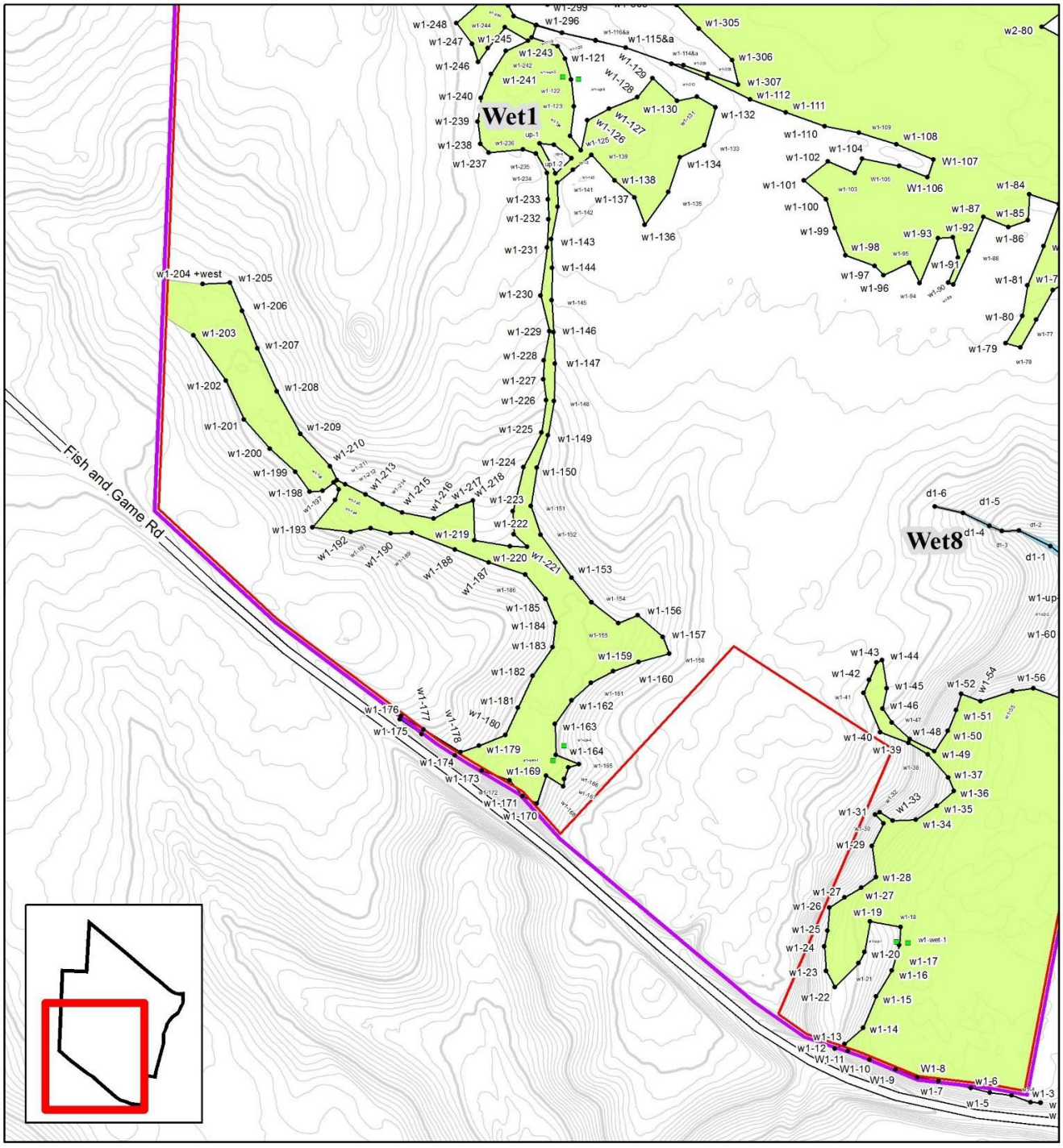
Figures 21-24. Mud Creek Preserve Mitigation Site Wetland Delineation Detail



GPS Data Collection Methodology:
The wetland points identified in this Figure were collected with a sub-meter accurate Trimble Geo7x Series Handheld GPS unit with floodlight/ real-time correction enabled. At each wetland flag/location, data were recorded and averaged for a minimum of 10-15 seconds to ensure accurate positioning. The GPS points were uploaded and imported into Trimble Pathfinder Office Software. The points were differentially collected using data imported from the nearest available base station. They were then exported to a comma-delimited file and imported into Microsoft Excel for final data manipulation and presentation to The Wetland Trust by Diehlux LLC. The final delineation points, listed in Addendum A, Appendix IV were then imported into ArcGIS 10.7.1 and used to create the Delineation Points Pointfile and Delineation Boundary Polygon included in this Figure and subsequent project maps.



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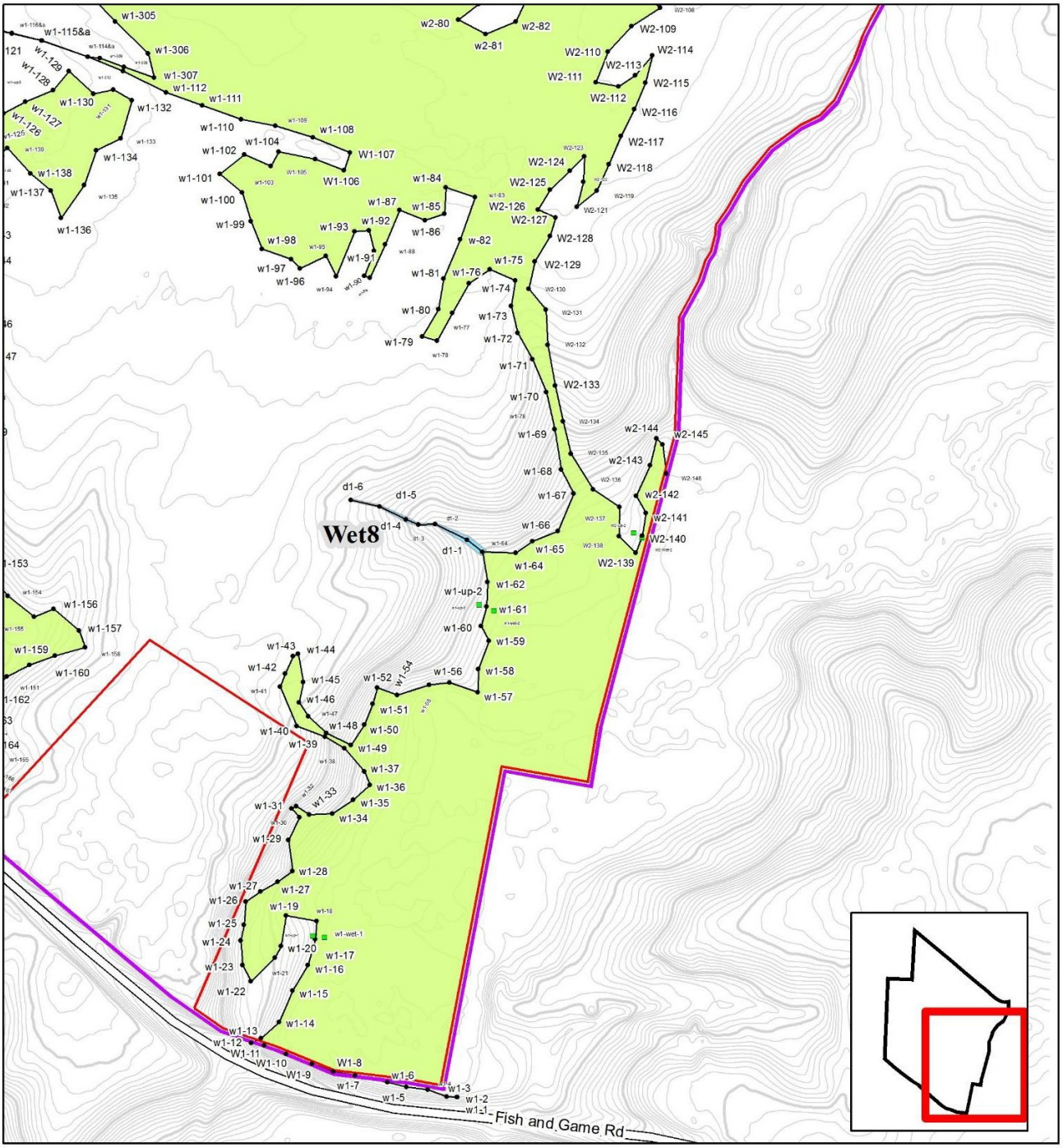


0 200 400 Feet

Scale: 1 inch = 221 feet

- Delineation points
- Data points
- TWT Mud Creek Preserve
- TWT Mud Creek Preserve CE
- Wetland delineation
- PEM
- PUB
- 1-foot contour interval
- 10-foot contour interval

GPS Data Collection Methodology:
The wetland points identified in this Figure were collected with a sub-meter accurate Trimble Geo7x Series Handheld GPS unit with floodlight/ real-time correction enabled. At each wetland flag/location, data were recorded and averaged for a minimum of 10-15 seconds to ensure accurate positioning. The GPS points were uploaded and imported into Trimble Pathfinder Office Software. The points were differentially collected using data imported from the nearest available base station. They were then exported to a comma-delimited file and imported into Microsoft Excel for final data manipulation and presentation to The Wetland Trust by Diehlux LLC. The final delineation points, listed in Addendum A, Appendix IV were then imported into ArcGIS 10.7.1 and used to create the Delineation Points Pointfile and Delineation Boundary Polygon included in this Figure and subsequent project maps.



0 200 400 Feet

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- Delineation points
- Data points
- TWT Mud Creek Preserve
- TWT Mud Creek Preserve CE
- Wetland delineation
- PEM
- PUB
- 1-foot contour interval
- 10-foot contour interval

GPS Data Collection Methodology:
The wetland points identified in this Figure were collected with a sub-meter accurate Trimble Geo7x Series Handheld GPS unit with floodlight/ real-time correction enabled. At each wetland flag/location, data were recorded and averaged for a minimum of 10-15 seconds to ensure accurate positioning. The GPS points were uploaded and imported into Trimble Pathfinder Office Software. The points were differentially collected using data imported from the nearest available base station. They were then exported to a comma-delimited file and imported into Microsoft Excel for final data manipulation and presentation to The Wetland Trust by Diehlux LLC. The final delineation points, listed in Addendum A, Appendix IV were then imported into ArcGIS 10.7.1 and used to create the Delineation Points Pointfile and Delineation Boundary Polygon included in this Figure and subsequent project maps.

April 21, 2020

Mr. Jim Curatolo
The Wetland Trust, Inc.
4729 State Route 414
Burdett, New York 14818

RE: THE WETLANDS TRUST – MID-HUDSON SITE
109 FISH AND GAME ROAD, TOWN OF CLAVERACK, COLUMBIA COUNTY, NEW YORK
FRESHWATER WETLANDS DELINEATION REPORTING

Dear Mr. Curatolo

The following represents our findings, recommendations, and conclusions upon completion of the freshwater wetlands, watercourse and waterbody delineation services authorized by The Wetlands Trust Inc., herein referred to as "the Client" on January 16, 2020. The proposed project includes delineation of all wetlands, watercourses and/or waterbodies on the approximately 95-acre property located immediately north of 109 Fish and Game Road (Rt 18) and east of Union Turnpike (Rt. 66) in the Town of Claverack, Columbia County, New York (Site). A copy of the Site location map provided by the Client is included in Appendix I.

A. Purpose

The purpose of this investigation was to determine the location of state or federally-regulated freshwater wetlands, watercourses, or water bodies within the limits of the Site, as well as any environmental permitting requirements associated with Articles 15 and 24 of the New York State Environmental Conservation Law (ECL), as well as Sections 404 and 401 of the Clean Water Act. Generally, these environmental regulations pertain to the protection and preservation of wetlands, watercourses and waterbodies throughout New York and/or the United States.

B. Preliminary Review

As part of the freshwater wetlands and waterbody field delineation services, a preliminary review of the existing Site conditions was performed prior to our Site visit utilizing reasonably available data and mapping obtained from the following resources:

- United States Geological Survey (USGS) Topographic Map(s);
- County GIS Map(s), if available;
- New York State (NYS) Department of Environmental Conservation (DEC) Environmental Resource Mapper Freshwater Wetlands Map(s);
- United States Fish & Wildlife Services (USFWS) National Wetland Inventory (NWI) Map(s);
- United States Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Soils Map(s);
- Google Earth satellite imagery; and
- Project Documents, Reports, etc. (as provided by the Client or Client representative)

Copies of these maps and associated documents are included as Appendix II.

C. Freshwater Wetlands Field Delineations

A field investigation of any upland/wetland, watercourse, or water body boundaries was completed on the Site. The field investigation was completed in accordance with the following technical manual(s):

- Environmental Laboratory. (1987). "Corps of Engineers Wetlands Delineation Manual," Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, Miss.

- U.S. Army Corps of Engineers. 2011. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0), ed. J. S. Wakeley, R. W. Lichvar, C. V. Noble, and J. F. Berkowitz. ERDC/EL TR-12-1. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

D. Field Findings

The Site is located immediately north of Fish and Game Road, with Rt. 66 to the west and Rt. 9H to the east. It is predominantly fallow farm field with mixed emergent and wet meadow wetlands, with smaller areas of forested/scrub-shrub wetlands along the periphery and interior. A residential house and farm barn are located on the southeast corner of the Site adjacent to Mud Creek. An overhead electrical utility corridor parallels

the western Site boundary. Remnants of wooden fences and two-track farm roads were evident throughout the property. The surrounding area is mainly rural with a medical professional building to the west and undeveloped woodlots/fields with a few residential homes to the north, east and south. The Site slopes gently downhill north to south in the central portion of the property with more dramatic elevation loss on the western and eastern edges of the parcel.

A wetland, watercourse and water body field investigation was completed at the Site by qualified wetlands biologists on April 16, 2020. The average temperature was 35-45° Fahrenheit. Field conditions were not problematic and suitable plant cover was conducive to performing the fieldwork. In total, eight (8) wetland features were identified during the delineation. Wetlands W1 and W2 are large wetland complexes (predominantly mixed emergent and wet meadow) that spanned much of the Site within the fallow farm fields. Wetlands W3-W7 were forested wetlands located in the northern portion of the Site. Ditch D1 was a drainage feature located in the eastern portion of the Site that ultimately drained into Wetland W1. It is important to note that the ordinary high-water mark of Mud Creek located in the southeast corner of the Site was not located per the direction of the Client. Lastly, several upland inclusions (UP1-UP11, UP13-14) were delineated within the fallow field/emergent wetlands (Wetlands W1/W2) are also noted below. Table 1 below outlines the findings of our investigation(s):

Table 1.

Resource(s)	Flagging	Location	Type	Dominant Vegetation
Federally Regulated Freshwater Wetland (PEM1E/PFO1F)	W1-1 to W1-309 W1-1X to W1-27X UP1-1 to UP1-10 UP2-1 to UP2-4 UP3-1 to UP3-5 UP4-1 to UP4-10 UP5-1 to UP5-10 UP6-1 to UP6-4 UP7-1 to UP7-3/ UP7-1x to UP7-19x UP8-1 to UP8-4	Spans much of the south-central portion of the Site	Wetland: Palustrine, Forested, Broad Leaved-Deciduous, Semi-Permanently Flooded/ Palustrine, Emergent Marsh, Persistent, Seasonally Flooded/Saturated	Purple Loosestrife Cattail Sensitive Fern Carex spp. Tussock Sedge American Elm Red Maple Red Osier Dogwood Reed Canary Grass
Federally Regulated Freshwater Wetland (PEM1E/PFO1E)	W2-1 to W2-146 UP9-1 to UP9-11 UP10-1 to Up10-6 UP11-1 to UP11-6 *"UP12" numbering was	Spans much of the northwestern/north central portion of the Site	Wetland: Palustrine, Forested, Broad Leaved-Deciduous, Seasonally Flooded/Saturated / Palustrine, Emergent Marsh,	Purple Loosestrife Cattail Sensitive Fern Carex spp. Tussock Sedge Swamp White Oak

	inadvertently skipped during delineation. UP13-1 to UP13-6 UP14-1 to UP14-12		Persistent, Seasonally Flooded/Saturated	Red Osier Dogwood Reed Canary Grass
Federally Regulated Freshwater Wetland (PFO1F)	W3-1 to W3-7	Along northcentral portion of Site	Wetland: Palustrine, Forested, Broad Leaved-Deciduous Semi-Permanently Flooded	Red Maple Swamp White Oak Carex spp.
Federally Regulated Freshwater Wetland (PFO1F)	W4-1 to W4-6	Along northcentral portion of Site	Wetland: Palustrine, Forested, Broad Leaved-Deciduous Semi-Permanently Flooded	American Elm Swamp White Oak Red Maple
Federally Regulated Freshwater Wetland (PFO1F)	W5-1 to W5-11	Along northeastern portion of Site	Wetland: Palustrine, Forested, Broad Leaved-Deciduous Semi-Permanently Flooded	Red Maple Musclewood Skunk Cabbage Elm
Federally Regulated Freshwater Wetland (PFO1E)	W6-1 to W6-5	Along northeastern portion of Site	Wetland: Palustrine, Forested, Broad-Leaved Deciduous, Seasonally Flooded/Saturated	Red Maple Buckthorn Sensitive Fern
Federally Regulated Freshwater Wetland (PFO1E)	W7-1 to W7-7	Along northeastern portion of Site	Wetland: Palustrine, Forested, Broad Leaved-Deciduous Seasonally Flooded/Saturated	Swamp White Oak Hophornbeam Red Maple Sensitive Fern
Federally Regulated Freshwater Ditch (PUB4E)	D1-1 to D1-6	East central portion of Site	Ditch: Palustrine, Unconsolidated Bottom, Organic, Seasonally Flooded/Saturated	Centerline of ditch (2-6' wide) draining to Wetland W1 Goldenrod Reed Canary Grass

Site photographs are documented as Appendix III.

E. Conclusions and Recommendations

As part of the wetlands investigation for this project Site, we included an evaluation of Section 401 and 404 jurisdiction and permitting applicability, as well as potential regulatory or permitting requirements under Articles 15 and 24 of the NYS ECL, or local municipal government.

The following outlines our conclusions and recommendations regarding wetlands and watercourse permitting requirements for this proposed project:

1. The Town of Claverack, Columbia County, New York, does not appear to have a separate Chapter for local regulation of wetlands, waterbodies or watercourses. Therefore, no specific/separate local wetlands, watercourse, or water body permits are anticipated to be required by the Town of Claverack.

2. According to the NYS DEC Environmental Resource Map, no state-regulated freshwater wetlands are located on-Site. Wetland HS-4 is located immediately southeast of the Site on the south side of Fish and Game Road, however. No permits associated with disturbance to NYS DEC regulated wetlands and/or their 100-buffer/adjacent areas pursuant to Article 24 regulations under the Environmental Conservation Law (ECL) are anticipated.

   In addition, Mud Creek is located along the southeast corner of the Site. This stream is a "Class C" designated watercourse and would be jurisdictional under NYS DEC Article 15 regulations if deemed "navigable". As such, a Joint Application for Permit (JAP) may need to be completed for any regulated activities for the excavation or placing of fill in navigable waters of the state below the mean high-water level.

   Lastly, a section 401 Water Quality Certification (WQC) from Region 3 NYSDEC office will be required if a Section 404 permit from USACE is needed. Copies of NYS DEC Environmental Resource maps are documented in Appendix II.

3. According to the U.S. Fish & Wildlife Service National Wetlands Inventory Map, Mud Creek (R2UBH) flows south along the southeastern portion of the Site. In addition, two small forested/scrub-shrub wetlands (Wetlands W1/W5) are shown within the Site limits along with a pond on the northwestern limit. During the delineation, it was evident the fallow farm fields were reverting back to wetlands as much of the Site was unmapped wetland (mixed emergent and wet meadow). In addition, the mapped

wetland along the northern portion of the Site was observed to be five (5) separate forested wetlands. Please refer to Appendix II for current NWI mapping.

It is DIEHLUX's understanding the Client will be utilizing the Site to expand and construct wetlands for future mitigation credit acquisition. Given such, it is unclear if federally regulated Waters of the US (WOUS) and/or state regulated watercourses will be impacted as a result of the proposed project. Consultation with the U.S. Army Corps of Engineers (USACE) New York City Office in accordance with Section 404 of the Clean Water Act as well as Region 3 of NYS DEC under Article 15 of the ECL may be warranted. Should the project scope be updated or revised to incorporate additional Site acreage or areas of disturbance beyond those previously reviewed during the Site visit on April 16, 2020 DIEHLUX recommends additional evaluation of the Site.

We appreciate the opportunity to be involved in your project and hope that you have found our services helpful. We are happy to assist with any required permit applications or follow up should you need our assistance. Please contact us if you have any questions, comments, concerns or requests for additional information.

Respectfully Submitted,

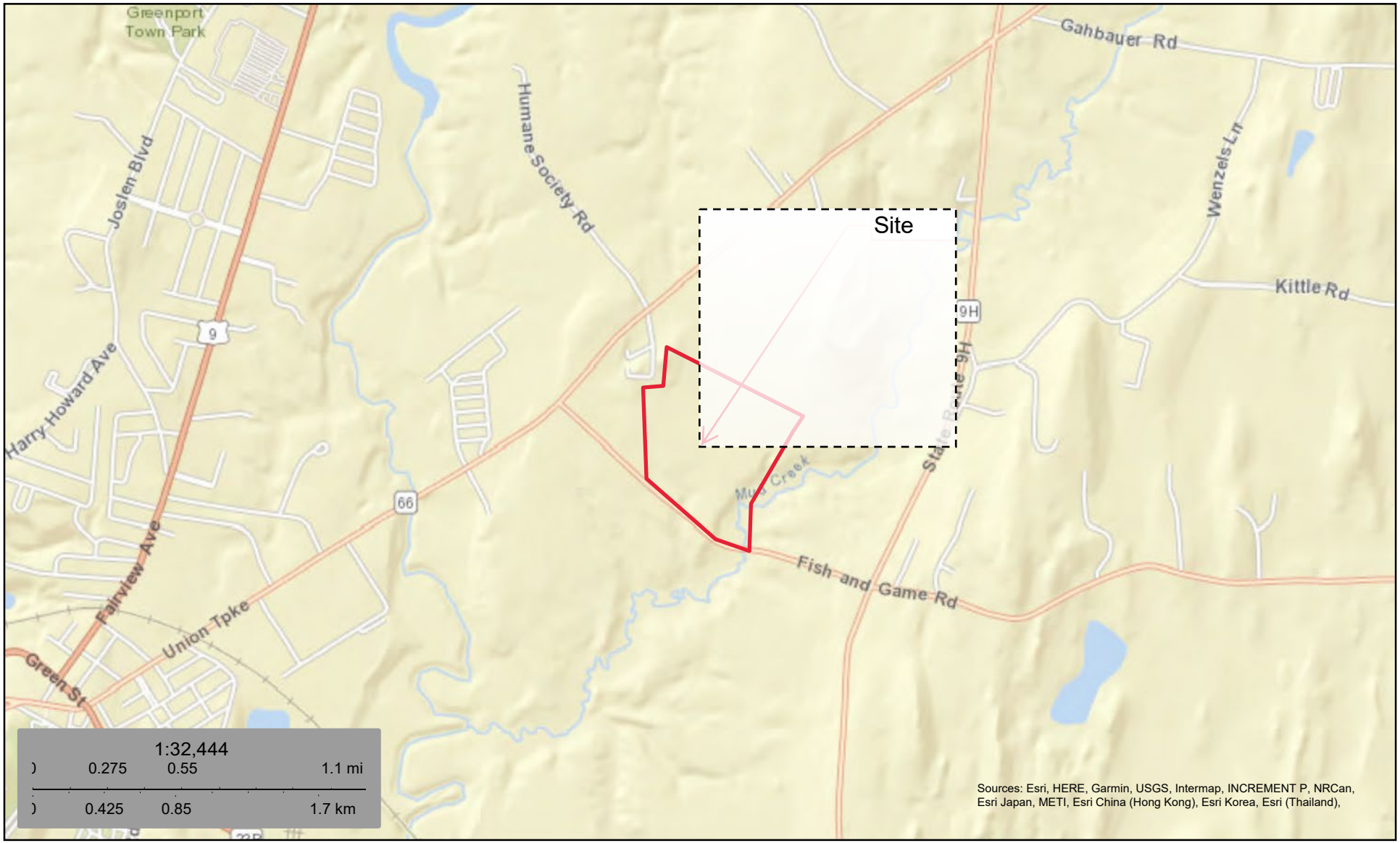
Travis Money
Manager of Ecological Services/Senior Ecologist

Attachments: Appendix I – Site Location Maps
Appendix II - Preliminary Site Review Data
Appendix III – Site Photographs
Appendix IV – Wetland Flag Coordinates/Sketch Map
Appendix V - USACE Data Sheets

APPENDIX I

U.S. Fish and Wildlife Service
National Wetlands Inventory

Mid-Hudson Site - Street



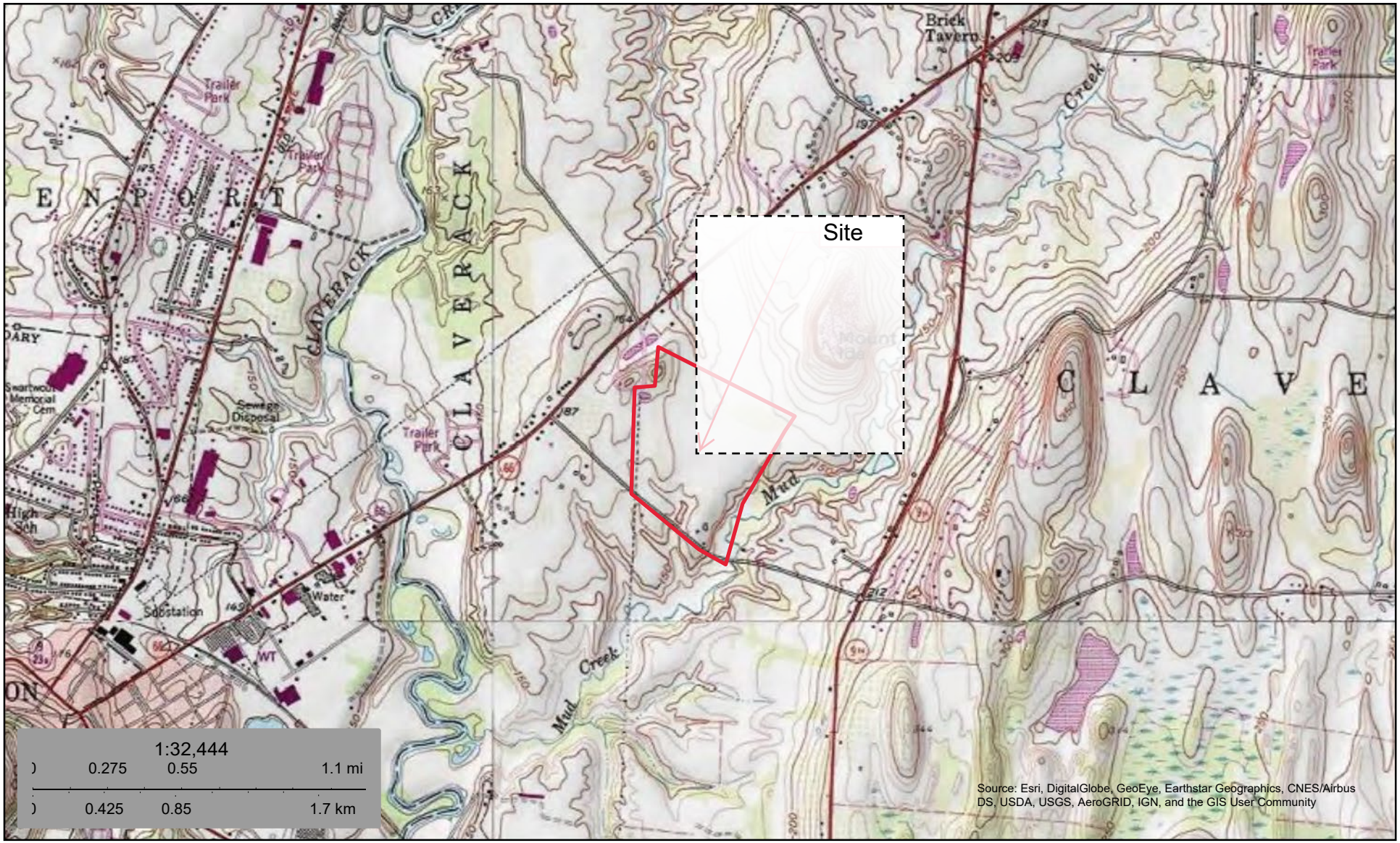
March 19, 2020

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

U.S. Fish and Wildlife Service

National Wetlands Inventory

Mid-Hudson Site - USGS



March 19, 2020

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.



550 275 0 550 Feet

Prop er tv Bound a r v

2' Conto u rs

DE C Regu lated Wetland s

NW I l'l'la p pe d Wetla nd s

APPENDIX II

Mid-Hudson Site - NYSDEC ER Mapper



March 19, 2020

1:9,028

0 0.07 0.15 0.3 mi

0 0.13 0.25 0.5 km

Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community, Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Not a legal document

U.S. Fish and Wildlife Service
National Wetlands Inventory

Mid-Hudson Site - NWI Map



March 19, 2020

Wetlands

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.

This page was produced by the NWI
mapper


3/1995
Humane Society Rd
Dutch Village Trailer Park
66
Mountain View Rd
Fish and Game Rd
Sabo Ln
9H
Site (1994) - Copyright: Google Earth
Image U.S. Geological Survey
Google Earth
Imagery Date: 4/19/1994 lat 42.261815° lon -73.746681° elev 197 ft eye alt 6822 ft

10/2008

Humane Society Rd

Dutch Village Trailer Park

66

Mountain View Rd

Fish and Game Rd

18

9H

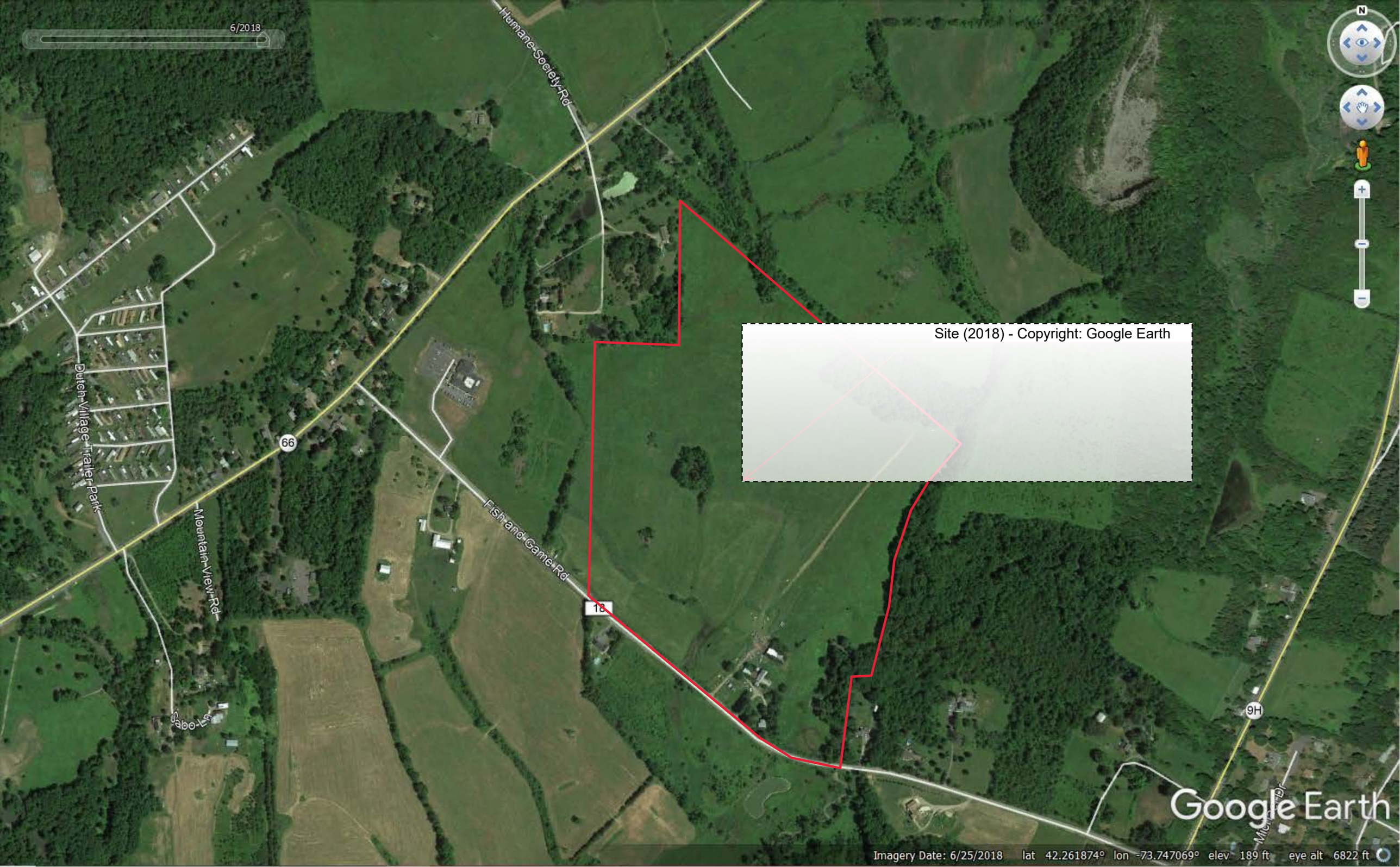
Site (2008) - Copyright: Google Earth

Image USDA Farm Service Agency

Google Earth

Imagery Date: 5/23/2008 lat 42.261684° lon -73.746884° elev 193 ft eye alt 6822 ft


9/2013
Humane Society Rd
Dutch Village Trailer Park
66
Mountain View Rd
Fish and Game Rd
18
9H
Site (2013) - Copyright: Google Earth
Google Earth
Imagery Date: 9/19/2013 lat 42.261660° lon -73.747068° elev 189 ft eye alt 6822 ft


6/2018
Humane Society Rd
Site (2018) - Copyright: Google Earth
Dutch Village Trailer Park
66
Mountain View Rd
Fish and Game Rd
12
9H
Google Earth
Imagery Date: 6/25/2018 lat 42.261874° lon -73.747069° elev 189 ft eye alt 6822 ft

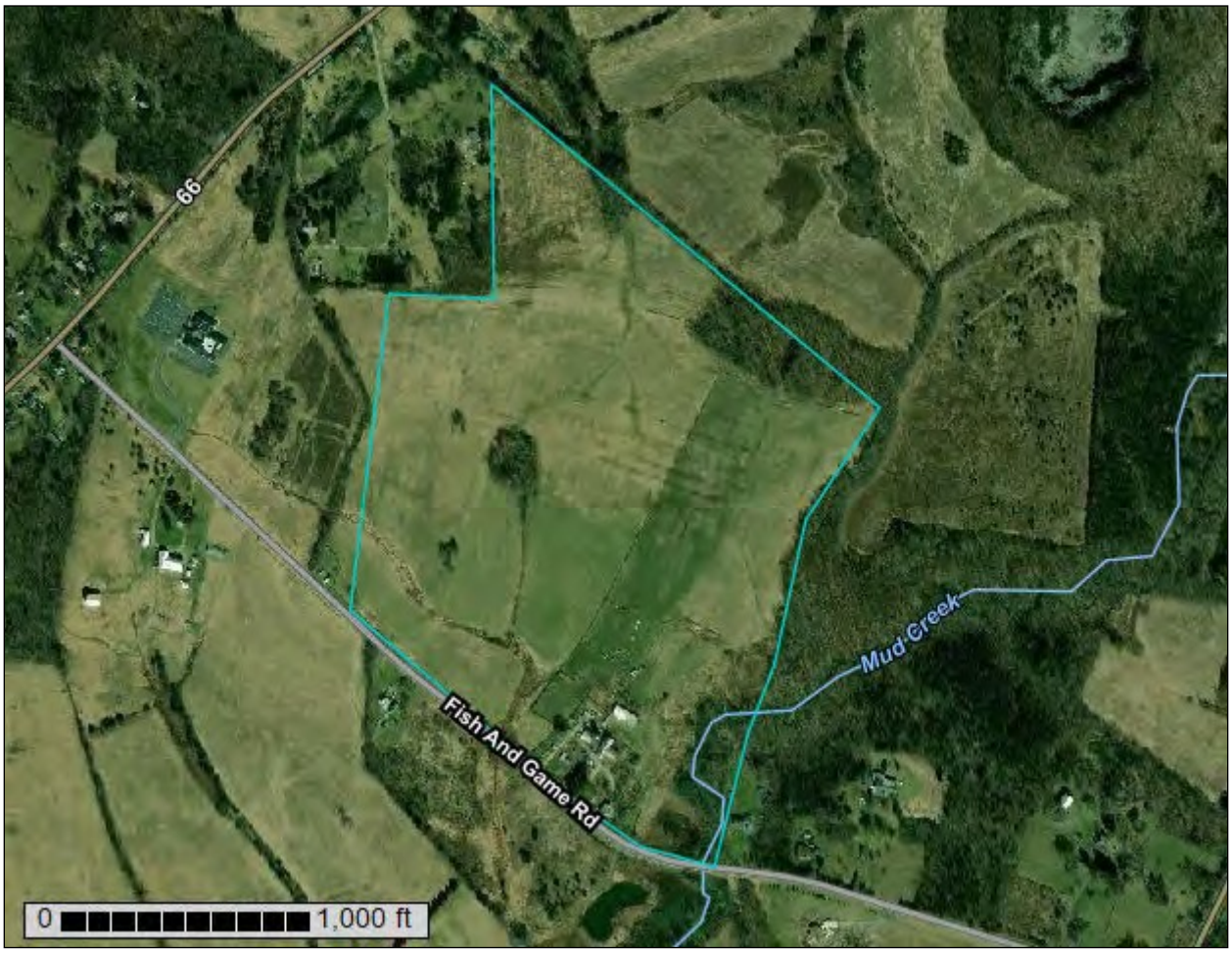
United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Columbia County, New York



March 19, 2020

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

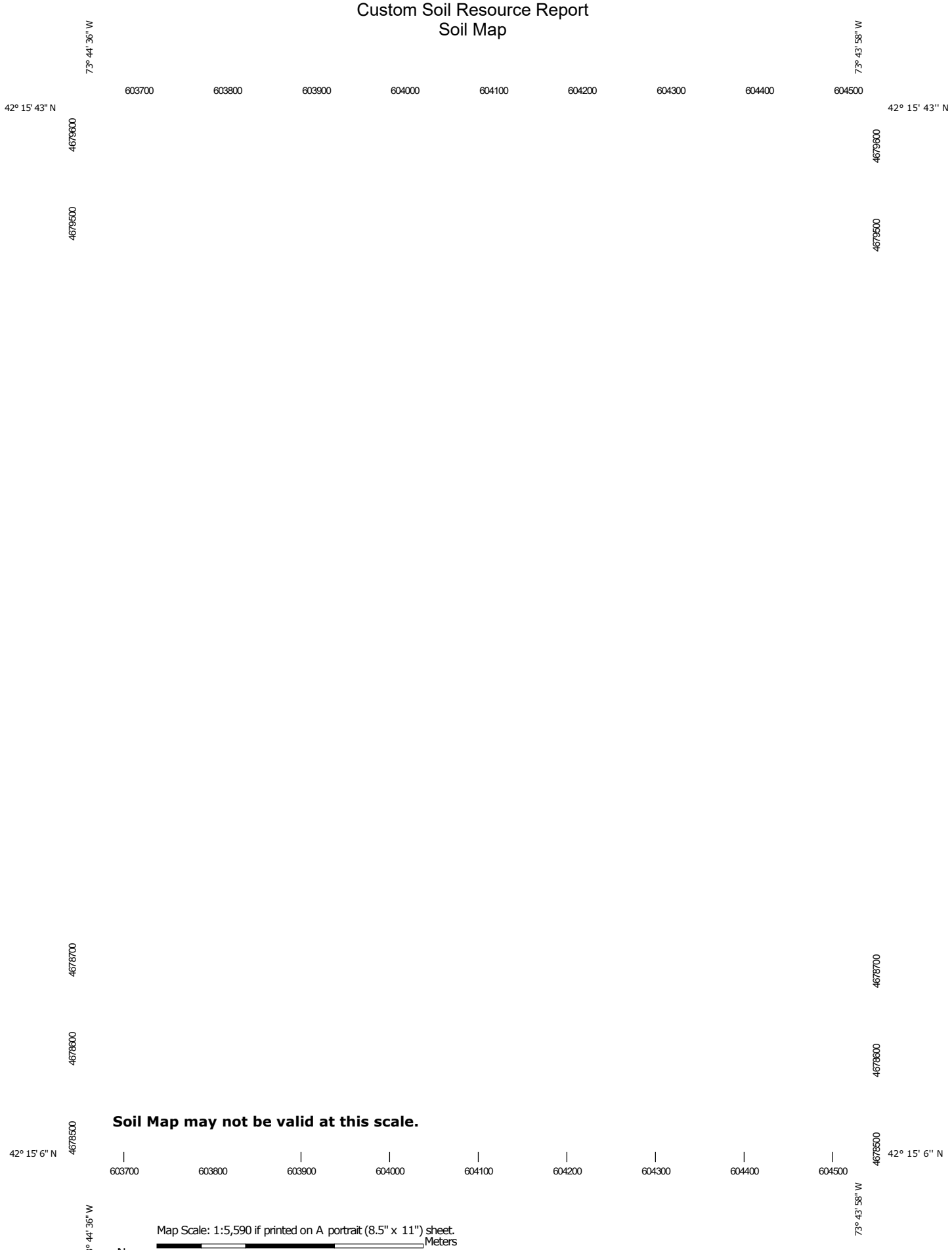
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map




Feet
0
250
500
1000
1500
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84
66
KnA
StB
KnA
KnA
HvA
FaC
HvD
KnA
HvB
HvD
Fish And Game Rd
4679400
4679300
4679200
4679100
4679000
4678900
4678800

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features

- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Columbia County, New York
Survey Area Data: Version 15, Sep 16, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 18, 2016—Oct 16, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
FaC	Farmington silt loam, rolling, very rocky	3.5	4.1%
HvA	Hudson and Vergennes soils, 0 to 3 percent slopes	1.0	1.1%
HvB	Hudson and Vergennes soils, 3 to 8 percent slopes	4.0	4.7%
HvD	Hudson and Vergennes soils, hilly	22.3	26.1%
KnA	Kingsbury and Rhinebeck soils, 0 to 3 percent slopes	54.5	63.8%
StB	Stockbridge silt loam, 3 to 8 percent slopes	0.2	0.2%
Totals for Area of Interest		**85.4**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it

was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Columbia County, New York

FaC—Farmington silt loam, rolling, very rocky

Map Unit Setting

National map unit symbol: 9r3g
Elevation: 100 to 900 feet
Mean annual precipitation: 38 to 46 inches
Mean annual air temperature: 45 to 50 degrees F
Frost-free period: 115 to 195 days
Farmland classification: Not prime farmland

Map Unit Composition

Farmington and similar soils: 75 percent
Minor components: 25 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Farmington

Setting

Landform: Benches, ridges, till plains
Landform position (two-dimensional): Shoulder
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Loamy till or congeliturbate derived from limestone, dolomite, shale, and sandstone, and in many places mixed with wind and water deposits

Typical profile

H1 - 0 to 8 inches: silt loam
H2 - 8 to 16 inches: silt loam
H3 - 16 to 20 inches: unweathered bedrock

Properties and qualities

Slope: 6 to 16 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 1 percent
Available water storage in profile: Very low (about 2.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Stockbridge

Percent of map unit: 10 percent
Hydric soil rating: No

Sun

Percent of map unit: 5 percent
Landform: Depressions
Hydric soil rating: Yes

Nassau

Percent of map unit: 5 percent
Hydric soil rating: No

Rock outcrop

Percent of map unit: 5 percent
Hydric soil rating: Unranked

HvA—Hudson and Vergennes soils, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 9r3x
Elevation: 50 to 1,800 feet
Mean annual precipitation: 38 to 46 inches
Mean annual air temperature: 45 to 50 degrees F
Frost-free period: 115 to 195 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Hudson and similar soils: 50 percent
Vergennes and similar soils: 40 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hudson

Setting

Landform: Lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Clayey and silty glaciolacustrine deposits

Typical profile

H1 - 0 to 10 inches: silt loam
H2 - 10 to 15 inches: silty clay loam
H3 - 15 to 26 inches: silty clay loam
H4 - 26 to 60 inches: stratified silty clay loam to silty clay

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 18 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Available water storage in profile: High (about 9.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: C/D
Hydric soil rating: No

Description of Vergennes

Setting

Landform: Lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Clayey calcareous glaciolacustrine, glaciomarine, or estuarine deposits

Typical profile

H1 - 0 to 9 inches: silty clay loam
H2 - 9 to 15 inches: clay
H3 - 15 to 29 inches: clay
H4 - 29 to 60 inches: stratified clay to silty clay

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 12 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Available water storage in profile: Moderate (about 6.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2w
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Rhinebeck

Percent of map unit: 3 percent
Hydric soil rating: No

Kingsbury

Percent of map unit: 3 percent
Hydric soil rating: No

Madalin

Percent of map unit: 2 percent
Landform: Depressions
Hydric soil rating: Yes

Livingston

Percent of map unit: 2 percent
Landform: Depressions
Hydric soil rating: Yes

HvB—Hudson and Vergennes soils, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9r3y
Elevation: 50 to 1,800 feet
Mean annual precipitation: 38 to 46 inches
Mean annual air temperature: 45 to 50 degrees F
Frost-free period: 115 to 195 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Hudson and similar soils: 50 percent
Vergennes and similar soils: 40 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hudson

Setting

Landform: Lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Clayey and silty glaciolacustrine deposits

Typical profile

H1 - 0 to 10 inches: silt loam
H2 - 10 to 15 inches: silty clay loam
H3 - 15 to 26 inches: silty clay loam
H4 - 26 to 60 inches: stratified silty clay loam to silty clay

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 18 to 24 inches

Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Available water storage in profile: High (about 9.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C/D
Hydric soil rating: No

Description of Vergennes

Setting

Landform: Lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Clayey calcareous glaciolacustrine, glaciomarine, or estuarine deposits

Typical profile

H1 - 0 to 9 inches: silty clay loam
H2 - 9 to 15 inches: clay
H3 - 15 to 29 inches: clay
H4 - 29 to 60 inches: stratified clay to silty clay

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 12 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Available water storage in profile: Moderate (about 6.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Kingsbury

Percent of map unit: 3 percent
Hydric soil rating: No

Rhinebeck

Percent of map unit: 3 percent
Hydric soil rating: No

Livingston

Percent of map unit: 2 percent

Landform: Depressions
Hydric soil rating: Yes

Madalin

Percent of map unit: 2 percent
Landform: Depressions
Hydric soil rating: Yes

HvD—Hudson and Vergennes soils, hilly

Map Unit Setting

National map unit symbol: 9r40
Elevation: 50 to 1,800 feet
Mean annual precipitation: 38 to 46 inches
Mean annual air temperature: 45 to 50 degrees F
Frost-free period: 115 to 195 days
Farmland classification: Not prime farmland

Map Unit Composition

Hudson and similar soils: 50 percent
Vergennes and similar soils: 40 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hudson

Setting

Landform: Lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Riser
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Clayey and silty glaciolacustrine deposits

Typical profile

H1 - 0 to 10 inches: silt loam
H2 - 10 to 15 inches: silty clay loam
H3 - 15 to 26 inches: silty clay loam
H4 - 26 to 60 inches: stratified silty clay loam to silty clay

Properties and qualities

Slope: 10 to 30 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 18 to 24 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent

Available water storage in profile: High (about 9.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: C/D
Hydric soil rating: No

Description of Vergennes

Setting

Landform: Lake plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Riser
Down-slope shape: Concave
Across-slope shape: Convex
Parent material: Clayey calcareous glaciolacustrine, glaciomarine, or estuarine deposits

Typical profile

H1 - 0 to 9 inches: silty clay loam
H2 - 9 to 15 inches: clay
H3 - 15 to 29 inches: clay
H4 - 29 to 60 inches: stratified clay to silty clay

Properties and qualities

Slope: 10 to 30 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 12 to 36 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Available water storage in profile: Moderate (about 6.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: D
Hydric soil rating: No

Minor Components

Rhinebeck

Percent of map unit: 3 percent
Hydric soil rating: No

Kingsbury

Percent of map unit: 3 percent
Hydric soil rating: No

Madalin

Percent of map unit: 2 percent
Landform: Depressions
Hydric soil rating: Yes

Livingston

Percent of map unit: 2 percent
Landform: Depressions
Hydric soil rating: Yes

KnA—Kingsbury and Rhinebeck soils, 0 to 3 percent slopes

Map Unit Setting

National map unit symbol: 9r42
Elevation: 80 to 1,000 feet
Mean annual precipitation: 38 to 46 inches
Mean annual air temperature: 45 to 50 degrees F
Frost-free period: 115 to 195 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Kingsbury and similar soils: 50 percent
Rhinebeck and similar soils: 40 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kingsbury

Setting

Landform: Lake plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Calcareous, clayey glaciomarine deposits or glaciolacustrine deposits

Typical profile

H1 - 0 to 11 inches: silty clay loam
H2 - 11 to 29 inches: clay
H3 - 29 to 60 inches: stratified clay to silt loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Low to moderately low (0.00 to 0.06 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Available water storage in profile: Moderate (about 8.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: D
Hydric soil rating: No

Description of Rhinebeck

Setting

Landform: Lake plains
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Tread
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Clayey and silty glaciolacustrine deposits

Typical profile

H1 - 0 to 12 inches: silt loam
H2 - 12 to 29 inches: silty clay
H3 - 29 to 60 inches: stratified clay to silt loam

Properties and qualities

Slope: 0 to 3 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat poorly drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: About 6 to 18 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Available water storage in profile: Moderate (about 8.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 3w
Hydrologic Soil Group: C/D
Hydric soil rating: No

Minor Components

Madalin

Percent of map unit: 3 percent
Landform: Depressions
Hydric soil rating: Yes

Livingston

Percent of map unit: 3 percent
Landform: Depressions
Hydric soil rating: Yes

Hudson

Percent of map unit: 2 percent
Hydric soil rating: No

Vergennes

Percent of map unit: 2 percent
Hydric soil rating: No

StB—Stockbridge silt loam, 3 to 8 percent slopes

Map Unit Setting

National map unit symbol: 9r21
Mean annual precipitation: 38 to 46 inches
Mean annual air temperature: 45 to 50 degrees F
Frost-free period: 115 to 195 days
Farmland classification: All areas are prime farmland

Map Unit Composition

Stockbridge and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Stockbridge

Setting

Landform: Drumlinoid ridges, hills, till plains
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Crest
Down-slope shape: Convex
Across-slope shape: Convex
Parent material: Calcareous loamy till

Typical profile

H1 - 0 to 9 inches: silt loam
H2 - 9 to 29 inches: silt loam
H3 - 29 to 60 inches: gravelly silt loam

Properties and qualities

Slope: 3 to 8 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.57 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum in profile: 15 percent
Available water storage in profile: Moderate (about 8.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 2e
Hydrologic Soil Group: C
Hydric soil rating: No

Minor Components

Georgia

Percent of map unit: 10 percent
Hydric soil rating: No

Massena

Percent of map unit: 3 percent
Hydric soil rating: No

Sun

Percent of map unit: 2 percent
Landform: Depressions
Hydric soil rating: Yes

Soil Information for All Uses

Suitabilities and Limitations for Use

The Suitabilities and Limitations for Use section includes various soil interpretations displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each interpretation.

Land Classifications

Land Classifications are specified land use and management groupings that are assigned to soil areas because combinations of soil have similar behavior for specified practices. Most are based on soil properties and other factors that directly influence the specific use of the soil. Example classifications include ecological site classification, farmland classification, irrigated and nonirrigated land capability classification, and hydric rating.

Hydric Rating by Map Unit

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

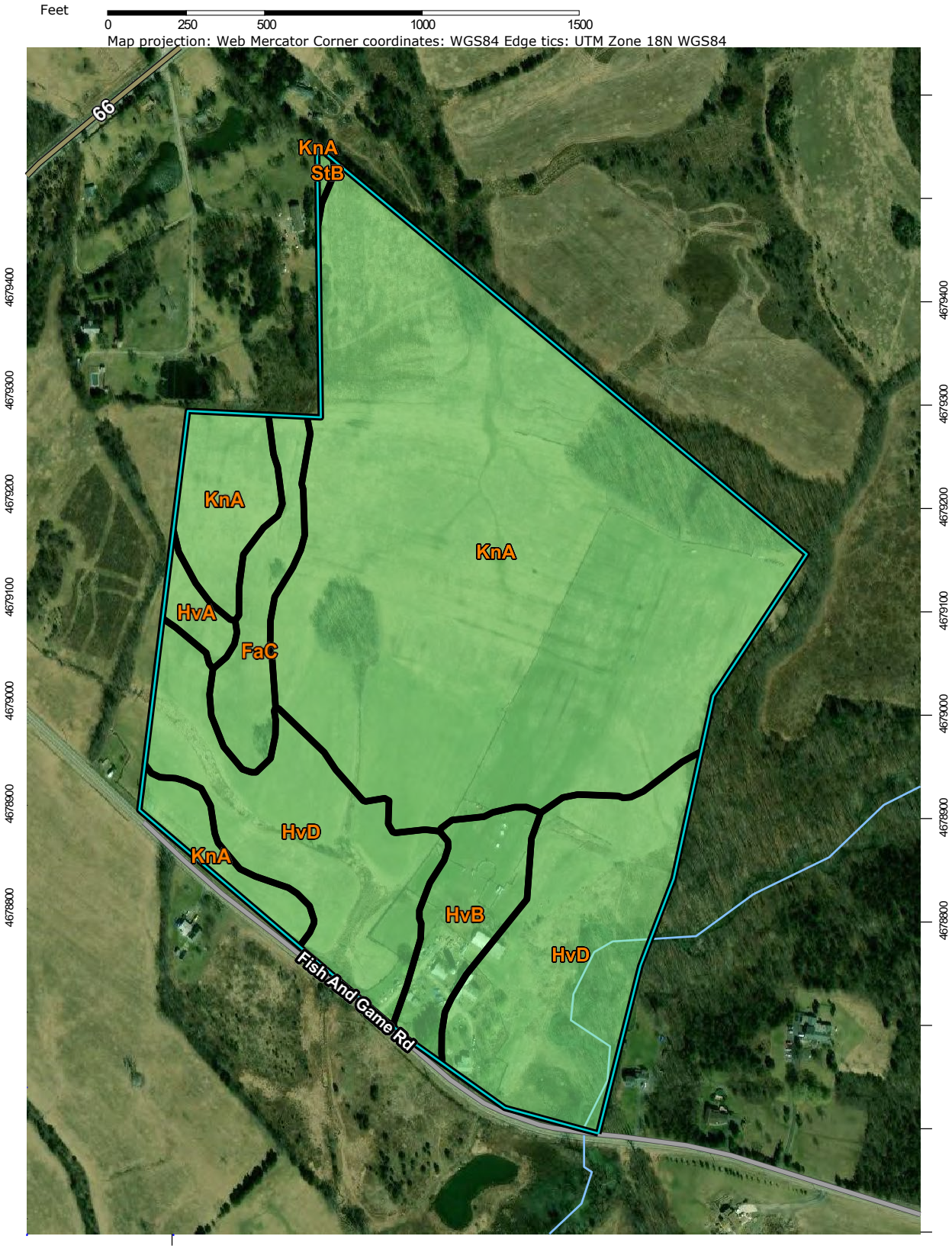
Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.


73° 44' 36" W
73° 43' 58" W
603700
603800
603900
604000
604100
604200
604300
604400
604500
42° 15' 43" N
42° 15' 43'' N
4679600
4679500
4678700
4678600
4678500
Soil Map may not be valid at this scale.
42° 15' 6" N
42° 15' 6'' N
Map Scale: 1:5,590 if printed on A portrait (8.5" x 11") sheet.
Meters
0
50
100
200
300
N


Feet
0
250
500
1000
1500
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 18N WGS84
66
KnA
StB
KnA
KnA
HvA
FaC
HvD
KnA
HvB
HvD
Fish And Game Rd
4679400
4679300
4679200
4679100
4679000
4678900
4678800

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Lines

- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Soil Rating Points

- Hydric (100%)
- Hydric (66 to 99%)
- Hydric (33 to 65%)
- Hydric (1 to 32%)
- Not Hydric (0%)
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Columbia County, New York
Survey Area Data: Version 15, Sep 16, 2019

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 18, 2016—Oct 16, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Hydric Rating by Map Unit

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
FaC	Farmington silt loam, rolling, very rocky	5	3.5	4.1%
HvA	Hudson and Vergennes soils, 0 to 3 percent slopes	4	1.0	1.1%
HvB	Hudson and Vergennes soils, 3 to 8 percent slopes	4	4.0	4.7%
HvD	Hudson and Vergennes soils, hilly	4	22.3	26.1%
KnA	Kingsbury and Rhinebeck soils, 0 to 3 percent slopes	6	54.5	63.8%
StB	Stockbridge silt loam, 3 to 8 percent slopes	2	0.2	0.2%
Totals for Area of Interest			**85.4**	**100.0%**

Rating Options—Hydric Rating by Map Unit

Aggregation Method: Percent Present

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

References

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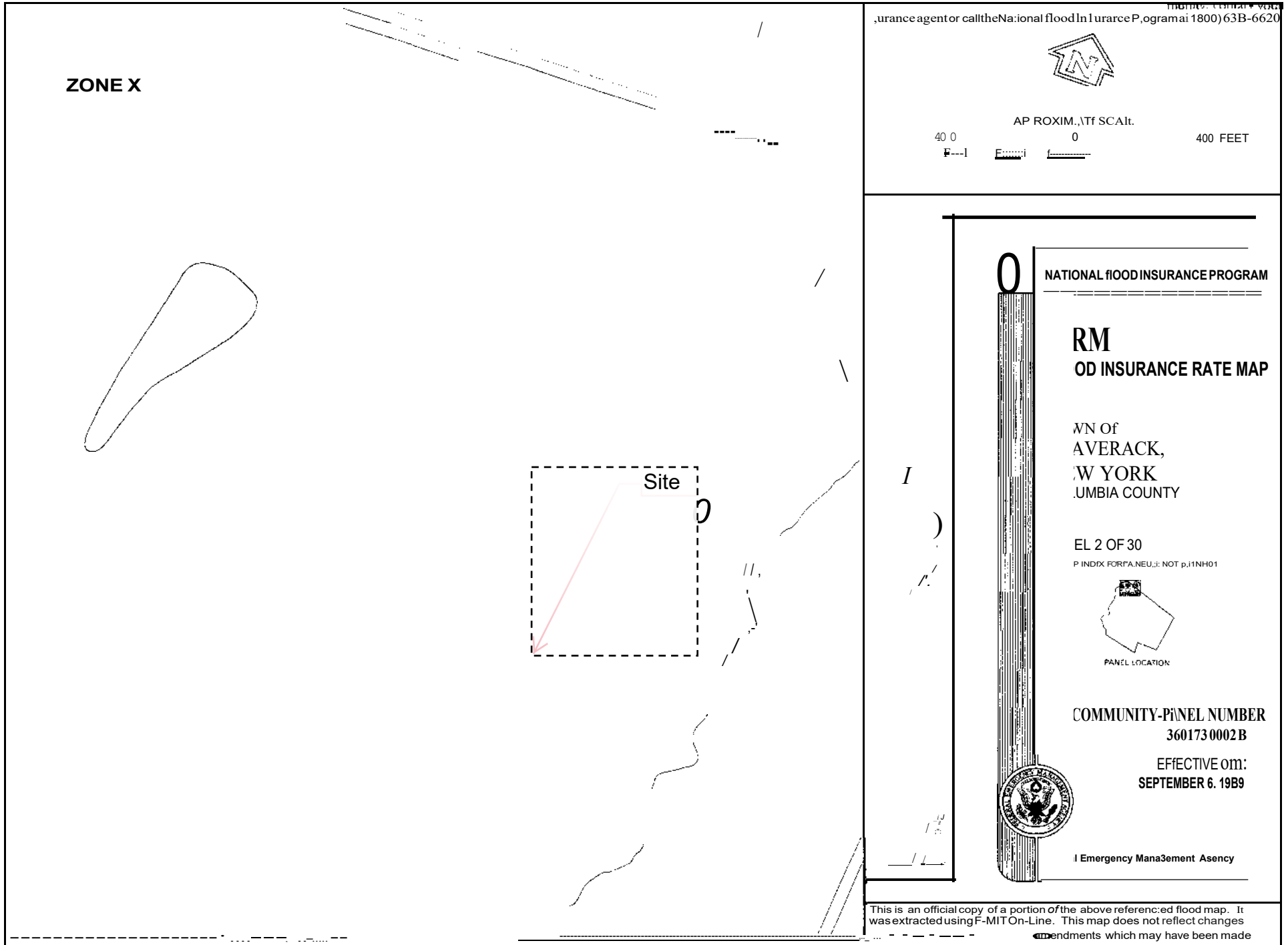
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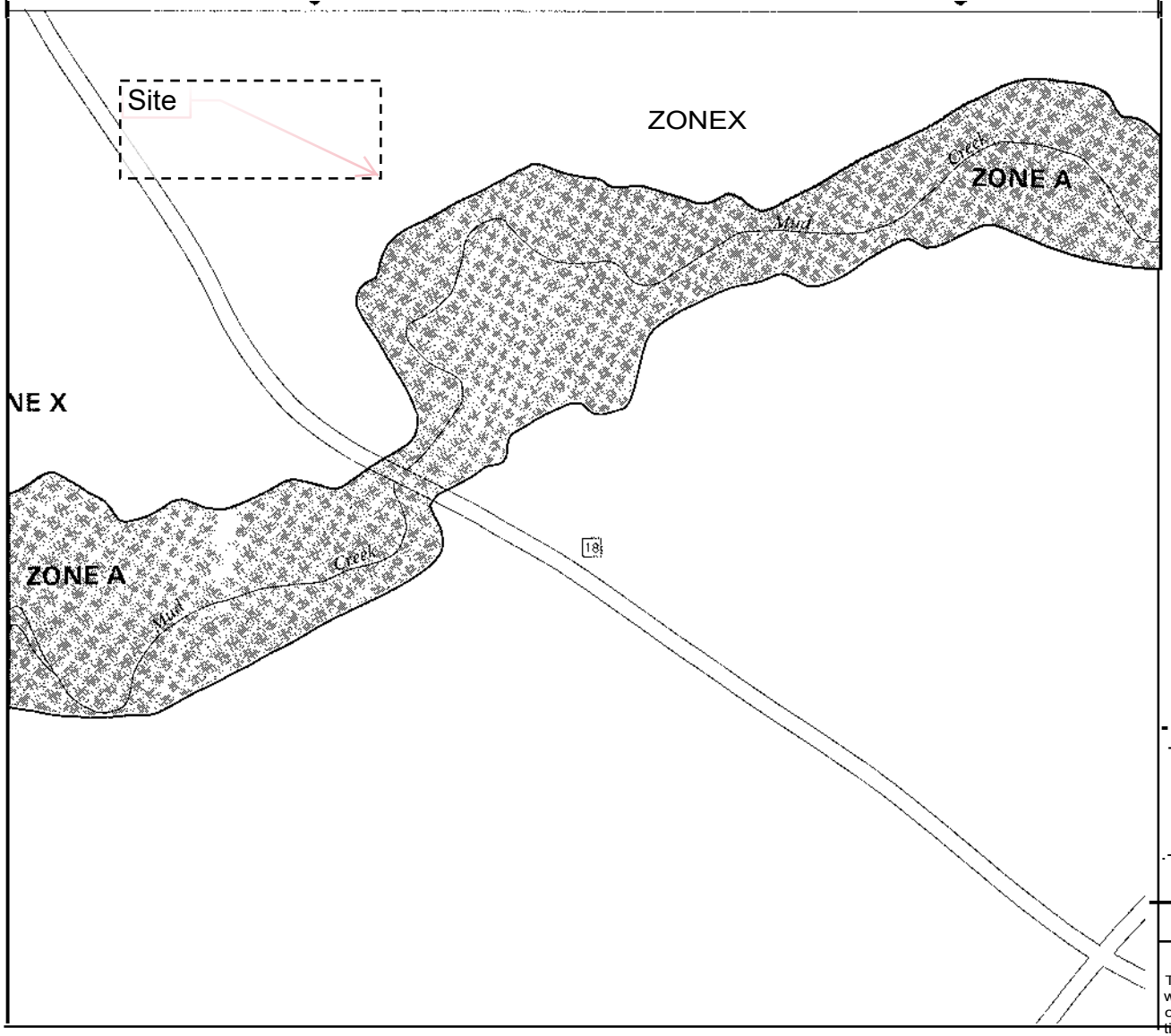

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,urance agent or call the Na:ional flood ln1urance P,ogram ai 1800) 63B-6620
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FLOOD INSURANCE RATE MAP

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COLUMBIA COUNTY

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SEPTEMBER 6, 1989

Federal Emergency Management Agency

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APPENDIX III



PHOTO 1 View south of existing farmhouse on Site



PHOTO 2 View south of NYSDEC Wetland HS-4, south of Fish & Game Road/Site



PHOTO 3 View north of Mud Creek/Wetland W1 at southeast corner of Site



PHOTO 4 View north of Wetland W1, just north of Fish and Game Road



PHOTO 5 View west of typical purple loosestrife wetland found within fallow field of Site



PHOTO 6 View west of forested wetland (Wetland W1) as shown on NWI mapper within field



PHOTO 7 Representative hydric soils seen throughout Site



PHOTO 8 View east of emergent wetland/swale (Wetland W1) along southern edge of Site



PHOTO 9 View northwest of Wetland W1/purple loosestrife marsh near NW Site corner



PHOTO 10 Representative vegetation found in the upland inclusions throughout Site



PHOTO 11 View east of Wetland W2 at the northcentral property corner



PHOTO 12 View southeast of drainage located along eastern property/edge of Wetland W2



PHOTO 13 Upland woodlot located along the northern Site limits



PHOTO 14 View southwest of Wetland W2 in northcentral portion of Site



PHOTO 15 Old fence lines found throughout Site



PHOTO 16 View west of Wetland W3 along northern Site boundary



PHOTO 17 View north of Wetland W4 along northern property limits



PHOTO 18 View southeast of Wetland W5 along northern property edge



PHOTO 19 View north of Wetland W5



PHOTO 20 View northeast of Wetland W6 along northern property boundary



PHOTO 21 View northeast of Wetland W7 at northeast property corner



PHOTO 22 View south of WetlandW1 along eastern Site boundary

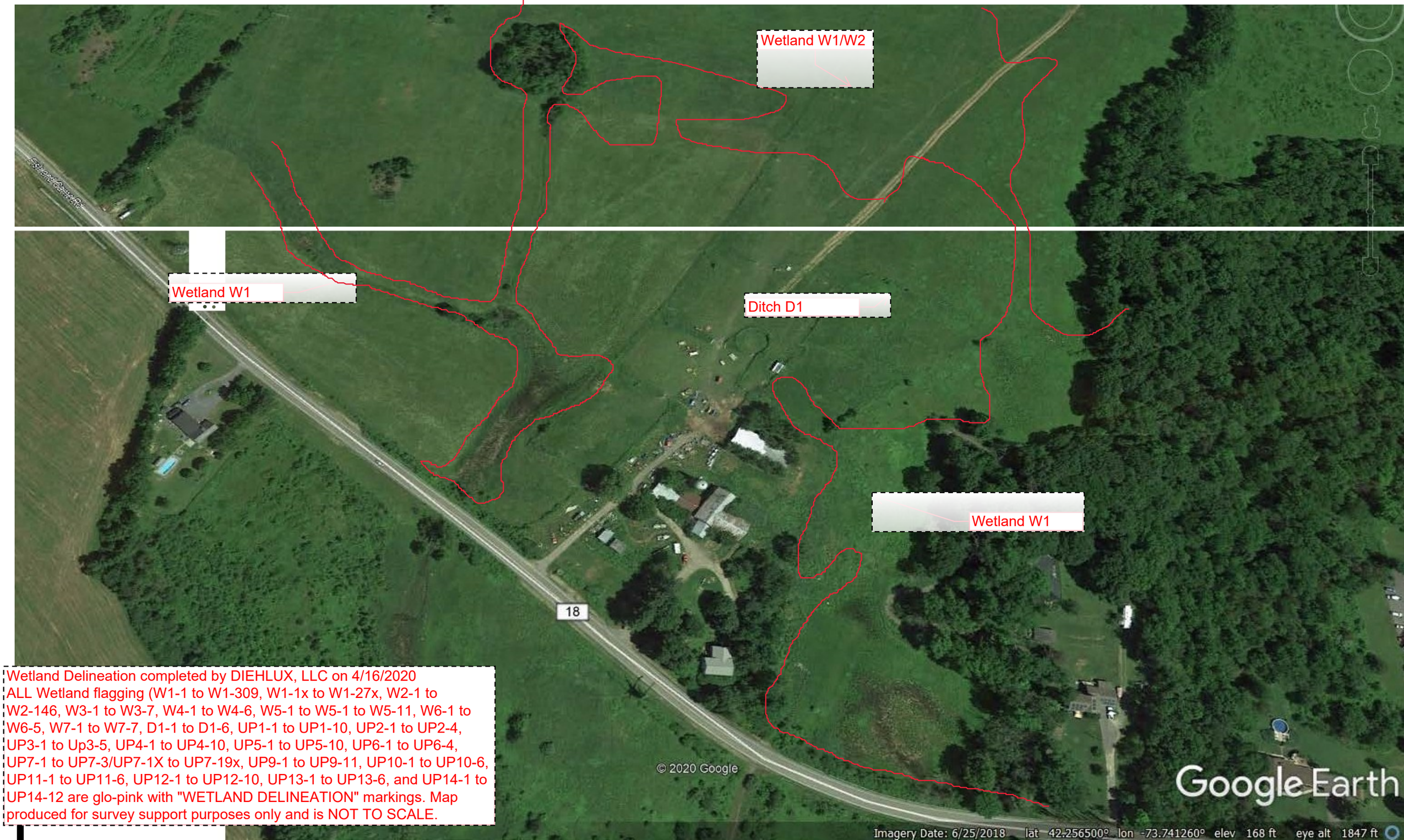


PHOTO 23 View west of drainage ditch D1, west of Wetland W1



PHOTO 24 View east of Wetland W1 along eastern property edge

APPENDIX IV



Wetland Delineation completed by DIEHLUX, LLC on 4/16/2020
ALL Wetland flagging (W1-1 to W1-309, W1-1x to W1-27x, W2-1 to W2-146, W3-1 to W3-7, W4-1 to W4-6, W5-1 to W5-1 to W5-11, W6-1 to W6-5, W7-1 to W7-7, D1-1 to D1-6, UP1-1 to UP1-10, UP2-1 to UP2-4, UP3-1 to Up3-5, UP4-1 to UP4-10, UP5-1 to UP5-10, UP6-1 to UP6-4, UP7-1 to UP7-3/UP7-1X to UP7-19x, UP9-1 to UP9-11, UP10-1 to UP10-6, UP11-1 to UP11-6, UP12-1 to UP12-10, UP13-1 to UP13-6, and UP14-1 to UP14-12 are glo-pink with "WETLAND DELINEATION" markings. Map produced for survey support purposes only and is NOT TO SCALE.

Wetland Delineation completed by DIEHLUX, LLC on 4/16/2020
ALL Wetland flagging (W1-1 to W1-309, W1-1x to W1-27x, W2-1 to W2-146, W3-1 to W3-7, W4-1 to W4-6, W5-1 to W5-1 to W5-11, W6-1 to W6-5, W7-1 to W7-7, D1-1 to D1-6, UP1-1 to UP1-10, UP2-1 to UP2-4, UP3-1 to Up3-5, UP4-1 to UP4-10, UP5-1 to UP5-10, UP6-1 to UP6-4, UP7-1 to UP7-3/UP7-1X to UP7-19x, UP9-1 to UP9-11, UP10-1 to UP10-6, UP11-1 to UP11-6, UP12-1 to UP12-10, UP13-1 to UP13-6, and UP14-1 to UP14-12 are glo-pink with "WETLAND DELINEATION" markings. Map produced for survey support purposes only and is NOT TO SCALE.

Wetland W2
Upland Inclusion 9
Upland Inclusion 10
Upland Inclusion 8
Upland Inclusion 11
Upland Inclusion 13
Upland Inclusion 2
Wetland W1/W2
Upland Inclusion 7
Upland Inclusion 6
Wetland W1
Upland Inclusion 14
Upland Inclusion 5
Upland Inclusion 4
Upland Inclusion 3
Wetland W1/W2

66

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1994

Imagery Date: 6/25/2018 lat 42.260527° lon -73.741518° elev 170 ft eye alt 1847 ft


Wetland W3
Wetland W4
Wetland W5
Wetland W6
Wetland W7
© 2020 Google
Google Earth
1994
Imagery Date: 6/25/2018 lat 42.259179° lon -73.736721° elev 168 ft eye alt 1090 ft

TWT Mid-Hudson Site

DIEHLUX Wetland Delineation GPS Collection - 20200416

Longitude	Latitude	Comment/Flag No
-73.73665591	42.25260898	w1-1 +north
-73.7366586	42.25260905	w1-2
-73.73671614	42.25261197	w1-3
-73.73682772	42.25264274	w1-4
-73.73695311	42.25265542	w1-5
-73.73706565	42.25267675	w1-6
-73.73725563	42.25270756	w1-7
-73.73738179	42.25272595	W1-8
-73.73750802	42.25276025	W1-9
-73.73765875	42.25280279	W1-10
-73.73778616	42.25284278	W1-11
-73.73786308	42.25285395	w1-12
-73.73780465	42.25287291	w1-13
-73.73769675	42.25294357	w1-14
-73.73761821	42.25308023	w1-15
-73.7375259	42.25319184	w1-16
-73.73748026	42.25330376	w1-17
-73.73742748	42.25331047	w1-wet-1
-73.7374951	42.25331596	w1-up-1
-73.73747185	42.25338282	w1-18
-73.7376504	42.25340834	w1-19
-73.73768402	42.25327505	w1-20
-73.7377187	42.25322554	w1-21
-73.73786109	42.25312293	w1-22
-73.73791026	42.25319268	w1-23
-73.7379203	42.25330111	w1-24
-73.73790018	42.25336847	w1-25
-73.73788713	42.25346934	w1-26
-73.73779908	42.25351335	w1-27
-73.73769955	42.2535554	w1-27
-73.73761128	42.25360247	w1-28
-73.7376341	42.25373676	w1-29
-73.7375666	42.25383642	w1-30
-73.73761448	42.25387542	w1-31
-73.73758707	42.25388443	w1-32
-73.7375108	42.25384687	w1-33
-73.73737536	42.25385058	w1-34
-73.73725176	42.25391091	w1-35
-73.73715194	42.25397462	w1-36
-73.73718366	42.25403388	w1-37
-73.73730117	42.254136	w1-38
-73.73741488	42.25418631	w1-39
-73.73757917	42.25423427	w1-40
-73.73767597	42.25440562	w1-41
-73.73764314	42.25446313	w1-42
-73.73759702	42.25453949	w1-43

TWT Mid-Hudson Site

DIEHLUX Wetland Delineation GPS Collection - 20200416

-73.73756596	42.25455009	w1-44
-73.73753905	42.25442629	w1-45
-73.73756405	42.2543379	w1-46
-73.73751138	42.25427519	w1-47
-73.73740652	42.25420296	w1-48
-73.73726149	42.25414993	w1-49
-73.73718151	42.25423817	w1-50
-73.73713193	42.25432816	w1-51
-73.73710272	42.25439956	w1-52
-73.7369868	42.2543652	w1-54
-73.73679888	42.2544091	w1-55 @creek
-73.73667807	42.25441897	w1-56
-73.73651349	42.25437418	w1-57
-73.73650959	42.25447617	w1-58
-73.7364459	42.25459855	w1-59
-73.73649143	42.25466308	w1-60
-73.73645713	42.2547474	w1-61
-73.73641541	42.25472703	w1-wet-2
-73.73650226	42.25475454	w1-up-2
-73.73645022	42.2548543	w1-62
-73.7364785	42.25498677	w1-63 @d1-1
-73.73628376	42.25498156	w1-64
-73.73618437	42.25503194	w1-65
-73.736034	42.25507445	w1-66
-73.73593938	42.25523771	w1-67
-73.73601336	42.25534285	w1-68
-73.73604902	42.25551937	w1-69
-73.73609616	42.25568235	w1-70
-73.73617597	42.25582473	w1-71
-73.73626093	42.25594065	w1-72
-73.73629708	42.2560587	w1-73
-73.73627146	42.25616944	w1-74
-73.7364203	42.25621866	w1-75
-73.73654291	42.2561588	w1-76
-73.73664285	42.25603139	w1-77
-73.73673574	42.25591074	w1-78
-73.73682226	42.25592826	w1-79
-73.73672342	42.25604761	w1-80
-73.73669228	42.2561811	w1-81
-73.7365935	42.25635198	w-82
-73.73650323	42.25653422	w1-83
-73.73667578	42.25657793	w1-84
-73.73668457	42.25646434	w1-85
-73.73679927	42.2564358	w1-86
-73.73694732	42.2564807	w1-87
-73.7370342	42.25633246	w1-88
-73.73712644	42.25618738	w1-89

TWT Mid-Hudson Site
DIEHLUX Wetland Delineation GPS Collection - 20200416

-73.73715716	42.25619529	w1-90
-73.73709874	42.25630458	w1-91
-73.73712766	42.25639418	w1-92
-73.7372134	42.25638913	w1-93
-73.737324	42.25619424	w1-94
-73.73738383	42.25628312	w1-95
-73.73753698	42.25623078	w1-96
-73.73758778	42.25627064	w1-97
-73.73775767	42.25631787	w1-98
-73.73782056	42.25643936	w1-99
-73.73787074	42.25656491	w1-100
-73.73800097	42.25664688	w1-101
-73.73785728	42.25672976	w1-102
-73.73770145	42.25667731	w1-103
-73.73765584	42.25673976	w1-104
-73.73743967	42.25670727	w1-105
-73.73727344	42.25665766	W1-106
-73.73723601	42.2567339	W1-107
-73.73745343	42.25680212	w1-108
-73.73767335	42.25685442	w1-109
-73.73787417	42.25688318	w1-110
-73.7381017	42.25694505	w1-111
-73.7383115	42.25700391	w1-112
-73.73856404	42.25709832	w1-113
-73.73877077	42.25716193	w1-114 CL 1ft
-73.73904056	42.25723454	w1-115 CL 1ft
-73.73921553	42.25726628	w1-116 CL 1ft
-73.73941384	42.2573009	w1-117 CL 1ft
-73.73956581	42.2573362	w1-118
-73.73959082	42.25728225	w1-119
-73.73943928	42.25724338	w1-120
-73.73939776	42.2571889	w1-121
-73.73941194	42.25710777	w1-wet-3
-73.73936169	42.25709686	w1-122
-73.73932043	42.25709708	w1-up-3
-73.73934775	42.25698043	w1-123
-73.73937077	42.25685161	w1-124
-73.73930991	42.25678778	w1-125
-73.7392694	42.25691978	w1-126
-73.73914012	42.25696838	w1-127
-73.73897576	42.25701845	w1-128
-73.73888294	42.25710015	w1-129
-73.73874068	42.2569999	w1-130
-73.73862273	42.25701724	w1-131
-73.73851549	42.25697106	w1-132
-73.73858298	42.25680493	w1-133
-73.73872738	42.25675338	w1-134

TWT Mid-Hudson Site
DIEHLUX Wetland Delineation GPS Collection - 20200416

-73.73879818	42.25660305	w1-135
-73.73893778	42.25645986	w1-136
-73.73899589	42.25658046	w1-137
-73.73911286	42.25665504	w1-138
-73.73924756	42.25676759	w1-139
-73.73936288	42.25675486	up1-3
-73.73946808	42.25681277	up1-4 end
-73.7395523	42.25681987	up-1
-73.7393573	42.25670406	w1-140
-73.73946161	42.25668835	up1-2
-73.73944986	42.25664636	w1-141
-73.73944906	42.2565422	w1-142
-73.73948768	42.25640044	w1-143
-73.7394841	42.25627573	w1-144
-73.73948973	42.25613482	w1-145
-73.73947969	42.25599551	w1-146
-73.73947267	42.25585764	w1-147
-73.73947984	42.25569389	w1-148
-73.73951645	42.2555434	w1-149
-73.73958554	42.25540374	w1-150
-73.7396217	42.25523556	w1-151
-73.73956643	42.25510949	w1-152
-73.73938664	42.25492159	w1-153
-73.73927059	42.2548135	w1-154
-73.73911481	42.25472169	w1-155
-73.73900051	42.2547553	w1-156
-73.73885338	42.25465861	w1-157
-73.7388171	42.25458611	w1-158
-73.73899657	42.25455141	w1-159
-73.73914578	42.25451039	w1-160 at fence
-73.73927837	42.25446106	w1-161
-73.73939394	42.25438518	w1-162
-73.7394907	42.25428268	w1-163
-73.7394868	42.25414808	w1-164
-73.7394374	42.25418586	w1-up-4
-73.7395034	42.25412104	w1-wet-4
-73.73935356	42.25410653	w1-165
-73.73941488	42.2540935	w1-166
-73.73944005	42.25404271	w1-167
-73.73944642	42.254009	w1-168
-73.73954529	42.25405633	w1-169
-73.73960181	42.25393517	w1-170
-73.7396849	42.25396987	w1-171
-73.73976179	42.25403809	w1-172 @culvert
-73.73992521	42.25408172	w1-173
-73.74008019	42.25415052	w1-174
-73.74027533	42.2542443	w1-175

TWT Mid-Hudson Site

DIEHLUX Wetland Delineation GPS Collection - 20200416

-73.74040318	42.25430833	w1-175
-73.74039495	42.25432297	w1-176
-73.74026565	42.25426409	w1-177
-73.74004854	42.25416405	w1-178
-73.739938	42.25419025	w1-179
-73.73978478	42.25423714	w1-180
-73.73970764	42.25435497	w1-181
-73.73961999	42.25449473	w1-182
-73.73950236	42.25461804	w1-183
-73.7394837	42.25472522	w1-184
-73.7395394	42.25482906	w1-185
-73.7396574	42.25493673	w1-186
-73.73987211	42.25499114	w1-187
-73.74007107	42.2550494	w1-188
-73.74032283	42.25512253	w1-189
-73.74044663	42.2551216	w1-190
-73.74056385	42.2551447	w1-191
-73.74068128	42.25513065	w1-192
-73.74090683	42.25515133	w1-193
-73.74077285	42.25526872	w1-194
-73.74074884	42.25531524	w1-195
-73.74078029	42.25534654	w1-196
-73.74084409	42.25531056	w1-197
-73.74092172	42.25530734	w1-198
-73.7410039	42.25539474	w1-199
-73.7411536	42.25549693	w1-200
-73.7413049	42.25562557	w1-201
-73.74140761	42.25579526	w1-202
-73.74159714	42.25599425	w1-203 +west
-73.74153996	42.25621861	w1-204 +west
-73.7413791	42.25622374	w1-205
-73.74131029	42.25610049	w1-206
-73.74122201	42.25593636	w1-207
-73.74111045	42.25574665	w1-208
-73.74097345	42.25555958	w1-209
-73.74079958	42.25541707	w1-210
-73.74076148	42.2553564	w1-211
-73.74071263	42.25533817	w1-212
-73.74059259	42.25529278	w1-213
-73.74049148	42.25524871	w1-214
-73.74037973	42.25521332	w1-215
-73.7401947	42.25518592	w1-216
-73.74005664	42.25523856	w1-217
-73.73996225	42.25526184	w1-218
-73.73995539	42.25508923	w1-219
-73.73974715	42.25506079	w1-220
-73.73964544	42.25505836	w1-221

TWT Mid-Hudson Site
DIEHLUX Wetland Delineation GPS Collection - 20200416

-73.73972316	42.25511382	w1-222
-73.73972826	42.25521512	w1-223
-73.73966321	42.25540532	w1-224
-73.73955656	42.25555677	w1-225
-73.73952699	42.2556977	w1-226
-73.73954238	42.25578961	w1-227
-73.73953865	42.25587122	w1-228
-73.73950505	42.25599879	w1-229
-73.73955477	42.25615458	w1-230
-73.73951228	42.25636391	w1-231
-73.73950457	42.25648772	w1-232
-73.73950414	42.25657424	w1-233
-73.73950975	42.2566905	w1-234
-73.73957426	42.25677583	w1-235
-73.73965071	42.25679339	w1-236
-73.73985098	42.25678041	w1-237
-73.73989969	42.25681958	w1-238
-73.73991353	42.25691687	w1-239
-73.73989456	42.25701977	w1-240
-73.73983281	42.25712502	w1-241
-73.7397458	42.25722586	w1-242
-73.73961307	42.25726982	w1-243
-73.73974882	42.2573292	w1-244
-73.73984988	42.25723903	w1-245
-73.73990975	42.25717772	w1-246
-73.7399443	42.257256	w1-247
-73.74003564	42.25734852	w1-248
-73.7398933	42.2574407	w1-249
-73.74004867	42.25754477	w1-250
-73.74008679	42.25759451	w1-251
-73.74019482	42.2576982	w1-252
-73.74016191	42.25778382	w1-253
-73.74019401	42.25782115	w1-254
-73.74010204	42.25786726	w1-255
-73.74016555	42.25795104	w1-256
-73.74035265	42.25797766	w1-257
-73.74039952	42.25784631	w1-258
-73.7404383	42.25767232	w1-259
-73.74046126	42.25776338	w1-260
-73.74046162	42.25787997	w1-261
-73.74058468	42.25796399	w1-262
-73.74066535	42.25804796	w1-263
-73.74060394	42.2580954	w1-264
-73.74044293	42.25807517	w1-265
-73.74037147	42.25813997	w1-266
-73.74032951	42.25827483	w1-267
-73.74029636	42.25839563	w1-268

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-73.74025139	42.25855597	w1-269
-73.74023769	42.25867288	w1-270
-73.74038161	42.25867315	w1-271
-73.74051833	42.25871436	w1-272
-73.7406772	42.25867878	w1-273
-73.74078751	42.25856218	w1-274
-73.74079248	42.25845054	w1-275
-73.74092611	42.25843019	w1-276
-73.74101805	42.25834009	w1-277
-73.74102676	42.25820159	w1-278
-73.74104934	42.25807444	w1-279
-73.74122753	42.25809438	w1-280
-73.74125933	42.25818832	w1-281
-73.74142714	42.25814232	w1-282
-73.74140851	42.25820148	w1-wet-5
-73.74142674	42.25810425	w1-up-5
-73.74152907	42.25818236	w1-283
-73.74160805	42.25815317	w1-284
-73.74172792	42.25811956	w1-285
-73.74185179	42.2581059	w1-286
-73.74187485	42.25822144	w1-287
-73.74183084	42.25839675	w1-288
-73.74171402	42.25841929	w1-289
-73.74164411	42.25849258	w1-290
-73.74163071	42.25857834	w1-291
-73.74171316	42.25855194	w1-292
-73.74170597	42.25861588	w1-293
-73.74178443	42.25861814	w1-294 +west
-73.73969614	42.25737674	w1-295
-73.73972905	42.25742264	w1-296
-73.73967372	42.25747415	w1-297
-73.73957608	42.25743666	w1-298
-73.73949687	42.25742516	w1-299
-73.73939098	42.25749262	w1-300
-73.73927005	42.25758035	w1-301
-73.73960749	42.25754096	w1-1x
-73.73973547	42.25754931	w1-2x
-73.73980106	42.25767496	w1-3x
-73.73987289	42.2578073	w1-4x
-73.73993163	42.25790222	w1-5x
-73.74006833	42.25797715	w1-6x
-73.74025274	42.25800424	w1-7x
-73.74032587	42.25803827	w1-8x
-73.74031103	42.25814585	w1-9x
-73.7402936	42.2582923	w1-10x
-73.74024095	42.2584156	w1-11x
-73.74018624	42.25852807	w1-12x

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-73.74012274	42.2585436	w1-13x
-73.74007643	42.25883863	up2-1
-73.73992741	42.25880837	up2-2
-73.73980719	42.25878789	up2-3
-73.73969386	42.25883751	up2-3
-73.73981211	42.25886016	up2-5 to up2-1
-73.74005806	42.25845419	w1-14x
-73.74013394	42.25831845	w1-15x
-73.74008461	42.25819126	w1-16x
-73.7399745	42.25817657	w1-17x
-73.74008752	42.25811668	w1-18x
-73.73992985	42.25807463	w1-19x
-73.73980265	42.2580457	w1-20x
-73.73959408	42.25802364	w1-21x
-73.73944838	42.25796918	w1-22x
-73.73959713	42.2579592	w1-23x
-73.73953277	42.25785127	w1-24x
-73.73931513	42.25779959	w1-25x
-73.73944768	42.25772017	w1-26x
-73.73954812	42.25765414	w1-27x to w1-1x
-73.73904091	42.25752465	w1-302
-73.73889036	42.25746879	w1-303
-73.73873949	42.257419	w1-304
-73.73860937	42.25731456	w1-305
-73.73841612	42.2571751	w1-306
-73.73838183	42.2570697	w1-307
-73.73855782	42.25711686	w1-308
-73.73870065	42.25715501	w1-309 to w1-114
-73.7385383	42.25757754	up3-1
-73.73838644	42.25759802	up3-2
-73.7382404	42.25756336	up3-3
-73.73832888	42.25747473	up3-4
-73.7384786	42.25750391	up3-5 to up3-1
-73.73840789	42.25773771	up4-1
-73.73830725	42.25771748	up4-2
-73.73816064	42.25768939	w1-up-6
-73.73803216	42.25762613	w1-wet-6
-73.73812325	42.2576387	up4-3
-73.73811365	42.25774471	up4-4
-73.73803088	42.25783007	up4-5
-73.73795733	42.25789038	up4-6
-73.73801711	42.25805331	up4-7
-73.73808725	42.25809512	up4-8
-73.73825724	42.25798653	up4-9
-73.73832902	42.25788835	up4-10 to up4-1
-73.73847851	42.25792325	up5-1
-73.73833717	42.25801575	up5-2

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-73.73830379	42.25812418	up5-3
-73.7383557	42.25819155	up5-4
-73.73849262	42.25820367	up5-5
-73.73862869	42.25812391	up5-6
-73.73878882	42.25805592	up5-7
-73.73888881	42.25797658	up5-8
-73.73873897	42.25793621	up5-9
-73.73860023	42.25791006	up5-10 endbto up5-1
-73.73849145	42.25840376	up6-1
-73.7386415	42.25842833	up6-2
-73.73870074	42.25845965	up6-3
-73.73851648	42.25844571	up6-4 to up6-1
-73.73868087	42.2585073	up7-1
-73.73851177	42.25847189	up7-2
-73.73840505	42.25846845	up7-3
-73.73880605	42.25853227	up7-2x
-73.73885141	42.2584116	up7-3x
-73.73894749	42.25844572	up7-4x
-73.73900422	42.25851279	up7-5x
-73.7389001	42.25856456	up7-6x
-73.7387867	42.25859013	up7-7x
-73.73857156	42.25856541	up7-8x
-73.73846013	42.25855605	up7-9x
-73.73857635	42.25870099	up7-10x
-73.73876021	42.25873785	up7-11x
-73.73863188	42.25878899	up7-12x
-73.73846422	42.2588006	up7-13x
-73.73829418	42.25889379	up7-14x
-73.73821695	42.25879364	up7-15x
-73.73808701	42.25872921	up7-16x
-73.73809534	42.25859279	up7-17x
-73.73813475	42.25846821	up7-18x
-73.73829177	42.25845275	up7-19y to up7-3
-73.73908944	42.25929124	up8-1
-73.73915681	42.25932441	up8-4 to up8-1
-73.73905486	42.25937838	up8-3
-73.7389847	42.25933018	up8-2
-73.73963105	42.26096163	w2-1
-73.73970951	42.26096836	w2-2
-73.73979683	42.2608658	w2-up-1
-73.73968901	42.2608317	w2-wet-1
-73.73975261	42.26079869	w2-3
-73.73978704	42.26071255	w2-4
-73.73972355	42.26060068	w2-5
-73.73978216	42.26052918	w2-6
-73.73974743	42.26047481	w2-7
-73.7396421	42.26053294	w2-8

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-73.73955391	42.26056925	w2-9
-73.73946053	42.26063472	w2-10
-73.73939227	42.26070132	w2-11
-73.73931734	42.26061504	w2-12
-73.73927654	42.26049467	w2-13
-73.73917915	42.26044487	w2-14
-73.73922316	42.26038118	w2-15
-73.7392248	42.26025841	w2-16
-73.73927874	42.26018128	w2-17
-73.73927517	42.26003001	w2-18
-73.73930611	42.25990715	w2-19
-73.73944466	42.25991805	w2-20
-73.73954338	42.26001255	w2-21
-73.73968632	42.26004295	w2-22
-73.73985551	42.26006735	w2-23end
-73.73897226	42.26057001	w2-24 to 2-1
-73.73891388	42.26045021	w2-25
-73.73880991	42.26039196	w2-26
-73.73870675	42.26040567	w2-27end
-73.73871691	42.26023637	up9-1
-73.73877813	42.26016378	up9-2
-73.73889692	42.26008571	uo9-3
-73.73892861	42.25998286	up9-4
-73.73905662	42.25994947	up9-5
-73.73896815	42.25988099	up9-6
-73.73889882	42.25979205	up9-7
-73.73879926	42.25990103	up9-8
-73.73875096	42.26003934	up9-9
-73.73868899	42.26009958	up9-10
-73.73868179	42.26015476	up9-11 to up9-1
-73.73828868	42.26026756	w2-28 start +nw
-73.7382489	42.26011721	w2-29
-73.73826702	42.26003526	w2-30
-73.73819202	42.25994103	w2-31
-73.73814575	42.25996654	w2-31x
-73.73799709	42.26001975	w2-32x end +east
-73.73812837	42.25981484	w2-32
-73.73815251	42.25974806	w2-33
-73.7381758	42.25969989	w2-34
-73.73817082	42.25966432	w2-35
-73.7383176	42.25951461	up10-1
-73.73831907	42.25958382	up10-2
-73.73843964	42.25964575	up10-3
-73.73853148	42.25958781	up10-4
-73.73860616	42.25951055	up10-5
-73.73842194	42.25948138	up10-6 end to up10-1
-73.7380393	42.25967992	w2-36

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-73.7379585	42.25965903	w2-37
-73.73784922	42.25960463	w2-38
-73.73773801	42.25950949	w2-39
-73.73761256	42.25943689	w2-40
-73.73749116	42.25947852	w2-41
-73.73738753	42.2594982	w2-42
-73.7373069	42.25942437	w2-43
-73.73734235	42.25933706	w2-44
-73.73713698	42.25932488	w2-45
-73.73703496	42.25923469	w2-46
-73.73688011	42.25913884	w2-47
-73.7368079	42.25902919	w2-48
-73.73664606	42.25899367	w2-49
-73.73661773	42.25904949	w2-50 end+north
-73.73626009	42.25888247	w2-51+North
-73.73631899	42.25876851	w2-52
-73.73651575	42.25868733	w2-53
-73.73672979	42.25862376	w2-54
-73.73683161	42.25856694	w2-55
-73.73697202	42.25857409	w2-56
-73.7371452	42.25855821	w2-57
-73.73739959	42.25861824	w2-58
-73.73757961	42.25864808	w2-59
-73.7377214	42.25938957	up11-1
-73.73770324	42.25926625	up11-2
-73.73764586	42.25929206	up11-3
-73.73767518	42.25917838	up11-4
-73.73764873	42.2591141	up11-5
-73.73769665	42.2589797	up11-6
-73.73774988	42.25907682	up11-7
-73.73779444	42.259177	up11-8
-73.73781616	42.25928417	up11-9
-73.73778866	42.25935907	up11-10 to up11-1
-73.73765926	42.25876112	up13-1
-73.73766765	42.25883511	up13-2
-73.73774626	42.25890286	up13-3
-73.73786265	42.2588777	up13-4
-73.73786366	42.25875998	up13-5
-73.73777039	42.25870586	up13-6-1
-73.7377089	42.25864345	w2-60
-73.73761323	42.2585703	w2-61
-73.73754334	42.2583142	up14-1 start
-73.73761741	42.25839096	up14-2
-73.73774507	42.25843317	up14-3
-73.73765599	42.25835962	up14-4
-73.73773209	42.25832015	up14-5
-73.73791475	42.25832722	up14-6

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-73.73798437	42.25824243	up14-7
-73.73782233	42.25820107	up14-8
-73.73777524	42.25809318	up14-9
-73.73767765	42.25804624	up14-10
-73.73751265	42.25807657	up14-11
-73.73746017	42.25818907	up14-12 end to up14-1
-73.73751442	42.25850478	w2-62
-73.73740017	42.2583892	w2-63
-73.73725588	42.25833758	w2-64
-73.73721867	42.25843968	w2-65
-73.73711324	42.25835481	w2-66
-73.73692636	42.25827588	w2-67
-73.73672815	42.25819422	w2-68
-73.73655813	42.25809997	w2-69
-73.73646364	42.25813295	w2-70
-73.73638322	42.25800999	w2-71
-73.73652305	42.25796828	w2-72
-73.73657122	42.25783992	w2-73
-73.73643355	42.25779441	w2-74
-73.73627514	42.25773378	w2-75
-73.73620729	42.25768904	to w2-86 w2-76
-73.73626431	42.25762506	w2-77 to w2-85
-73.73634046	42.25751157	w2-78
-73.73647081	42.2573768	w2-79
-73.7365923	42.25730867	w2-80
-73.7364337	42.25724532	w2-81
-73.73625485	42.2572996	w2-82
-73.73616023	42.25744577	w2-83
-73.73605243	42.25752613	w2-84
-73.73610941	42.25760911	w2-85
-73.73608387	42.25767806	w2-86
-73.73596522	42.25775368	w2-87
-73.73593515	42.25783168	w2-88
-73.73612633	42.25789334	w2-89
-73.73621486	42.25795094	w2-90
-73.73616508	42.25802808	w2-91
-73.73608923	42.25801777	w2-92
-73.73600312	42.25797111	w2-93
-73.7359846	42.25785114	w2-94
-73.73585662	42.2578374	w2-95
-73.7357916	42.25787474	w2-96
-73.73600993	42.25855018	w3-1
-73.73603667	42.2585329	w3-wet-1
-73.73598115	42.25850822	w3-up-1
-73.73600866	42.25851054	w3-2
-73.73616027	42.25846509	w3-3
-73.73624864	42.25843909	w3-4

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-73.73624533	42.25845355	w3-5
-73.73620548	42.25852099	w3-6
-73.73609622	42.25859391	w3-7 end to w3-1
-73.73599773	42.25830515	w4-wet-1
-73.73602049	42.25830708	w4-1
-73.73604777	42.25828855	w4-up-1
-73.73597557	42.25824219	w4-2
-73.73594452	42.25819763	w4-3
-73.73584265	42.25824807	w4-4
-73.73580451	42.25834308	w4-5
-73.73595268	42.25836587	w4-6 end to w4-1
-73.73573661	42.25818949	w5-up-1
-73.73566239	42.2581535	w5-wet-1
-73.73562522	42.25827591	w5-1 start
-73.73565477	42.25837155	w5-2
-73.73554437	42.25843816	w5-3+north
-73.73529596	42.25828264	w5-4+north
-73.73537734	42.2581578	w5-5
-73.73549536	42.25807785	w5-6
-73.73552611	42.25797611	w5-7
-73.73561183	42.25787938	w5-8
-73.73567474	42.25787872	w5-9
-73.73569631	42.25791786	w5-10
-73.73568417	42.25805991	w5-11
-73.7356822	42.25816521	w5-12
-73.7349417	42.25785142	W6-1
-73.73498741	42.25788831	W6-2
-73.73502288	42.25791365	W6-Up-1
-73.73497681	42.25792909	W6-3
-73.73492849	42.25790588	W6-Wet-1
-73.73487686	42.25797955	W6-4
-73.73478872	42.25784752	W6-5end
-73.73435077	42.25770138	W7-1
-73.73443204	42.2577867	W7-2
-73.73443809	42.25783257	W7-3
-73.73436742	42.25781111	W7-4
-73.73436392	42.25775178	W7-5
-73.73434547	42.25771708	W7-Wet-1
-73.73430796	42.25773986	W7-Up-1
-73.73424456	42.25772038	W7-6
-73.7340721	42.25770713	W7-7
-73.734151	42.25767864	W7-8
-73.7341739	42.2575569	W7-9
-73.73423703	42.25763851	W7-10
-73.73573657	42.25780816	W2-97
-73.73564983	42.25783273	W2-98
-73.73564104	42.25780063	W2-99

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-73.73571073	42.25774884	W2-100
-73.73578956	42.25766717	W2-100a
-73.73580967	42.25774469	W2-102
-73.73580967	42.25762749	W2-101
-73.73591876	42.25758971	W2-103
-73.73581469	42.25755106	W2-104
-73.73581245	42.25744283	W2-10
-73.73567709	42.25743585	W2-106
-73.73551667	42.25741789	W2-107
-73.73540688	42.25735494	W2-108
-73.73557544	42.25727508	W2-109
-73.73571444	42.25716519	W2-110
-73.73578794	42.25703146	W2-111
-73.7356547	42.25701314	W2-112
-73.73555583	42.25706109	W2-113
-73.73545471	42.25714598	W2-114
-73.73549751	42.25702654	W2-115
-73.73556406	42.25691219	W2-116
-73.7356427	42.25679592	W2-117
-73.73571509	42.25667358	W2-118
-73.73578791	42.25655853	W2-119
-73.73590543	42.25648873	W2-121
-73.73586786	42.25659785	W2-122
-73.7358609	42.25670857	W2-123
-73.73594579	42.2566472	W2-124
-73.73606246	42.25656381	W2-125
-73.73613409	42.25647736	W2-126
-73.73603041	42.25644245	W2-127
-73.73606418	42.25636235	W2-128
-73.73615741	42.25625111	W2-129
-73.73619371	42.25613315	W2-130
-73.73609416	42.25604036	W2-131
-73.73608391	42.25588789	W2-132
-73.73604353	42.25570838	W2-133
-73.73599857	42.25555423	W2-134
-73.73595459	42.25541201	W2-135
-73.73582505	42.25525546	W2-136
-73.73567186	42.25517666	W2-137
-73.73567673	42.25505089	W2-138
-73.73557936	42.25497731	W2-139
-73.73554063	42.25504206	W2-Wet-2
-73.73558756	42.25506236	W2-Up-2
-73.73554103	42.2550507	W2-140
-73.73551726	42.2551504	w2-141
-73.73557224	42.25522418	w2-142
-73.73548888	42.25535718	w2-143
-73.7354509	42.25547558	w2-144

TWT Mid-Hudson Site

DIEHLUX Wetland Delineation GPS Collection - 20200416

-73.73541453	42.25544872	w2-145
-73.73539493	42.25532109	w2-146 end +South
-73.73656925	42.25504017	d1-1 6ft CL
-73.73675397	42.2551099	d1-2 2ft CL
-73.73678747	42.25519717	d1-3x
-73.73685433	42.25510854	d1-3 2ft CL
-73.7369236	42.2550754	d1-3y 2ft CL
-73.73692683	42.25513128	d1-4 4ft CL
-73.73708068	42.25518906	d1-5 2ft CL
-73.73724791	42.25521837	d1-6 end

APPENDIX V

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: TWT Mid-Hudson City/County: Dutchess Sampling Date: 4/16/2020

Applicant/Owner: The Wetlands Trust, Inc. State: NY Sampling Point: W1-Up-1

Investigator(s): Colin Diehl/Travis Money Section, Township, Range: Town of Claverack

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): Slope %: 0-3

Subregion (LRR or MLRA): LRR R Lat: 42.253315 Long: -73.737495 Datum: WGS 84

Soil Map Unit Name: Hudson and Vergennes Soils (HvD) NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation , Soil X , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area**
Hydric Soil Present?	Yes	No X	**within a Wetland?** **Yes** **No** X
Wetland Hydrology Present?	Yes	No X	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	No X	Depth (inches):
Water Table Present?	Yes	No X	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes	No X	Depth (inches):

Wetland Hydrology Present? **Yes** **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

upslope of W1-Wet-1

VEGETATION – Use scientific names of plants.

Sampling Point: W1-Up-1

Tree Stratum (Plot size: 15 by 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Prunus serotina*			FACU
2. *Pinus strobus*			FACU
3. *Thuja occidentalis*			FACU
4. *Acer rubrum*			FAC
5. *Fraxinus americana*			FACU
6. *Acer saccharum*			FACU
7. *Acer negundo*			FAC
		=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 by 20')			
1. *Rhamnus frangula*			FAC
2. *Lonicera tatarica*			FACU
3. *Fraxinus americana*			FACU
4. *Prunus serotina*			FACU
5. *Acer saccharum*			FACU
6. *Lindera benzoin*			FACW
7. *Rosa multiflora*			FACU
		=Total Cover	
Herb Stratum (Plot size: 10 by 15')			
1. *Urtica dioica*			FAC
2. *Toxicodendron radicans*			UPL
3. *Plantago major*			FACU
4. *Phalaris arundinacea*			FAC
5. *Asclepias amplexicaulis*			UPL
6. *Solidago canadensis*	20	Yes	FACU
7. *Artemisia vulgaris*			UPL
8. *Trifolium repens*	10	No	FACU
9. *Dactyis glomerata*	10	No	FACU
10. *Parthenocissus quinquefolia*			FACU
11. *Asclepias syriaca*	20	Yes	FACU
12. *Daucus carota*	20	Yes	UPL
	80	=Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	60	x 4 =	240
UPL species	20	x 5 =	100
Column Totals:	80 (A)		340 (B)

Prevalence Index = B/A = 4.25

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point W1-Up-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/2	100					Sandy	
8-12	10YR 4/3	100						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- High Chroma Sands (S11) (**LRR K, L**)
- Loamy Mucky Mineral (F1) (**LRR K, L**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- Coast Prairie Redox (A16) (**LRR K, L, R**)
- 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- Polyvalue Below Surface (S8) (**LRR K, L**)
- Thin Dark Surface (S9) (**LRR K, L**)
- Iron-Manganese Masses (F12) (**LRR K, L, R**)
- Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes** **No**

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: TWT Mid-Hudson City/County: Dutchess Sampling Date: 4/16/2020

Applicant/Owner: The Wetlands Trust, Inc. State: NY Sampling Point: W1-Wet-1

Investigator(s): Colin Diehl/Travis Money Section, Township, Range: Town of Claverack

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): none Slope %: 0-3

Subregion (LRR or MLRA): LRR R Lat: 42.2533105 Long: -73.737427 Datum: WGS 84

Soil Map Unit Name: Hudson and Vergennes Soils (HvB) NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area**
Hydric Soil Present?	Yes X	No	**within a Wetland?** **Yes** X **No**
Wetland Hydrology Present?	Yes X	No	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

X Surface Water (A1)	Water-Stained Leaves (B9)	
X High Water Table (A2)	Aquatic Fauna (B13)	
X Saturation (A3)	Marl Deposits (B15)	
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3)	
Drift Deposits (B3)	Presence of Reduced Iron (C4)	
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	
Iron Deposits (B5)	Thin Muck Surface (C7)	
X Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	
Sparsely Vegetated Concave Surface (B8)		

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No	Depth (inches):	2
Water Table Present?	Yes X	No	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes X	No	Depth (inches):	

Wetland Hydrology Present? **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: W1-Wet-1

Tree Stratum (Plot size: 15 by 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus americana*			FACW
2. *Acer rubrum*			FAC
3. *Fraxinus pennsylvanica*			FACW
4. *Salix alba*			FACW
5. *Acer negundo*			FAC
6. *Quercus bicolor*			FACW
7.			
		=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 by 20')			
1. *Cornus sericea*			FACW
2. *Acer rubrum*			FAC
3. *Fraxinus pennsylvanica*			FACW
4. *Lonicera tatarica*			FACU
5.			
6.			
7.			
		=Total Cover	
Herb Stratum (Plot size: 10 by 15')			
1. *Lythrum salicaria*	40	Yes	OBL
2. *Phalaris arundinacea*			FACW
3. *Polygonum sagittatum*			OBL
4. *Onoclea sensibilis*	5	No	FACW
5. *Typha angustifolia*	30	Yes	OBL
6. *Impatiens capensis*			FACW
7. *Carex spp.*	10	No	FACW
8. *Geranium bicknellii*			FACW
9. *Lysichiton americanus*			FACW
10. *Bidens spp.*			FACW
11. *Eupatorium perfoliatum*			FACW
12. *Juncus effusus*			OBL
	85	=Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals:	(A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0[1]

4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No**

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point W1-Wet-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/2	100					Mucky Loam/Clay	silty loam with gravel
4-8	10YR 4/1	85	7.5YR 4/6	15	C	M	Loamy/Clayey	silty clay loam
8-14	7.5YR 3/1	90	10YR 5/6	10	C	M	Loamy/Clayey	clay loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- X Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- Coast Prairie Redox (A16) (**LRR K, L, R**)
- 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- Polyvalue Below Surface (S8) (**LRR K, L**)
- Thin Dark Surface (S9) (**LRR K, L**)
- Iron-Manganese Masses (F12) (**LRR K, L, R**)
- Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: TWT Mid-Hudson City/County: Dutchess Sampling Date: 4/16/2020

Applicant/Owner: The Wetlands Trust, Inc. State: NY Sampling Point: W1-Up-2

Investigator(s): Colin Diehl/Travis Money Section, Township, Range: Town of Claverack

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): Slope %: 0-3

Subregion (LRR or MLRA): LRR R Lat: 42.25475454 Long: -73.73650226 Datum: WGS 84

Soil Map Unit Name: Hudson and Vergennes Soils (HvD) NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation , Soil X , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area**
Hydric Soil Present?	Yes	No X	**within a Wetland?** **Yes** **No** X
Wetland Hydrology Present?	Yes	No X	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	No X	Depth (inches):
Water Table Present?	Yes	No X	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes	No X	Depth (inches):

Wetland Hydrology Present? **Yes** **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

upslope of W1-Wet-2

VEGETATION – Use scientific names of plants.

Sampling Point: W1-Up-2

Tree Stratum (Plot size: 15 by 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Prunus serotina*			FACU
2. *Pinus strobus*			FACU
3. *Thuja occidentalis*			FACU
4. *Acer rubrum*			FAC
5. *Fraxinus americana*			FACU
6. *Acer saccharum*			FACU
7. *Acer negundo*			FAC
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15 by 20')			
1. *Rhamnus frangula*			FAC
2. *Lonicera tatarica*			FACU
3. *Fraxinus americana*			FACU
4. *Prunus serotina*			FACU
5. *Acer saccharum*			FACU
6. *Lindera benzoin*			FACW
7. *Rosa multiflora*	25	Yes	FACU
	25 =Total Cover		
Herb Stratum (Plot size: 10 by 15')			
1. *Urtica dioica*			FAC
2. *Toxicodendron radicans*			UPL
3. *Plantago major*			FACU
4. *Phalaris arundinacea*			FAC
5. *Asclepias amplexicaulis*			UPL
6. *Solidago canadensis*	25	Yes	FACU
7. *Artemisia vulgaris*			UPL
8. *Trifolium repens*	15	Yes	FACU
9. *Dactyis glomerata*	15	Yes	FACU
10. *Parthenocissus quinquefolia*			FACU
11. *Asclepias syriaca*	5	No	FACU
12. *Daucus carota*	10	No	UPL
	70 =Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	85	x 4 =	340
UPL species	10	x 5 =	50
Column Totals:	95 (A)		390 (B)

Prevalence Index = B/A = 4.11

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point W1-Up-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/3	100						silt loam
6-14	10YR 3/2	100						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- High Chroma Sands (S11) (**LRR K, L**)
- Loamy Mucky Mineral (F1) (**LRR K, L**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- Coast Prairie Redox (A16) (**LRR K, L, R**)
- 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- Polyvalue Below Surface (S8) (**LRR K, L**)
- Thin Dark Surface (S9) (**LRR K, L**)
- Iron-Manganese Masses (F12) (**LRR K, L, R**)
- Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes** **No**

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: TWT Mid-Hudson City/County: Dutchess Sampling Date: 4/16/2020

Applicant/Owner: The Wetlands Trust, Inc. State: NY Sampling Point: W1-Wet-2

Investigator(s): Colin Diehl/Travis Money Section, Township, Range: Town of Claverack

Landform (hillside, terrace, etc.): none Local relief (concave, convex, none): concave Slope %: 0-3

Subregion (LRR or MLRA): LRR R Lat: 42.254727 Long: -73.736415 Datum: WGS 84

Soil Map Unit Name: Hudson and Vergenness Soils (HvB) NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area**
Hydric Soil Present?	Yes X	No	**within a Wetland?** **Yes** X **No**
Wetland Hydrology Present?	Yes X	No	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

X	Surface Water (A1)	Water-Stained Leaves (B9)	
X	High Water Table (A2)	Aquatic Fauna (B13)	
X	Saturation (A3)	Marl Deposits (B15)	
	Water Marks (B1)	Hydrogen Sulfide Odor (C1)	
	Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3)	
	Drift Deposits (B3)	Presence of Reduced Iron (C4)	
	Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	
	Iron Deposits (B5)	Thin Muck Surface (C7)	
X	Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	
	Sparsely Vegetated Concave Surface (B8)		

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
X	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Shallow Aquitard (D3)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No	Depth (inches):	1
Water Table Present?	Yes X	No	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes X	No	Depth (inches):	

Wetland Hydrology Present? **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: W1-Wet-2

Tree Stratum (Plot size: 15 by 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus americana*			FACW
2. *Acer rubrum*			FAC
3. *Fraxinus pennsylvanica*			FACW
4. *Salix alba*			FACW
5. *Acer negundo*			FAC
6. *Quercus bicolor*			FACW
7.			
		=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 by 20')			
1. *Cornus sericea*			FACW
2. *Acer rubrum*			FAC
3. *Fraxinus pennsylvanica*			FACW
4. *Lonicera tatarica*			FACU
5.			
6.			
7.			
		=Total Cover	
Herb Stratum (Plot size: 10 by 15')			
1. *Lythrum salicaria*	60	Yes	OBL
2. *Phalaris arundinacea*			FACW
3. *Polygonum sagittatum*			OBL
4. *Onoclea sensibilis*	15	No	FACW
5. *Typha angustifolia*			OBL
6. *Impatiens capensis*			FACW
7. *Carex spp.*	5	No	FACW
8. *Geranium bicknellii*			FACW
9. *Lysichiton americanus*			FACW
10. *Bidens spp.*			FACW
11. *Sphagnum*	10	No	FACW
12. *Juncus effusus*			OBL
	90	=Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals:	(A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0[1]

4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No**

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point W1-Wet-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/2	100					Mucky Loam/Clay	silty loam with gravel
4-10	10YR 4/2	90	7.5YR 5/4	10	C	M	Loamy/Clayey	silty clay loam
10-15	7.5YR 3/2	85	10YR 5/6	15	C	M	Loamy/Clayey	clay loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- X Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- Coast Prairie Redox (A16) (**LRR K, L, R**)
- 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- Polyvalue Below Surface (S8) (**LRR K, L**)
- Thin Dark Surface (S9) (**LRR K, L**)
- Iron-Manganese Masses (F12) (**LRR K, L, R**)
- Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: TWT Mid-Hudson City/County: Dutchess Sampling Date: 4/16/2020

Applicant/Owner: The Wetlands Trust, Inc. State: NY Sampling Point: W1-Up-2

Investigator(s): Colin Diehl/Travis Money Section, Township, Range: Town of Claverack

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): _____ Slope %: 0-3

Subregion (LRR or MLRA): LRR R Lat: 42.25475454 Long: -73.73650226 Datum: WGS 84

Soil Map Unit Name: Hudson and Vergennes Soils (HvD) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil X, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area**
Hydric Soil Present?	Yes _____	No X	**within a Wetland?** **Yes** _____ **No** X
Wetland Hydrology Present?	Yes _____	No X	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	No X	Depth (inches):
Water Table Present?	Yes	No X	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes	No X	Depth (inches):

Wetland Hydrology Present? **Yes** _____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

upslope of W1-Wet-2

VEGETATION – Use scientific names of plants.

Sampling Point: W1-Up-2

Tree Stratum (Plot size: 15 by 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Prunus serotina*			FACU
2. *Pinus strobus*			FACU
3. *Thuja occidentalis*			FACU
4. *Acer rubrum*			FAC
5. *Fraxinus americana*			FACU
6. *Acer saccharum*			FACU
7. *Acer negundo*			FAC
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15 by 20')			
1. *Rhamnus frangula*			FAC
2. *Lonicera tatarica*			FACU
3. *Fraxinus americana*			FACU
4. *Prunus serotina*			FACU
5. *Acer saccharum*			FACU
6. *Lindera benzoin*			FACW
7. *Rosa multiflora*	25	Yes	FACU
	25 =Total Cover		
Herb Stratum (Plot size: 10 by 15')			
1. *Urtica dioica*			FAC
2. *Toxicodendron radicans*			UPL
3. *Plantago major*			FACU
4. *Phalaris arundinacea*			FAC
5. *Asclepias amplexicaulis*			UPL
6. *Solidago canadensis*	25	Yes	FACU
7. *Artemisia vulgaris*			UPL
8. *Trifolium repens*	15	Yes	FACU
9. *Dactyis glomerata*	15	Yes	FACU
10. *Parthenocissus quinquefolia*			FACU
11. *Asclepias syriaca*	5	No	FACU
12. *Daucus carota*	10	No	UPL
	70 =Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	85	x 4 =	340
UPL species	10	x 5 =	50
Column Totals:	95 (A)		390 (B)

Prevalence Index = B/A = 4.11

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point W1-Up-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/3	100						silt loam
6-14	10YR 3/2	100						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- High Chroma Sands (S11) (**LRR K, L**)
- Loamy Mucky Mineral (F1) (**LRR K, L**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- Coast Prairie Redox (A16) (**LRR K, L, R**)
- 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- Polyvalue Below Surface (S8) (**LRR K, L**)
- Thin Dark Surface (S9) (**LRR K, L**)
- Iron-Manganese Masses (F12) (**LRR K, L, R**)
- Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes** **No**

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: TWT Mid-Hudson City/County: Dutchess Sampling Date: 4/16/2020

Applicant/Owner: The Wetlands Trust, Inc. State: NY Sampling Point: W1-Wet-3

Investigator(s): Colin Diehl/Travis Money Section, Township, Range: Town of Claverack

Landform (hillside, terrace, etc.): none Local relief (concave, convex, none): concave Slope %: 0-3

Subregion (LRR or MLRA): LRR R Lat: 42.257107 Long: -73.739412 Datum: WGS 84

Soil Map Unit Name: Kingsbury and Rhinebeck (KnA) NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area**
Hydric Soil Present?	Yes X	No	**within a Wetland?** **Yes** X **No**
Wetland Hydrology Present?	Yes X	No	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

X Surface Water (A1)	X Water-Stained Leaves (B9)	Secondary Indicators (minimum of two required)
X High Water Table (A2)	Aquatic Fauna (B13)	Surface Soil Cracks (B6)
X Saturation (A3)	Marl Deposits (B15)	Drainage Patterns (B10)
X Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Moss Trim Lines (B16)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3)	Dry-Season Water Table (C2)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Crayfish Burrows (C8)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)
Iron Deposits (B5)	Thin Muck Surface (C7)	Stunted or Stressed Plants (D1)
X Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarl s)	X Geomorphic Position (D2)
Sparsely Vegetated Concave Surface (B8)		Shallow Aquitard (D3)
		Microtopographic Relief (D4)
		X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No	Depth (inches): 3
Water Table Present?	Yes X	No	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes X	No	Depth (inches):

Wetland Hydrology Present? **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: W1-Wet-3

Tree Stratum (Plot size: 15 by 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus americana*	10	No	FACW
2. *Acer rubrum*	65	Yes	FAC
3. *Fraxinus pennsylvanica*			FACW
4. *Salix alba*			FACW
5. *Acer negundo*			FAC
6. *Quercus bicolor*			FACW
7.			
	75	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 by 20')			
1. *Cornus sericea*			FACW
2. *Acer rubrum*	15	Yes	FAC
3. *Fraxinus pennsylvanica*			FACW
4. *Lonicera tatarica*			FACU
5.			
6.			
7.			
	15	=Total Cover	
Herb Stratum (Plot size: 10 by 15')			
1. *Lythrum salicaria*	60	Yes	OBL
2. *Phalaris arundinacea*			FACW
3. *Polygonum sagittatum*			OBL
4. *Onoclea sensibilis*			FACW
5. *Typha angustifolia*			OBL
6. *Impatiens capensis*			FACW
7. *Carex spp.*			FACW
8. *Carex stricta*	20	Yes	FACW
9. *Lysichiton americanus*			FACW
10. *Bidens spp.*			FACW
11. *Sphagnum*	10	No	FACW
12. *Juncus effusus*			OBL
	90	=Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals:	(A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0[1]

4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No**

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point W1-Wet-3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 4/2	100					Mucky Loam/Clay	organic
2-8	10YR 3/1	90	7.5YR 4/4	10	C	M	Loamy/Clayey	silty clay loam
8-14	10YR 3/2	90	10YR 5/4	10	C	M	Loamy/Clayey	clay loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- X Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- Coast Prairie Redox (A16) (**LRR K, L, R**)
- 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- Polyvalue Below Surface (S8) (**LRR K, L**)
- Thin Dark Surface (S9) (**LRR K, L**)
- Iron-Manganese Masses (F12) (**LRR K, L, R**)
- Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: TWT Mid-Hudson City/County: Dutchess Sampling Date: 4/16/2020

Applicant/Owner: The Wetlands Trust, Inc. State: NY Sampling Point: W1-Up-4

Investigator(s): Colin Diehl/Travis Money Section, Township, Range: Town of Claverack

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): Slope %: 0-3

Subregion (LRR or MLRA): LRR R Lat: 42.25418586 Long: -73.7394374 Datum: WGS 84

Soil Map Unit Name: Hudson and Vergennes Soils (HvD) NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation , Soil X , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area**
Hydric Soil Present?	Yes	No X	**within a Wetland?** **Yes** **No** X
Wetland Hydrology Present?	Yes	No X	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	No X	Depth (inches):
Water Table Present?	Yes	No X	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes	No X	Depth (inches):

Wetland Hydrology Present? **Yes** **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: W1-Up-4

Tree Stratum (Plot size: 15 by 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Prunus serotina*			FACU
2. *Pinus strobus*			FACU
3. *Thuja occidentalis*			FACU
4. *Acer rubrum*			FAC
5. *Fraxinus americana*			FACU
6. *Acer saccharum*			FACU
7. *Acer negundo*			FAC
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15 by 20')			
1. *Rhamnus frangula*			FAC
2. *Lonicera tatarica*			FACU
3. *Fraxinus americana*			FACU
4. *Prunus serotina*			FACU
5. *Acer saccharum*			FACU
6. *Lindera benzoin*			FACW
7. *Rosa multiflora*	10	Yes	FACU
	10 =Total Cover		
Herb Stratum (Plot size: 10 by 15')			
1. *Allium cernuum*			FACU
2. *Toxicodendron radicans*			UPL
3. *Plantago major*			FACU
4. *Phalaris arundinacea*			FAC
5. *Galium verum*	25	Yes	UPL
6. *Solidago canadensis*	20	Yes	FACU
7. *Artemisia vulgaris*			UPL
8. *Trifolium repens*			FACU
9. *Dactyis glomerata*	5	No	FACU
10. *Parthenocissus quinquefolia*			FACU
11. *Asclepias syriaca*			FACU
12. *Daucus carota*	20	Yes	UPL
	70 =Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	35	x 4 =	140
UPL species	45	x 5 =	225
Column Totals:	80 (A)		365 (B)

Prevalence Index = B/A = 4.56

Hydrophytic Vegetation Indicators:

_ 1 - Rapid Test for Hydrophytic Vegetation

_ 2 - Dominance Test is >50%

_ 3 - Prevalence Index is ≤3.0[1]

_ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point W1-Up-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	7.5Yr 3/2	100						sandy silt loam
8-14	10YR 3/2	100						some gravel

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- High Chroma Sands (S11) (**LRR K, L**)
- Loamy Mucky Mineral (F1) (**LRR K, L**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- Coast Prairie Redox (A16) (**LRR K, L, R**)
- 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- Polyvalue Below Surface (S8) (**LRR K, L**)
- Thin Dark Surface (S9) (**LRR K, L**)
- Iron-Manganese Masses (F12) (**LRR K, L, R**)
- Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes** **No**

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: TWT Mid-Hudson City/County: Dutchess Sampling Date: 4/16/2020

Applicant/Owner: The Wetlands Trust, Inc. State: NY Sampling Point: W1-Wet-4

Investigator(s): Colin Diehl/Travis Money Section, Township, Range: Town of Claverack

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): convex Slope %: 0-3

Subregion (LRR or MLRA): LRR R Lat: 42.254121 Long: -73.739503 Datum: WGS 84

Soil Map Unit Name: Hudson and Vergennes Soils (HvD) NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area**
Hydric Soil Present?	Yes X	No	**within a Wetland?** **Yes** X **No**
Wetland Hydrology Present?	Yes X	No	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)	Water-Stained Leaves (B9)	
___ High Water Table (A2)	Aquatic Fauna (B13)	
X Saturation (A3)	Marl Deposits (B15)	
___ Water Marks (B1)	Hydrogen Sulfide Odor (C1)	
___ Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3)	
___ Drift Deposits (B3)	Presence of Reduced Iron (C4)	
___ Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	
___ Iron Deposits (B5)	Thin Muck Surface (C7)	
X Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	
___ Sparsely Vegetated Concave Surface (B8)		

Secondary Indicators (minimum of two required)

___ Surface Soil Cracks (B6)
X Drainage Patterns (B10)
___ Moss Trim Lines (B16)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
X Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
X Geomorphic Position (D2)
___ Shallow Aquitard (D3)
___ Microtopographic Relief (D4)
X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches):	
Water Table Present?	Yes ___	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 2	**Wetland Hydrology Present?** **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: W1-Wet-4

Tree Stratum (Plot size: 15 by 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus americana*			FACW
2. *Acer rubrum*			FAC
3. *Fraxinus pennsylvanica*			FACW
4. *Salix alba*			FACW
5. *Acer negundo*			FAC
6. *Quercus bicolor*			FACW
7.			
		=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 by 20')			
1. *Cornus sericea*			FACW
2. *Acer rubrum*			FAC
3. *Fraxinus pennsylvanica*			FACW
4. *Lonicera tatarica*			FACU
5.			
6.			
7.			
		=Total Cover	
Herb Stratum (Plot size: 10 by 15')			
1. *Lythrum salicaria*	40	Yes	OBL
2. *Phalaris arundinacea*	25	Yes	FACW
3. *Polygonum sagittatum*			OBL
4. *Onoclea sensibilis*			FACW
5. *Typha angustifolia*			OBL
6. *Impatiens capensis*			FACW
7. *Carex spp.*	15	No	FACW
8. *Carex stricta*			FACW
9. *Lysichiton americanus*			FACW
10. *Bidens spp.*			FACW
11. *Sphagnum*			FACW
12. *Juncus effusus*			OBL
	80	=Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals:	(A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0[1]

4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No**

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point W1-Wet-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/1	100					Mucky Loam/Clay	Silty loam with gravel
4-8	10YR 3/2	90	7.5YR 4/6	10	C	M	Loamy/Clayey	silty clay loam
8-16	10YR 3/1	90	10YR 5/4	10	C	M	Loamy/Clayey	clay loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- X Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- Coast Prairie Redox (A16) (**LRR K, L, R**)
- 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- Polyvalue Below Surface (S8) (**LRR K, L**)
- Thin Dark Surface (S9) (**LRR K, L**)
- Iron-Manganese Masses (F12) (**LRR K, L, R**)
- Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: TWT Mid-Hudson City/County: Dutchess Sampling Date: 4/16/2020

Applicant/Owner: The Wetlands Trust, Inc. State: NY Sampling Point: W1-Up-5

Investigator(s): Colin Diehl/Travis Money Section, Township, Range: Town of Claverack

Landform (hillside, terrace, etc.): none Local relief (concave, convex, none): Slope %: 0-3

Subregion (LRR or MLRA): LRR R Lat: 42.25810425 Long: -73.74142674 Datum: WGS 84

Soil Map Unit Name: Kingsbury and Vergennes Soils (KnA) NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation , Soil X , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area**
Hydric Soil Present?	Yes	No X	**within a Wetland?** **Yes** **No** X
Wetland Hydrology Present?	Yes	No X	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	No X	Depth (inches):
Water Table Present?	Yes	No X	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes	No X	Depth (inches):

Wetland Hydrology Present? **Yes** **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: W1-Up-5

Tree Stratum (Plot size: 15 by 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Prunus serotina*			FACU
2. *Pinus strobus*			FACU
3. *Thuja occidentalis*			FACU
4. *Acer rubrum*			FAC
5. *Fraxinus americana*			FACU
6. *Acer saccharum*			FACU
7. *Acer negundo*			FAC
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15 by 20')			
1. *Rhamnus frangula*			FAC
2. *Lonicera tatarica*			FACU
3. *Fraxinus americana*			FACU
4. *Prunus serotina*			FACU
5. *Acer saccharum*			FACU
6. *Cornus racemosa*	10	Yes	FAC
7. *Rosa multiflora*	25	Yes	FACU
	35 =Total Cover		
Herb Stratum (Plot size: 10 by 15')			
1. *Allium cernuum*			FACU
2. *Toxicodendron radicans*			UPL
3. *Plantago major*			FACU
4. *Phalaris arundinacea*			FAC
5. *Galium verum*	10	No	UPL
6. *Solidago canadensis*	25	Yes	FACU
7. *Artemisia vulgaris*			UPL
8. *Trifolium repens*	15	Yes	FACU
9. *Dactyis glomerata*	10	No	FACU
10. *Parthenocissus quinquefolia*			FACU
11. *Asclepias syriaca*			FACU
12. *Daucus carota*			UPL
	60 =Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	10	x 3 =	30
FACU species	75	x 4 =	300
UPL species	10	x 5 =	50
Column Totals:	95 (A)		380 (B)

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

_ 1 - Rapid Test for Hydrophytic Vegetation

_ 2 - Dominance Test is >50%

_ 3 - Prevalence Index is ≤3.0[1]

_ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point W1-Up-5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	7.5YR 3/4	100						silt loam
5-12	10YR 4/3	100						some cobbles

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- High Chroma Sands (S11) (**LRR K, L**)
- Loamy Mucky Mineral (F1) (**LRR K, L**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- Coast Prairie Redox (A16) (**LRR K, L, R**)
- 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- Polyvalue Below Surface (S8) (**LRR K, L**)
- Thin Dark Surface (S9) (**LRR K, L**)
- Iron-Manganese Masses (F12) (**LRR K, L, R**)
- Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes** **No**

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: TWT Mid-Hudson City/County: Dutchess Sampling Date: 4/16/2020

Applicant/Owner: The Wetlands Trust, Inc. State: NY Sampling Point: W1-Wet-5

Investigator(s): Colin Diehl/Travis Money Section, Township, Range: Town of Claverack

Landform (hillside, terrace, etc.): Local relief (concave, convex, none): Slope %: 0-3

Subregion (LRR or MLRA): LRR R Lat: 42.2582015 Long: -73.741409 Datum: WGS 84

Soil Map Unit Name: Kingsbury and Rhinebeck Soils (KnA) NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area**
Hydric Soil Present?	Yes X	No	**within a Wetland?** **Yes** X **No**
Wetland Hydrology Present?	Yes X	No	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

X	Surface Water (A1)	Water-Stained Leaves (B9)	
X	High Water Table (A2)	Aquatic Fauna (B13)	
X	Saturation (A3)	Marl Deposits (B15)	
	Water Marks (B1)	Hydrogen Sulfide Odor (C1)	
	Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3)	
	Drift Deposits (B3)	Presence of Reduced Iron (C4)	
	Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	
	Iron Deposits (B5)	Thin Muck Surface (C7)	
	Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	
	Sparsely Vegetated Concave Surface (B8)		

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Drainage Patterns (B10)
	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
	Geomorphic Position (D2)
	Shallow Aquitard (D3)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No	Depth (inches):	3
Water Table Present?	Yes X	No	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes X	No	Depth (inches):	

Wetland Hydrology Present? **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: W1-Wet-5

Tree Stratum (Plot size: 15 by 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus americana*			FACW
2. *Acer rubrum*			FAC
3. *Fraxinus pennsylvanica*			FACW
4. *Salix alba*			FACW
5. *Acer negundo*			FAC
6. *Quercus bicolor*			FACW
7.			
		=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 by 20')			
1. *Cornus sericea*			FACW
2. *Acer rubrum*			FAC
3. *Fraxinus pennsylvanica*			FACW
4. *Lonicera tatarica*			FACU
5.			
6.			
7.			
		=Total Cover	
Herb Stratum (Plot size: 10 by 15')			
1. *Lythrum salicaria*	65	Yes	OBL
2. *Phalaris arundinacea*	15	No	FACW
3. *Polygonum sagittatum*			OBL
4. *Onoclea sensibilis*			FACW
5. *Typha angustifolia*			OBL
6. *Impatiens capensis*			FACW
7. *Carex spp.*	5	No	FACW
8. *Carex stricta*			FACW
9. *Lysichiton americanus*			FACW
10. *Sium suave*	5	No	FACW
11. *Sphagnum*			FACW
12. *Juncus effusus*			OBL
	90	=Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals:	(A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0[1]

4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No**

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point W1-Wet-5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 2/2	100					Mucky Loam/Clay	Silty loam with gravel
2-12	10YR 4/1	95	10YR 3/4	5	C	M	Loamy/Clayey	silty clay loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- Coast Prairie Redox (A16) (**LRR K, L, R**)
- 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- Polyvalue Below Surface (S8) (**LRR K, L**)
- Thin Dark Surface (S9) (**LRR K, L**)
- Iron-Manganese Masses (F12) (**LRR K, L, R**)
- Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: TWT Mid-Hudson City/County: Dutchess Sampling Date: 4/16/2020

Applicant/Owner: The Wetlands Trust, Inc. State: NY Sampling Point: W1-Up-6

Investigator(s): Colin Diehl/Travis Money Section, Township, Range: Town of Claverack

Landform (hillside, terrace, etc.): none Local relief (concave, convex, none): Slope %: 0-3

Subregion (LRR or MLRA): LRR R Lat: 42.25768939 Long: -73.73816064 Datum: WGS 84

Soil Map Unit Name: Kingsbury and Vergennes Soils (KnA) NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation , Soil X , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area**
Hydric Soil Present?	Yes	No X	**within a Wetland?** **Yes** **No** X
Wetland Hydrology Present?	Yes	No X	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	No X	Depth (inches):
Water Table Present?	Yes	No X	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes	No X	Depth (inches):

Wetland Hydrology Present? **Yes** **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: W1-Up-6

Tree Stratum (Plot size: 15 by 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Prunus serotina*			FACU
2. *Pinus strobus*			FACU
3. *Thuja occidentalis*			FACU
4. *Acer rubrum*			FAC
5. *Fraxinus americana*			FACU
6. *Acer saccharum*			FACU
7. *Acer negundo*			FAC
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15 by 20')			
1. *Rhamnus frangula*			FAC
2. *Lonicera tatarica*			FACU
3. *Fraxinus americana*			FACU
4. *Prunus serotina*			FACU
5. *Acer saccharum*			FACU
6. *Cornus racemosa*	5	Yes	FAC
7. *Rosa multiflora*	15	Yes	FACU
	20 =Total Cover		
Herb Stratum (Plot size: 10 by 15')			
1. *Allium cernuum*	15	Yes	FACU
2. *Toxicodendron radicans*			UPL
3. *Plantago major*			FACU
4. *Phalaris arundinacea*			FAC
5. *Galium verum*	20	Yes	UPL
6. *Solidago canadensis*	25	Yes	FACU
7. *Artemisia vulgaris*			UPL
8. *Trifolium repens*	10	No	FACU
9. *Dactyis glomerata*	5	No	FACU
10. *Parthenocissus quinquefolia*			FACU
11. *Asclepias syriaca*			FACU
12. *Daucus carota*			UPL
	75 =Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 20.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	70	x 4 =	280
UPL species	20	x 5 =	100
Column Totals:	95 (A)		395 (B)

Prevalence Index = B/A = 4.16

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point W1-Up-6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/4	100						silt loam
6-14	10YR 3/3	100						some cobbles

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- High Chroma Sands (S11) (**LRR K, L**)
- Loamy Mucky Mineral (F1) (**LRR K, L**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- Coast Prairie Redox (A16) (**LRR K, L, R**)
- 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- Polyvalue Below Surface (S8) (**LRR K, L**)
- Thin Dark Surface (S9) (**LRR K, L**)
- Iron-Manganese Masses (F12) (**LRR K, L, R**)
- Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes** **No**

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: TWT Mid-Hudson City/County: Dutchess Sampling Date: 4/16/2020

Applicant/Owner: The Wetlands Trust, Inc. State: NY Sampling Point: W1-Wet-6

Investigator(s): Colin Diehl/Travis Money Section, Township, Range: Town of Claverack

Landform (hillside, terrace, etc.): Local relief (concave, convex, none): none Slope %: 0-3

Subregion (LRR or MLRA): LRR R Lat: 42.257626 Long: -73.738032 Datum: WGS 84

Soil Map Unit Name: Kingsbury and Rhinebeck Soils (KnA) NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area**
Hydric Soil Present?	Yes X	No	**within a Wetland?** **Yes** X **No**
Wetland Hydrology Present?	Yes X	No	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

Surface Water (A1)	Water-Stained Leaves (B9)	
High Water Table (A2)	Aquatic Fauna (B13)	
X Saturation (A3)	Marl Deposits (B15)	
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3)	
Drift Deposits (B3)	Presence of Reduced Iron (C4)	
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	
Iron Deposits (B5)	Thin Muck Surface (C7)	
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	
Sparsely Vegetated Concave Surface (B8)		

Secondary Indicators (minimum of two required)

Surface Soil Cracks (B6)	
Drainage Patterns (B10)	
Moss Trim Lines (B16)	
Dry-Season Water Table (C2)	
Crayfish Burrows (C8)	
Saturation Visible on Aerial Imagery (C9)	
Stunted or Stressed Plants (D1)	
X Geomorphic Position (D2)	
Shallow Aquitard (D3)	
Microtopographic Relief (D4)	
X FAC-Neutral Test (D5)	

Field Observations:

Surface Water Present?	Yes	No	Depth (inches):
Water Table Present?	Yes	No	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes X	No	Depth (inches): 2

Wetland Hydrology Present? **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: W1-Wet-6

Tree Stratum (Plot size: 15 by 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus americana*			FACW
2. *Acer rubrum*			FAC
3. *Fraxinus pennsylvanica*			FACW
4. *Salix alba*			FACW
5. *Acer negundo*			FAC
6. *Quercus bicolor*			FACW
7.			
		=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 by 20')			
1. *Cornus sericea*			FACW
2. *Acer rubrum*			FAC
3. *Fraxinus pennsylvanica*			FACW
4. *Lonicera tatarica*			FACU
5.			
6.			
7.			
		=Total Cover	
Herb Stratum (Plot size: 10 by 15')			
1. *Lythrum salicaria*	60	Yes	OBL
2. *Phalaris arundinacea*	20	Yes	FACW
3. *Polygonum sagittatum*			OBL
4. *Onoclea sensibilis*			FACW
5. *Typha angustifolia*			OBL
6. *Impatiens capensis*			FACW
7. *Carex spp.*			FACW
8. *Carex stricta*			FACW
9. *Lysichiton americanus*			FACW
10. *Sium suave*	10	No	FACW
11. *Sphagnum*			FACW
12. *Juncus effusus*			OBL
	90	=Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals:	(A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0[1]

4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No**

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point W1-Wet-6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/1	95	10YR 3/4	5	C	PL	Loamy/Clayey	distinct redox concentrations
8-16	10YR 4/2	90	10YR 3/4	10	C	M	Loamy/Clayey	silty clay loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- Coast Prairie Redox (A16) (**LRR K, L, R**)
- 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- Polyvalue Below Surface (S8) (**LRR K, L**)
- Thin Dark Surface (S9) (**LRR K, L**)
- Iron-Manganese Masses (F12) (**LRR K, L, R**)
- Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: TWT Mid-Hudson City/County: Dutchess Sampling Date: 4/16/2020

Applicant/Owner: The Wetlands Trust, Inc. State: NY Sampling Point: W2-Up-1

Investigator(s): Colin Diehl/Travis Money Section, Township, Range: Town of Claverack

Landform (hillside, terrace, etc.): none Local relief (concave, convex, none): Slope %: 0-3

Subregion (LRR or MLRA): LRR R Lat: 42.2608658 Long: -73.73979683 Datum: WGS 84

Soil Map Unit Name: Kingsbury and Vergennes Soils (KnA) NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation , Soil X , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area**
Hydric Soil Present?	Yes	No X	**within a Wetland?** **Yes** **No** X
Wetland Hydrology Present?	Yes	No X	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	No X	Depth (inches):
Water Table Present?	Yes	No X	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes	No X	Depth (inches):

Wetland Hydrology Present? **Yes** **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: W2-Up-1

Tree Stratum (Plot size: 15 by 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Prunus serotina*			FACU
2. *Pinus strobus*			FACU
3. *Thuja occidentalis*			FACU
4. *Acer rubrum*			FAC
5. *Fraxinus americana*			FACU
6. *Acer saccharum*			FACU
7. *Acer negundo*			FAC
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15 by 20')			
1. *Rhamnus frangula*			FAC
2. *Lonicera tatarica*			FACU
3. *Fraxinus americana*			FACU
4. *Malus spp*	25	Yes	FACU
5. *Acer saccharum*			FACU
6. *Cornus racemosa*			FAC
7. *Rosa multiflora*	20	Yes	FACU
	45 =Total Cover		
Herb Stratum (Plot size: 10 by 15')			
1. *Allium cernuum*	10	No	FACU
2. *Toxicodendron radicans*			UPL
3. *Plantago major*			FACU
4. *Phalaris arundinacea*			FAC
5. *Galium verum*	25	Yes	UPL
6. *Solidago canadensis*	30	Yes	FACU
7. *Artemisia vulgaris*			UPL
8. *Trifolium repens*			FACU
9. *Dactyis glomerata*	10	No	FACU
10. *Parthenocissus quinquefolia*			FACU
11. *Asclepias syriaca*			FACU
12. *Daucus carota*			UPL
	75 =Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	95	x 4 =	380
UPL species	25	x 5 =	125
Column Totals:	120 (A)		505 (B)

Prevalence Index = B/A = 4.21

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point W2-Up-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	7.5YR 4/2	100						silt loam
5-16	10YR 3/4	100						some cobbles

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- High Chroma Sands (S11) (**LRR K, L**)
- Loamy Mucky Mineral (F1) (**LRR K, L**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- Coast Prairie Redox (A16) (**LRR K, L, R**)
- 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- Polyvalue Below Surface (S8) (**LRR K, L**)
- Thin Dark Surface (S9) (**LRR K, L**)
- Iron-Manganese Masses (F12) (**LRR K, L, R**)
- Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes** **No**

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: TWT Mid-Hudson City/County: Dutchess Sampling Date: 4/16/2020

Applicant/Owner: The Wetlands Trust, Inc. State: NY Sampling Point: W2-Wet-2

Investigator(s): Colin Diehl/Travis Money Section, Township, Range: Town of Claverack

Landform (hillside, terrace, etc.): Local relief (concave, convex, none): none Slope %: 0-3

Subregion (LRR or MLRA): LRR R Lat: 42.2608387 Long: -73.739689 Datum: WGS 84

Soil Map Unit Name: Hudson and Vergennes Soils (HvD) NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area**
Hydric Soil Present?	Yes X	No	**within a Wetland?** **Yes** X **No**
Wetland Hydrology Present?	Yes X	No	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- X Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- X Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No	Depth (inches):	2
Water Table Present?	Yes X	No	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes X	No	Depth (inches):	

Wetland Hydrology Present? **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: W2-Wet-2

Tree Stratum (Plot size: 15 by 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus americana*	5	No	FACW
2. *Acer rubrum*	25	Yes	FAC
3. *Fraxinus pennsylvanica*	25	Yes	FACW
4. *Salix alba*			FACW
5. *Acer negundo*			FAC
6. *Quercus bicolor*	10	No	FACW
7.			
	65	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 by 20')			
1. *Cornus sericea*			FACW
2. *Acer rubrum*			FAC
3. *Fraxinus pennsylvanica*			FACW
4. *Lonicera tatarica*			FACU
5.			
6.			
7.			
		=Total Cover	
Herb Stratum (Plot size: 10 by 15')			
1. *Lythrum salicaria*			OBL
2. *Phalaris arundinacea*			FACW
3. *Polygonum sagittatum*			OBL
4. *Onoclea sensibilis*	5	No	FACW
5. *Typha angustifolia*			OBL
6. *Impatiens capensis*			FACW
7. *Carex spp.*			FACW
8. *Carex stricta*	40	Yes	FACW
9. *Lysichiton americanus*			FACW
10. *Sium suave*	0		FACW
11. *Sphagnum*			FACW
12. *Juncus effusus*			OBL
	45	=Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals:	(A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0[1]

4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No**

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point W2-Wet-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	7.5YR 3/1	95	10YR 4/3	5	C	M	Loamy/Clayey	distinct redox concentrations
4-12	10YR 4/1	80	10YR 3/4	20	C	M	Loamy/Clayey	silty clay loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- Coast Prairie Redox (A16) (**LRR K, L, R**)
- 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- Polyvalue Below Surface (S8) (**LRR K, L**)
- Thin Dark Surface (S9) (**LRR K, L**)
- Iron-Manganese Masses (F12) (**LRR K, L, R**)
- Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: TWT Mid-Hudson City/County: Dutchess Sampling Date: 4/16/2020

Applicant/Owner: The Wetlands Trust, Inc. State: NY Sampling Point: W2-Up-2

Investigator(s): Colin Diehl/Travis Money Section, Township, Range: Town of Claverack

Landform (hillside, terrace, etc.): none Local relief (concave, convex, none): _____ Slope %: 0-3

Subregion (LRR or MLRA): LRR R Lat: 42.25506236 Long: -73.73558756 Datum: WGS 84

Soil Map Unit Name: Hudson and Vergennes Soils (HvD) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil X, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area**
Hydric Soil Present?	Yes _____	No X	**within a Wetland?** **Yes** _____ **No** X
Wetland Hydrology Present?	Yes _____	No X	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	No X	Depth (inches):
Water Table Present?	Yes	No X	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes	No X	Depth (inches):

Wetland Hydrology Present? **Yes** _____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Upslope of W2-Up-2

VEGETATION – Use scientific names of plants.

Sampling Point: W2-Up-2

Tree Stratum (Plot size: 15 by 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Prunus serotina*			FACU
2. *Carya ovata*	40	Yes	FACU
3. *Thuja occidentalis*			FACU
4. *Acer rubrum*	15	Yes	FAC
5. *Fraxinus americana*			FACU
6. *Acer saccharum*			FACU
7. *Acer negundo*			FAC
	55	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 by 20')			
1. *Rhamnus frangula*	15	Yes	FAC
2. *Lonicera tatarica*			FACU
3. *Fraxinus americana*	15	Yes	FACU
4. *Malus spp*			FACU
5. *Acer saccharum*			FACU
6. *Cornus racemosa*	15	Yes	FAC
7. *Rosa multiflora*			FACU
	45	=Total Cover	
Herb Stratum (Plot size: 10 by 15')			
1. *Allium cernuum*	5	Yes	FACU
2. *Toxicodendron radicans*			UPL
3. *Plantago major*			FACU
4. *Phalaris arundinacea*			FAC
5. *Galium verum*			UPL
6. *Solidago canadensis*			FACU
7. *Artemisia vulgaris*			UPL
8. *Trifolium repens*			FACU
9. *Dactyis glomerata*			FACU
10. *Parthenocissus quinquefolia*			FACU
11. *Asclepias syriaca*			FACU
12. *Daucus carota*			UPL
	5	=Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	45	x 3 =	135
FACU species	60	x 4 =	240
UPL species	0	x 5 =	0
Column Totals:	105 (A)		375 (B)

Prevalence Index = B/A = 3.57

Hydrophytic Vegetation Indicators:

_ 1 - Rapid Test for Hydrophytic Vegetation

_ 2 - Dominance Test is >50%

_ 3 - Prevalence Index is ≤3.0[1]

_ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point W2-Up-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/3	100						dry sandy silt loam
8-14	7.5YR 4/4	100						some cobbles

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- High Chroma Sands (S11) (**LRR K, L**)
- Loamy Mucky Mineral (F1) (**LRR K, L**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- Coast Prairie Redox (A16) (**LRR K, L, R**)
- 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- Polyvalue Below Surface (S8) (**LRR K, L**)
- Thin Dark Surface (S9) (**LRR K, L**)
- Iron-Manganese Masses (F12) (**LRR K, L, R**)
- Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes** **No**

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: TWT Mid-Hudson City/County: Dutchess Sampling Date: 4/16/2020

Applicant/Owner: The Wetlands Trust, Inc. State: NY Sampling Point: W2-Wet-1

Investigator(s): Colin Diehl/Travis Money Section, Township, Range: Town of Claverack

Landform (hillside, terrace, etc.): Local relief (concave, convex, none): none Slope %: 0-3

Subregion (LRR or MLRA): LRR R Lat: 42.2608387 Long: -73.739689 Datum: WGS 84

Soil Map Unit Name: Kingsbury and Rhinebeck Soils (KnA) NWI classification: PEM

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area**
Hydric Soil Present?	Yes X	No	**within a Wetland?** **Yes** X **No**
Wetland Hydrology Present?	Yes X	No	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

X Surface Water (A1)	Water-Stained Leaves (B9)	
X High Water Table (A2)	Aquatic Fauna (B13)	
X Saturation (A3)	Marl Deposits (B15)	
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3)	
Drift Deposits (B3)	Presence of Reduced Iron (C4)	
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	
Iron Deposits (B5)	Thin Muck Surface (C7)	
X Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	
Sparsely Vegetated Concave Surface (B8)		

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No	Depth (inches):	2
Water Table Present?	Yes X	No	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes X	No	Depth (inches):	

Wetland Hydrology Present? **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: W2-Wet-1

Tree Stratum (Plot size: 15 by 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus americana*			FACW
2. *Acer rubrum*			FAC
3. *Fraxinus pennsylvanica*			FACW
4. *Salix alba*			FACW
5. *Acer negundo*			FAC
6. *Quercus bicolor*			FACW
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15 by 20')			
1. *Cornus sericea*	15	Yes	FACW
2. *Acer rubrum*			FAC
3. *Fraxinus pennsylvanica*			FACW
4. *Lonicera tatarica*			FACU
5.			
6.			
7.			
	15 =Total Cover		
Herb Stratum (Plot size: 10 by 15')			
1. *Lythrum salicaria*	60	Yes	OBL
2. *Phalaris arundinacea*	20	Yes	FACW
3. *Polygonum sagittatum*			OBL
4. *Onoclea sensibilis*	10	No	FACW
5. *Typha angustifolia*			OBL
6. *Impatiens capensis*			FACW
7. *Carex spp.*			FACW
8. *Carex stricta*			FACW
9. *Lysichiton americanus*			FACW
10. *Sium suave*	0		FACW
11. *Sphagnum*			FACW
12. *Juncus effusus*			OBL
	90 =Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0[1]

4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No**

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point W2-Wet-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/2	90	10YR 3/3	10	C	PL	Loamy/Clayey	distinct redox concentrations
8-16	10YR 4/1	85	10YR 3/4	15	C	M	Loamy/Clayey	silty clay loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- Coast Prairie Redox (A16) (**LRR K, L, R**)
- 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- Polyvalue Below Surface (S8) (**LRR K, L**)
- Thin Dark Surface (S9) (**LRR K, L**)
- Iron-Manganese Masses (F12) (**LRR K, L, R**)
- Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: TWT Mid-Hudson City/County: Dutchess Sampling Date: 4/16/2020

Applicant/Owner: The Wetlands Trust, Inc. State: NY Sampling Point: W3-Up-1

Investigator(s): Colin Diehl/Travis Money Section, Township, Range: Town of Claverack

Landform (hillside, terrace, etc.): none Local relief (concave, convex, none): Slope %: 0-3

Subregion (LRR or MLRA): LRR R Lat: 42.25850822 Long: -73.73598115 Datum: WGS 84

Soil Map Unit Name: Kingsbury and Vergennes Soils (KnA) NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation , Soil X , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area**
Hydric Soil Present?	Yes	No X	**within a Wetland?** **Yes** **No** X
Wetland Hydrology Present?	Yes	No X	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

Surface Water (A1)	Water-Stained Leaves (B9)	
High Water Table (A2)	Aquatic Fauna (B13)	
Saturation (A3)	Marl Deposits (B15)	
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3)	
Drift Deposits (B3)	Presence of Reduced Iron (C4)	
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	
Iron Deposits (B5)	Thin Muck Surface (C7)	
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	
? Sparsely Vegetated Concave Surface (B8)		

Secondary Indicators (minimum of two required)

Surface Soil Cracks (B6)
Drainage Patterns (B10)
Moss Trim Lines (B16)
Dry-Season Water Table (C2)
Crayfish Burrows (C8)
Saturation Visible on Aerial Imagery (C9)
Stunted or Stressed Plants (D1
Geomorphic Position (D2)
Shallow Aquitard (D3)
Microtopographic Relief (D4)
FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	No X	Depth (inches):
Water Table Present?	Yes	No X	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes	No X	Depth (inches):

Wetland Hydrology Present? **Yes** **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: W3-Up-1

Tree Stratum (Plot size: 15 by 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ostrya virginiana*	15	Yes	FACU
2. *Quercus rubra*	30	Yes	FACU
3. *Carya ovata*	20	Yes	FACU
4. *Acer rubrum*			FAC
5. *Fraxinus americana*			FACU
6. *Acer saccharum*			FACU
7. *Acer negundo*			FAC
	65	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 by 20')			
1. *Rhamnus frangula*			FAC
2. *Lonicera tatarica*			FACU
3. *Fraxinus americana*			FACU
4. *Malus spp*			FACU
5. *Ostrya virginiana*	15	Yes	FACU
6. *Cornus racemosa*			FAC
7. *Rosa multiflora*			FACU
	15	=Total Cover	
Herb Stratum (Plot size: 10 by 15')			
1. *Allium cernuum*			FACU
2. *Toxicodendron radicans*			UPL
3. *Plantago major*			FACU
4. *Phalaris arundinacea*			FAC
5. *Galium verum*			UPL
6. *Solidago canadensis*			FACU
7. *Artemisia vulgaris*			UPL
8. *Trifolium repens*			FACU
9. *Dactyis glomerata*			FACU
10. *Parthenocissus quinquefolia*			FACU
11. *Asclepias syriaca*			FACU
12. *Daucus carota*			UPL
		=Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	80	x 4 =	320
UPL species	0	x 5 =	0
Column Totals:	80 (A)		320 (B)

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point W3-Up-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	7.5YR 4/2	100						some organic/roots
8-12	7.5YR 3/3	100						sandy loam with cobbles

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- High Chroma Sands (S11) (**LRR K, L**)
- Loamy Mucky Mineral (F1) (**LRR K, L**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- Coast Prairie Redox (A16) (**LRR K, L, R**)
- 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- Polyvalue Below Surface (S8) (**LRR K, L**)
- Thin Dark Surface (S9) (**LRR K, L**)
- Iron-Manganese Masses (F12) (**LRR K, L, R**)
- Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes** **No**

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: TWT Mid-Hudson City/County: Dutchess Sampling Date: 4/16/2020

Applicant/Owner: The Wetlands Trust, Inc. State: NY Sampling Point: W3-Wet-1

Investigator(s): Colin Diehl/Travis Money Section, Township, Range: Town of Claverack

Landform (hillside, terrace, etc.): Local relief (concave, convex, none): none Slope %: 0-3

Subregion (LRR or MLRA): LRR R Lat: 42.258352 Long: -73.736037 Datum: WGS 84

Soil Map Unit Name: Kingsbury and Rhinebeck Soils (KnA) NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area**
Hydric Soil Present?	Yes X	No	**within a Wetland?** **Yes** X **No**
Wetland Hydrology Present?	Yes X	No	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

X Surface Water (A1)	X Water-Stained Leaves (B9)	Secondary Indicators (minimum of two required)
X High Water Table (A2)	Aquatic Fauna (B13)	Surface Soil Cracks (B6)
X Saturation (A3)	Marl Deposits (B15)	Drainage Patterns (B10)
X Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Moss Trim Lines (B16)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3)	Dry-Season Water Table (C2)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Crayfish Burrows (C8)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)
Iron Deposits (B5)	Thin Muck Surface (C7)	Stunted or Stressed Plants (D1)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarl s)	X Geomorphic Position (D2)
X Sparsely Vegetated Concave Surface (B8)		Shallow Aquitard (D3)
		Microtopographic Relief (D4)
		X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No	Depth (inches): 3
Water Table Present?	Yes X	No	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes X	No	Depth (inches):

Wetland Hydrology Present? **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: W3-Wet-1

Tree Stratum (Plot size: 15 by 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus americana*			FACW
2. *Acer rubrum*	35	Yes	FAC
3. *Fraxinus pennsylvanica*	5	No	FACW
4. *Salix alba*			FACW
5. *Acer negundo*			FAC
6. *Quercus bicolor*	10	No	FACW
7. *Quercus rubra*	10	No	FACU
	60	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 by 20')			
1. *Cornus sericea*	15	Yes	FACW
2. *Acer rubrum*	10	Yes	FAC
3. *Fraxinus pennsylvanica*			FACW
4. *Lonicera tatarica*			FACU
5.			
6.			
7.			
	25	=Total Cover	
Herb Stratum (Plot size: 10 by 15')			
1. *Lythrum salicaria*			OBL
2. *Phalaris arundinacea*			FACW
3. *Polygonum sagittatum*			OBL
4. *Onoclea sensibilis*			FACW
5. *Typha angustifolia*			OBL
6. *Impatiens capensis*			FACW
7. *Carex spp.*	10	Yes	FACW
8. *Carex stricta*			FACW
9. *Lysichiton americanus*			FACW
10. *Sium suave*			FACW
11. *Sphagnum*			FACW
12. *Juncus effusus*			OBL
	10	=Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals:	(A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0[1]

4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No**

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point W3-Wet-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 3/1	100					Loamy/Clayey	
3-12	7.5YR 3/1	100						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- High Chroma Sands (S11) (**LRR K, L**)
- Loamy Mucky Mineral (F1) (**LRR K, L**)
- Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- Coast Prairie Redox (A16) (**LRR K, L, R**)
- 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- Polyvalue Below Surface (S8) (**LRR K, L**)
- Thin Dark Surface (S9) (**LRR K, L**)
- Iron-Manganese Masses (F12) (**LRR K, L, R**)
- Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes** X **No**

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: TWT Mid-Hudson City/County: Dutchess Sampling Date: 4/16/2020

Applicant/Owner: The Wetlands Trust, Inc. State: NY Sampling Point: W4-Up-1

Investigator(s): Colin Diehl/Travis Money Section, Township, Range: Town of Claverack

Landform (hillside, terrace, etc.): none Local relief (concave, convex, none): _____ Slope %: 0-3

Subregion (LRR or MLRA): LRR R Lat: 42.25828855 Long: -73.73604777 Datum: WGS 84

Soil Map Unit Name: Kingsbury and Vergennes Soils (KnA) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil X, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area**
Hydric Soil Present?	Yes _____	No X	**within a Wetland?** **Yes** _____ **No** X
Wetland Hydrology Present?	Yes _____	No X	If yes, optional Wetland Site ID: _____

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	No X	Depth (inches):
Water Table Present?	Yes	No X	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes	No X	Depth (inches):

Wetland Hydrology Present? **Yes** _____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: W4-Up-1

Tree Stratum (Plot size: 15 by 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ostrya virginiana*	5	No	FACU
2. *Quercus rubra*	40	Yes	FACU
3. *Carya ovata*	25	Yes	FACU
4. *Acer rubrum*			FAC
5. *Fraxinus americana*			FACU
6. *Acer saccharum*			FACU
7. *Acer negundo*			FAC
	70	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 by 20')			
1. *Rhamnus frangula*			FAC
2. *Lonicera tatarica*			FACU
3. *Fraxinus americana*			FACU
4. *Malus spp*			FACU
5. *Ostrya virginiana*			FACU
6. *Cornus racemosa*			FAC
7. *Rosa multiflora*			FACU
		=Total Cover	
Herb Stratum (Plot size: 10 by 15')			
1. *Allium cernuum*			FACU
2. *Toxicodendron radicans*			UPL
3. *Plantago major*			FACU
4. *Erythronium americanum*	25	Yes	FAC
5. *Galium verum*			UPL
6. *Solidago canadensis*			FACU
7. *Artemisia vulgaris*			UPL
8. *Trifolium repens*			FACU
9. *Dactyis glomerata*			FACU
10. *Parthenocissus quinquefolia*			FACU
11. *Asclepias syriaca*			FACU
12. *Daucus carota*			UPL
	25	=Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	25	x 3 =	75
FACU species	70	x 4 =	280
UPL species	0	x 5 =	0
Column Totals:	95 (A)		355 (B)

Prevalence Index = B/A = 3.74

Hydrophytic Vegetation Indicators:

_ 1 - Rapid Test for Hydrophytic Vegetation

_ 2 - Dominance Test is >50%

_ 3 - Prevalence Index is ≤3.0[1]

_ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point W4-Up-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/3	100						some organic/roots
6-16	7.5YR 3/3	100						sandy loam with cobbles

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- High Chroma Sands (S11) (**LRR K, L**)
- Loamy Mucky Mineral (F1) (**LRR K, L**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- Coast Prairie Redox (A16) (**LRR K, L, R**)
- 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- Polyvalue Below Surface (S8) (**LRR K, L**)
- Thin Dark Surface (S9) (**LRR K, L**)
- Iron-Manganese Masses (F12) (**LRR K, L, R**)
- Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes** **No**

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: TWT Mid-Hudson City/County: Dutchess Sampling Date: 4/16/2020

Applicant/Owner: The Wetlands Trust, Inc. State: NY Sampling Point: W4-Wet-1

Investigator(s): Colin Diehl/Travis Money Section, Township, Range: Town of Claverack

Landform (hillside, terrace, etc.): Local relief (concave, convex, none): none Slope %: 0-3

Subregion (LRR or MLRA): LRR R Lat: 42.2583052 Long: -73.735998 Datum: WGS 84

Soil Map Unit Name: Kingsbury and Rhinebeck Soils (KnA) NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area**
Hydric Soil Present?	Yes X	No	**within a Wetland?** **Yes** X **No**
Wetland Hydrology Present?	Yes X	No	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

X Surface Water (A1)	X Water-Stained Leaves (B9)	Secondary Indicators (minimum of two required)
X High Water Table (A2)	Aquatic Fauna (B13)	Surface Soil Cracks (B6)
X Saturation (A3)	Marl Deposits (B15)	Drainage Patterns (B10)
X Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Moss Trim Lines (B16)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3)	Dry-Season Water Table (C2)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Crayfish Burrows (C8)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)
Iron Deposits (B5)	Thin Muck Surface (C7)	Stunted or Stressed Plants (D1)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarl s)	X Geomorphic Position (D2)
X Sparsely Vegetated Concave Surface (B8)		Shallow Aquitard (D3)
		Microtopographic Relief (D4)
		X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No	Depth (inches): 2
Water Table Present?	Yes X	No	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes X	No	Depth (inches):

Wetland Hydrology Present? **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: W4-Wet-1

Tree Stratum (Plot size: 15 by 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus americana*	15	Yes	FACW
2. *Acer rubrum*	40	Yes	FAC
3. *Fraxinus pennsylvanica*			FACW
4. *Salix alba*			FACW
5. *Acer negundo*			FAC
6. *Quercus bicolor*	15	Yes	FACW
7. *Quercus rubra*	5	No	FACU
	75	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 by 20')			
1. *Cornus sericea*			FACW
2. *Acer rubrum*	5	Yes	FAC
3. *Fraxinus pennsylvanica*			FACW
4. *Lonicera tatarica*			FACU
5.			
6.			
7.			
	5	=Total Cover	
Herb Stratum (Plot size: 10 by 15')			
1. *Lythrum salicaria*			OBL
2. *Phalaris arundinacea*			FACW
3. *Polygonum sagittatum*			OBL
4. *Onoclea sensibilis*			FACW
5. *Typha angustifolia*			OBL
6. *Impatiens capensis*			FACW
7. *Carex spp.*	20	Yes	FACW
8. *Carex stricta*			FACW
9. *Lysichiton americanus*			FACW
10. *Sium suave*			FACW
11. *Sphagnum*			FACW
12. *Symplocarpus foetidus*	10	Yes	OBL
	30	=Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0[1]

4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No**

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point W4-Wet-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/1	95	10YR 3/4	5	C	PL	Loamy/Clayey	
6-14	10YR 4/2	95	10YR 3/4	5	C	M	Loamy/Clayey	distinct redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L**)
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- Coast Prairie Redox (A16) (**LRR K, L, R**)
- 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- Polyvalue Below Surface (S8) (**LRR K, L**)
- Thin Dark Surface (S9) (**LRR K, L**)
- Iron-Manganese Masses (F12) (**LRR K, L, R**)
- Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: TWT Mid-Hudson City/County: Dutchess Sampling Date: 4/16/2020

Applicant/Owner: The Wetlands Trust, Inc. State: NY Sampling Point: W5-Up-1

Investigator(s): Colin Diehl/Travis Money Section, Township, Range: Town of Claverack

Landform (hillside, terrace, etc.): none Local relief (concave, convex, none): Slope %: 0-3

Subregion (LRR or MLRA): LRR R Lat: 42.25818949 Long: -73.73573661 Datum: WGS 84

Soil Map Unit Name: Kingsbury and Vergennes Soils (KnA) NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation , Soil X , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area**
Hydric Soil Present?	Yes	No X	**within a Wetland?** **Yes** **No** X
Wetland Hydrology Present?	Yes	No X	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	No X	Depth (inches):
Water Table Present?	Yes	No X	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes	No X	Depth (inches):

Wetland Hydrology Present? **Yes** **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: W5-Up-1

Tree Stratum (Plot size: 15 by 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ostrya virginiana*			FACU
2. *Quercus rubra*	30	Yes	FACU
3. *Carya ovata*	25	Yes	FACU
4. *Acer rubrum*			FAC
5. *Fraxinus americana*	20	Yes	FACU
6. *Acer saccharum*			FACU
7. *Acer negundo*			FAC
	75	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 by 20')			
1. *Rhamnus frangula*			FAC
2. *Lonicera tatarica*			FACU
3. *Fraxinus americana*	20	Yes	FACU
4. *Malus spp*			FACU
5. *Ostrya virginiana*			FACU
6. *Cornus racemosa*			FAC
7. *Rosa multiflora*			FACU
	20	=Total Cover	
Herb Stratum (Plot size: 10 by 15')			
1. *Allium cernuum*			FACU
2. *Toxicodendron radicans*			UPL
3. *Plantago major*			FACU
4. *Erythronium americanum*	30	Yes	FAC
5. *Galium verum*			UPL
6. *Solidago canadensis*			FACU
7. *Artemisia vulgaris*			UPL
8. *Trifolium repens*			FACU
9. *Dactyis glomerata*			FACU
10. *Parthenocissus quinquefolia*			FACU
11. *Asclepias syriaca*			FACU
12. *Daucus carota*			UPL
	30	=Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 20.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	30	x 3 =	90
FACU species	95	x 4 =	380
UPL species	0	x 5 =	0
Column Totals:	125 (A)		470 (B)

Prevalence Index = B/A = 3.76

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** __ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point W5-Up-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	7.5YR 4/3	100						some organic/roots
6-14	10YR 4/3	100						silt loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- High Chroma Sands (S11) (**LRR K, L**)
- Loamy Mucky Mineral (F1) (**LRR K, L**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- Coast Prairie Redox (A16) (**LRR K, L, R**)
- 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- Polyvalue Below Surface (S8) (**LRR K, L**)
- Thin Dark Surface (S9) (**LRR K, L**)
- Iron-Manganese Masses (F12) (**LRR K, L, R**)
- Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes** **No**

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: TWT Mid-Hudson City/County: Dutchess Sampling Date: 4/16/2020

Applicant/Owner: The Wetlands Trust, Inc. State: NY Sampling Point: W5-Wet-1

Investigator(s): Colin Diehl/Travis Money Section, Township, Range: Town of Claverack

Landform (hillside, terrace, etc.): Local relief (concave, convex, none): none Slope %: 0-3

Subregion (LRR or MLRA): LRR R Lat: 42.2581535 Long: -73.735662 Datum: WGS 84

Soil Map Unit Name: Kingsbury and Rhinebeck Soils (KnA) NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area**
Hydric Soil Present?	Yes X	No	**within a Wetland?** **Yes** X **No**
Wetland Hydrology Present?	Yes X	No	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

X	Surface Water (A1)	X	Water-Stained Leaves (B9)
X	High Water Table (A2)		Aquatic Fauna (B13)
X	Saturation (A3)		Marl Deposits (B15)
X	Water Marks (B1)		Hydrogen Sulfide Odor (C1)
	Sediment Deposits (B2)		Oxidized Rhizospheres on Living Roots (C3)
	Drift Deposits (B3)		Presence of Reduced Iron (C4)
	Algal Mat or Crust (B4)		Recent Iron Reduction in Tilled Soils (C6)
	Iron Deposits (B5)		Thin Muck Surface (C7)
	Inundation Visible on Aerial Imagery (B7)		Other (Explain in Remarl s)
X	Sparsely Vegetated Concave Surface (B8)		

Secondary Indicators (minimum of two required)

	Surface Soil Cracks (B6)
	Drainage Patterns (B10)
X	Moss Trim Lines (B16)
	Dry-Season Water Table (C2)
	Crayfish Burrows (C8)
	Saturation Visible on Aerial Imagery (C9)
	Stunted or Stressed Plants (D1)
X	Geomorphic Position (D2)
	Shallow Aquitard (D3)
	Microtopographic Relief (D4)
X	FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No	Depth (inches): 4
Water Table Present?	Yes X	No	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes X	No	Depth (inches):

Wetland Hydrology Present? **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: W5-Wet-1

Tree Stratum (Plot size: 15 by 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus americana*	10	No	FACW
2. *Acer rubrum*	30	Yes	FAC
3. *Fraxinus pennsylvanica*			FACW
4. *Salix alba*			FACW
5. *Acer negundo*			FAC
6. *Quercus bicolor*	5	No	FACW
7. *Quercus rubra*	10	No	FACU
	55	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 by 20')			
1. *Cornus sericea*			FACW
2. *Acer rubrum*	15	Yes	FAC
3. *Fraxinus pennsylvanica*			FACW
4. *Lonicera tatarica*			FACU
5. *Carpinus caroliniana*	20	Yes	FAC
6.			
7.			
	35	=Total Cover	
Herb Stratum (Plot size: 10 by 15')			
1. *Lythrum salicaria*			OBL
2. *Phalaris arundinacea*			FACW
3. *Polygonum sagittatum*			OBL
4. *Onoclea sensibilis*			FACW
5. *Typha angustifolia*			OBL
6. *Impatiens capensis*			FACW
7. *Carex spp.*	15	Yes	FACW
8. *Carex stricta*			FACW
9. *Lysichiton americanus*			FACW
10. *Sium suave*			FACW
11. *Sphagnum*			FACW
12. *Symplocarpus foetidus*	30	Yes	OBL
	45	=Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0[1]

4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No**

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point W5-Wet-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 4/1	85	10YR 4/3	15	C	PL	Loamy/Clayey	
8-16	10YR 4/2	90	10YR 3/4	10	C	M	Loamy/Clayey	distinct redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- Coast Prairie Redox (A16) (**LRR K, L, R**)
- 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- Polyvalue Below Surface (S8) (**LRR K, L**)
- Thin Dark Surface (S9) (**LRR K, L**)
- Iron-Manganese Masses (F12) (**LRR K, L, R**)
- Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: TWT Mid-Hudson City/County: Dutchess Sampling Date: 4/16/2020

Applicant/Owner: The Wetlands Trust, Inc. State: NY Sampling Point: W6-Up-1

Investigator(s): Colin Diehl/Travis Money Section, Township, Range: Town of Claverack

Landform (hillside, terrace, etc.): none Local relief (concave, convex, none): Slope %: 0-3

Subregion (LRR or MLRA): LRR R Lat: 42.25791365 Long: -73.73502288 Datum: WGS 84

Soil Map Unit Name: Kingsbury and Vergennes Soils (KnA) NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation , Soil X , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area**
Hydric Soil Present?	Yes	No X	**within a Wetland?** **Yes** **No** X
Wetland Hydrology Present?	Yes	No X	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	No X	Depth (inches):
Water Table Present?	Yes	No X	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes	No X	Depth (inches):

Wetland Hydrology Present? **Yes** **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: W6-Up-1

Tree Stratum (Plot size: 15 by 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ostrya virginiana*			FACU
2. *Quercus rubra*	20	Yes	FACU
3. *Carya ovata*	15	Yes	FACU
4. *Acer rubrum*	10	No	FAC
5. *Fraxinus americana*	15	Yes	FACU
6. *Acer saccharum*			FACU
7. *Acer negundo*			FAC
	60	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 by 20')			
1. *Rhamnus frangula*			FAC
2. *Lonicera tatarica*			FACU
3. *Fraxinus americana*			FACU
4. *Malus spp*			FACU
5. *Ostrya virginiana*			FACU
6. *Cornus racemosa*	10	Yes	FAC
7. *Rosa multiflora*	15	Yes	FACU
	25	=Total Cover	
Herb Stratum (Plot size: 10 by 15')			
1. *Allium cernuum*			FACU
2. *Toxicodendron radicans*			UPL
3. *Plantago major*			FACU
4. *Erythronium americanum*	25	Yes	FAC
5. *Galium verum*			UPL
6. *Solidago canadensis*			FACU
7. *Artemisia vulgaris*			UPL
8. *Trifolium repens*			FACU
9. *Dactyis glomerata*			FACU
10. *Parthenocissus quinquefolia*			FACU
11. *Asclepias syriaca*			FACU
12. *Daucus carota*			UPL
	25	=Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	45	x 3 =	135
FACU species	65	x 4 =	260
UPL species	0	x 5 =	0
Column Totals:	110 (A)		395 (B)

Prevalence Index = B/A = 3.59

Hydrophytic Vegetation Indicators:

_ 1 - Rapid Test for Hydrophytic Vegetation

_ 2 - Dominance Test is >50%

_ 3 - Prevalence Index is ≤3.0[1]

_ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point W6-Up-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/2	100						some organic/roots
4-14	10YR 3/4	100						silt loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- High Chroma Sands (S11) (**LRR K, L**)
- Loamy Mucky Mineral (F1) (**LRR K, L**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- Coast Prairie Redox (A16) (**LRR K, L, R**)
- 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- Polyvalue Below Surface (S8) (**LRR K, L**)
- Thin Dark Surface (S9) (**LRR K, L**)
- Iron-Manganese Masses (F12) (**LRR K, L, R**)
- Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes** **No**

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: TWT Mid-Hudson City/County: Dutchess Sampling Date: 4/16/2020

Applicant/Owner: The Wetlands Trust, Inc. State: NY Sampling Point: W6-Wet-1

Investigator(s): Colin Diehl/Travis Money Section, Township, Range: Town of Claverack

Landform (hillside, terrace, etc.): Local relief (concave, convex, none): none Slope %: 0-3

Subregion (LRR or MLRA): LRR R Lat: 42.2579059 Long: -73.734928 Datum: WGS 84

Soil Map Unit Name: Kingsbury and Rhinebeck Soils (KnA) NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area**
Hydric Soil Present?	Yes X	No	**within a Wetland?** **Yes** X **No**
Wetland Hydrology Present?	Yes X	No	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

X Surface Water (A1)	X Water-Stained Leaves (B9)	Secondary Indicators (minimum of two required)
X High Water Table (A2)	Aquatic Fauna (B13)	Surface Soil Cracks (B6)
X Saturation (A3)	Marl Deposits (B15)	Drainage Patterns (B10)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Moss Trim Lines (B16)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (C3)	Dry-Season Water Table (C2)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Crayfish Burrows (C8)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6)	Saturation Visible on Aerial Imagery (C9)
Iron Deposits (B5)	Thin Muck Surface (C7)	Stunted or Stressed Plants (D1)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarl s)	X Geomorphic Position (D2)
X Sparsely Vegetated Concave Surface (B8)		Shallow Aquitard (D3)
		Microtopographic Relief (D4)
		X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No	Depth (inches): 2
Water Table Present?	Yes X	No	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes X	No	Depth (inches):

Wetland Hydrology Present? **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: W6-Wet-1

Tree Stratum (Plot size: 15 by 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus americana*	5	No	FACW
2. *Acer rubrum*	25	Yes	FAC
3. *Fraxinus pennsylvanica*			FACW
4. *Salix alba*			FACW
5. *Ostrya virginiana*	15	No	FACU
6. *Quercus bicolor*	25	Yes	FACW
7. *Quercus rubra*	15	No	FACU
	85	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 by 20')			
1. *Cornus sericea*			FACW
2. *Acer rubrum*	5	Yes	FAC
3. *Fraxinus pennsylvanica*			FACW
4. *Lonicera tatarica*			FACU
5. *Carpinus caroliniana*	5	Yes	FAC
6. *Rhamnus cathartica*	15	Yes	FAC
7.			
	25	=Total Cover	
Herb Stratum (Plot size: 10 by 15')			
1. *Lythrum salicaria*			OBL
2. *Phalaris arundinacea*			FACW
3. *Polygonum sagittatum*			OBL
4. *Onoclea sensibilis*			FACW
5. *Typha angustifolia*			OBL
6. *Impatiens capensis*			FACW
7. *Carex spp.*	5	Yes	FACW
8. *Carex stricta*			FACW
9. *Lysichiton americanus*			FACW
10. *Sium suave*			FACW
11. *Sphagnum*			FACW
12. *Symplocarpus foetidus*	10	Yes	OBL
	15	=Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0[1]

4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No**

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point W6-Wet-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 3/2	90	10YR 4/2	10	C	M	Loamy/Clayey	
5-12	10YR 3/1	90	10YR 4/3	10	C	M	Loamy/Clayey	clay loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- Coast Prairie Redox (A16) (**LRR K, L, R**)
- 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- Polyvalue Below Surface (S8) (**LRR K, L**)
- Thin Dark Surface (S9) (**LRR K, L**)
- Iron-Manganese Masses (F12) (**LRR K, L, R**)
- Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: TWT Mid-Hudson City/County: Dutchess Sampling Date: 4/16/2020

Applicant/Owner: The Wetlands Trust, Inc. State: NY Sampling Point: W7-Up-1

Investigator(s): Colin Diehl/Travis Money Section, Township, Range: Town of Claverack

Landform (hillside, terrace, etc.): none Local relief (concave, convex, none): Slope %: 0-3

Subregion (LRR or MLRA): LRR R Lat: 42.25773986 Long: -73.7340796 Datum: WGS 84

Soil Map Unit Name: Kingsbury and Vergennes Soils (KnA) NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation , Soil X , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area**
Hydric Soil Present?	Yes	No X	**within a Wetland?** **Yes** **No** X
Wetland Hydrology Present?	Yes	No X	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1
- Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	No X	Depth (inches):
Water Table Present?	Yes	No X	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes	No X	Depth (inches):

Wetland Hydrology Present? **Yes** **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: W7-Up-1

Tree Stratum (Plot size: 15 by 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ostrya virginiana*	25	Yes	FACU
2. *Quercus rubra*	25	Yes	FACU
3. *Carya ovata*	15	No	FACU
4. *Acer rubrum*			FAC
5. *Fraxinus americana*	15	No	FACU
6. *Acer saccharum*			FACU
7. *Acer negundo*			FAC
	80	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 by 20')			
1. *Rhamnus frangula*			FAC
2. *Lonicera tatarica*			FACU
3. *Fraxinus americana*	10	Yes	FACU
4. *Malus spp*			FACU
5. *Ostrya virginiana*	15	Yes	FACU
6. *Cornus racemosa*			FAC
7. *Rosa multiflora*	5	No	FACU
	30	=Total Cover	
Herb Stratum (Plot size: 10 by 15')			
1. *Allium cernuum*			FACU
2. *Toxicodendron radicans*			UPL
3. *Plantago major*			FACU
4. *Erythronium americanum*	20	Yes	FAC
5. *Galium verum*			UPL
6. *Solidago canadensis*			FACU
7. *Artemisia vulgaris*			UPL
8. *Trifolium repens*			FACU
9. *Dactyis glomerata*			FACU
10. *Parthenocissus quinquefolia*			FACU
11. *Asclepias syriaca*			FACU
12. *Daucus carota*			UPL
	20	=Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 20.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	20	x 3 =	60
FACU species	110	x 4 =	440
UPL species	0	x 5 =	0
Column Totals:	130 (A)		500 (B)

Prevalence Index = B/A = 3.85

Hydrophytic Vegetation Indicators:

_ 1 - Rapid Test for Hydrophytic Vegetation

_ 2 - Dominance Test is >50%

_ 3 - Prevalence Index is ≤3.0[1]

_ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** _ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point W7-Up-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/2	100						
8-14	7.5YR 3/3	100						dry loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- High Chroma Sands (S11) (**LRR K, L**)
- Loamy Mucky Mineral (F1) (**LRR K, L**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)
- Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- Coast Prairie Redox (A16) (**LRR K, L, R**)
- 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- Polyvalue Below Surface (S8) (**LRR K, L**)
- Thin Dark Surface (S9) (**LRR K, L**)
- Iron-Manganese Masses (F12) (**LRR K, L, R**)
- Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes** **No**

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: TWT Mid-Hudson City/County: Dutchess Sampling Date: 4/16/2020

Applicant/Owner: The Wetlands Trust, Inc. State: NY Sampling Point: W7-Wet-1

Investigator(s): Colin Diehl/Travis Money Section, Township, Range: Town of Claverack

Landform (hillside, terrace, etc.): Local relief (concave, convex, none): none Slope %: 0-3

Subregion (LRR or MLRA): LRR R Lat: 42.2577171 Long: -73.734345 Datum: WGS 84

Soil Map Unit Name: Kingsbury and Rhinebeck Soils (KnA) NWI classification: PFO

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No	**Is the Sampled Area**
Hydric Soil Present?	Yes X No	**within a Wetland?** **Yes** X **No**
Wetland Hydrology Present?	Yes X No	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No	Depth (inches): 2
Water Table Present?	Yes X	No	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes X	No	Depth (inches):

Wetland Hydrology Present? **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: W7-Wet-1

Tree Stratum (Plot size: 15 by 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus americana*	5	No	FACW
2. *Acer rubrum*	20	Yes	FAC
3. *Fraxinus pennsylvanica*			FACW
4. *Salix alba*			FACW
5. *Ostrya virginiana*	15	Yes	FACU
6. *Quercus bicolor*	25	Yes	FACW
7. *Quercus rubra*	10	No	FACU
	75	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15 by 20')			
1. *Cornus sericea*			FACW
2. *Acer rubrum*	10	Yes	FAC
3. *Fraxinus pennsylvanica*			FACW
4. *Lonicera tatarica*			FACU
5. *Carpinus caroliniana*			FAC
6. *Rhamnus cathartica*	5	Yes	FAC
7.			
	15	=Total Cover	
Herb Stratum (Plot size: 10 by 15')			
1. *Lythrum salicaria*			OBL
2. *Phalaris arundinacea*			FACW
3. *Polygonum sagittatum*			OBL
4. *Onoclea sensibilis*	15	Yes	FACW
5. *Typha angustifolia*			OBL
6. *Impatiens capensis*			FACW
7. *Carex spp.*			FACW
8. *Carex stricta*			FACW
9. *Lysichiton americanus*			FACW
10. *Sium suave*			FACW
11. *Sphagnum*			FACW
12. *Symplocarpus foetidus*	15	Yes	OBL
	30	=Total Cover	
Woody Vine Stratum (Plot size:)			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 85.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0[1]

4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** X **No**

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point W7-Wet-1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/1	95	10YR 3/4	5	C	M	Loamy/Clayey	
8-16	10YR 4/2	90	10YR 4/3	10	C	M	Loamy/Clayey	clay loam

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
- Coast Prairie Redox (A16) (**LRR K, L, R**)
- 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
- Polyvalue Below Surface (S8) (**LRR K, L**)
- Thin Dark Surface (S9) (**LRR K, L**)
- Iron-Manganese Masses (F12) (**LRR K, L, R**)
- Piedmont Floodplain Soils (F19) (**MLRA 149B**)
- Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
- Red Parent Material (F21)
- Very Shallow Dark Surface (F22)
- Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)